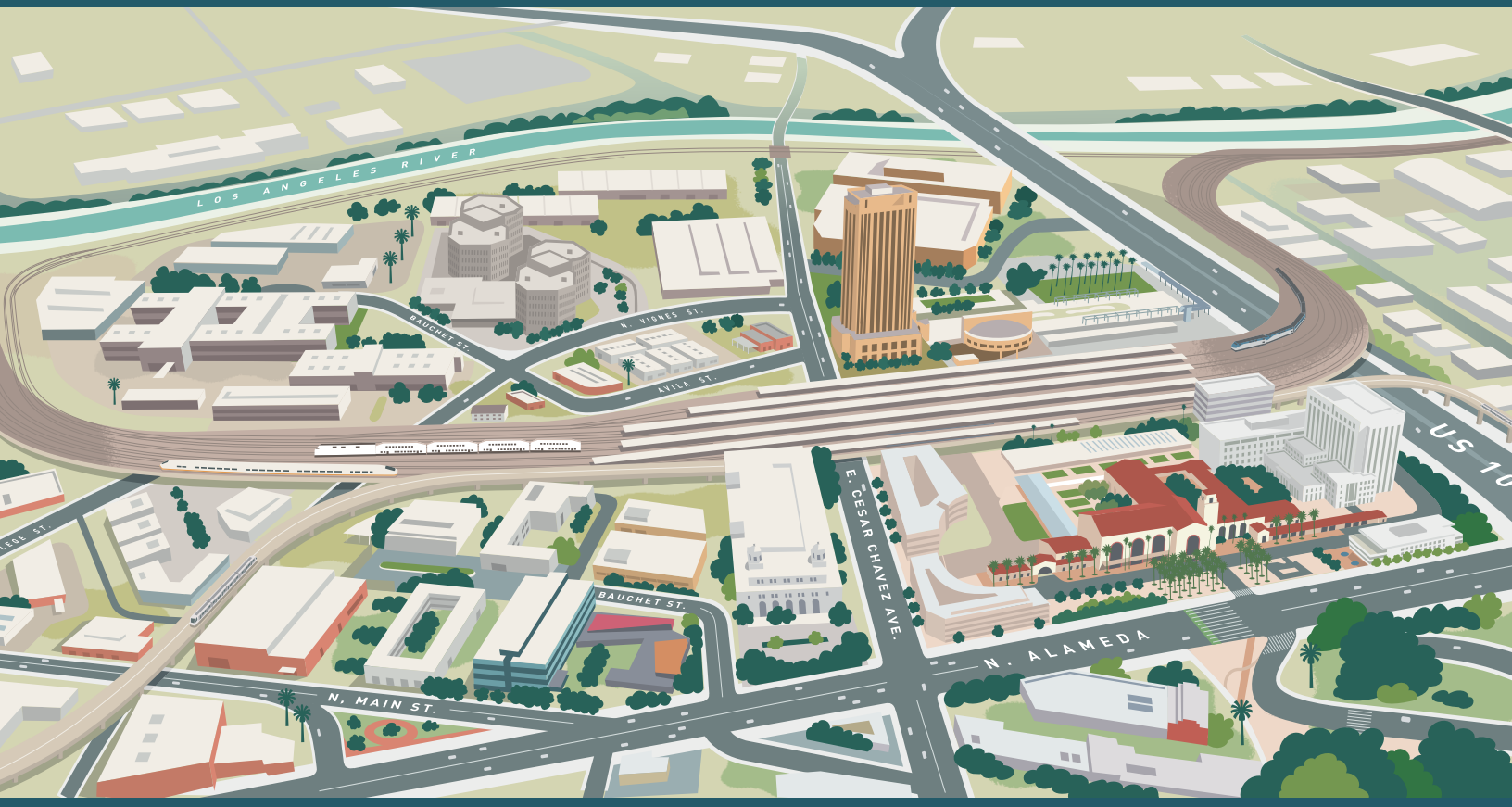
Los Angeles County
Metropolitan Transportation Authority

Link Union Station

Final Traffic Impact Assessment

October 2025



Independent of Metro's actions as the CEQA lead agency, the California High-Speed Rail Authority (Authority), as the NEPA lead agency pursuant to the NEPA Assignment MOU between FRA and the State of California dated July 23, 2019 (renewed July 22, 2024), is considering issuing a Combined Final EIS/Record of Decision for the Link Union Station Project.

Authority NEPA review and approval for the Project is in progress. Final documents, including the Mitigation Monitoring Reporting Plan (MMRP), will be published when the NEPA process is complete, and the Authority has signed the NEPA Record of Decision.

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ACRONYMS

ADT	average daily traffic
CHSRA	California High-Speed Rail Authority
CMP	Congestion Management Program
CP	control point
EIS	environmental impact statement
D/C	demand to capacity
FRA	Federal Railroad Administration
HCM	Highway Capacity Manual
HSR	high-speed rail
LADOT	City of Los Angeles Department of Transportation
LAUS	Los Angeles Union Station
LOS	level of service
Metro	Los Angeles County Metropolitan Transportation Authority
MOU	memorandum of understanding
NEPA	National Environmental Policy Act
NOI	notice of intent
Project	Link Union Station Project
ROW	right-of-way
RTP	Regional Transportation Plan
SCAG	Southern California Association of Governments
SCS	Sustainable Communities Strategy
US-101	United States Highway 101
V/C	volume to capacity

ES.0 Executive Summary

This traffic impact assessment documents the traffic effects on the existing roadway system, traffic volumes and conditions, truck percentages, transit services, pedestrian and bicyclist movements, and parking availability within the Project study area. For the purpose of the study, 2031 corresponds to the opening year when construction of the new lead tracks, elevated rail yard, expanded passageway, and run-through track infrastructure would be completed. The following six scenarios are analyzed as part of the study:

1. Existing Year (2016) condition.
2. 2031 No Project condition (existing condition plus background traffic growth from 2016 to 2031 – Same as No Action Alternative).
3. 2040 No Project condition (existing condition plus background traffic growth from 2016 to 2040 – Same as No Action Alternative).
4. 2031 Plus Project Construction condition (Project-related traffic during concurrent construction of all major Project elements, including the lead tracks, expanded passageway, and run-through track infrastructure – Same as Build Alternative: Construction).
5. 2031 Plus Project condition (2031 No Project condition plus Project-related traffic – Same as Build Alternative: Operation).
6. 2040 Plus Project condition (2040 No Project condition plus Project-related traffic – Same as Build Alternative: Operation).

A total of 32 study intersections were analyzed in the AM and PM peak hours. Additionally, portions of United States Highway 101 (US-101) north of Vignes Street were analyzed as part of this traffic impact assessment. For the purpose of this report, the No Project analysis corresponds to the No Action Alternative evaluated in the environmental impact statement (EIS). The following summarizes the key findings of the study.

ES.1 Construction

ES.1.1 Study Intersections

In the 2031 Plus Project Construction condition for the Build Alternative, out of the 32 intersections, two intersections would exceed the 2.5-second delay significance criterion per the City of Los Angeles Department of Transportation (LADOT) 2016 Transportation Impact Study Guidelines (LADOT Guidelines; LADOT 2016):

- Intersection #15: Vignes Street and Main Street (from LOS D to LOS F – PM peak).
- Intersection #27: Mission Road and Cesar Chavez Avenue (from LOS D to LOS E – AM peak).

After implementation of mitigation measures described in ES.3, no adverse effect would occur from increased traffic delays at the intersections noted above.

ES.1.2 Parking

The Build Alternative would also result in fewer available parking spaces on Commercial Street east of Center Street during construction and during operation.

ES.2 Operation

ES.2.1 Existing Year (2016) Conditions

Study Intersections

All study intersections operate within City of Los Angeles Department of Transportation (LADOT) recommended acceptable level of service (LOS) thresholds. Most intersections operate at LOS C or better during both peak hours, except for the following intersections:

- Intersection #4: Center Street and Commercial Street (LOS D – PM peak).
- Intersection #15: Vignes Street and Main Street (LOS D – PM peak).
- Intersection #27: Mission Road and Cesar Chavez Avenue (LOS D – AM peak).

United States Highway 101

Northbound US-101 operates at LOS F(2) and F(1) during AM and PM peak hours, respectively. Southbound US-101 operates at LOS E and F(2) during AM and PM peak hours, respectively.

ES.2.2 2031 Conditions

Study Intersections

For the Build Alternative, one intersection would be adversely affected in the 2031 Plus Project condition due to increased operational traffic delays that would exceed the 2.5-second delay significance criterion per LADOT Guidelines (LADOT 2016).

- Intersection #4: Center Street and Commercial Street (from LOS D to LOS F – PM peak hour) – The Build Alternative would result in an increased delay of 3.0 seconds during the PM peak hour.

United States Highway 101

In the 2031 Plus Project Condition, northbound US-101 would operate at LOS F(3) during both AM and PM peak hours. Southbound US-101 would operate at LOS F(0) and F(3) during AM and PM peak hours, respectively. These levels of service apply to both the 2031 No Project condition and the 2031 Plus Project condition.

ES.2.3 2040 Conditions

Study Intersections

For the Build Alternative, one intersection would be adversely affected in the 2040 Plus Project condition due to increased operational traffic delays that would exceed the 2.5-second delay significance criterion per LADOT Guidelines (LADOT 2016).

- Intersection #4: Center Street and Commercial Street (from LOS D to LOS F – PM peak hour) – The Build Alternative would result in an increased delay of 3.1 seconds during the PM peak hour.

United States Highway 101

In the 2040 Plus Project condition, northbound US-101 would operate at LOS F(3) during both AM and PM peak hours. Southbound US-101 would operate at LOS F(0) and F(3) during AM and PM peak hours, respectively. These levels of service apply to both 2040 No Project and 2040 Plus Project conditions.

The Build Alternative would not adversely affect the Congestion Management Program (CMP) arterial, freeway, or transit networks.

ES.3 Mitigation

The adverse effects identified during construction would be mitigated via implementation of a Traffic Management Plan that would include provisions, such as signing and maintenance of traffic strategies, adjusting the signal timing at the affected intersections, providing alternate routes for commuter traffic, and installation of the closed-circuit television cameras to monitor real-time traffic conditions, to avoid traffic-related impacts. The detailed construction traffic management plan is proposed to be prepared during the final engineering phase and coordinated for review and approval by the City of Los Angeles and the California Department of Transportation at least 30 days prior to construction. Implementation of a construction traffic management plan including optimized signal phasing and timing would decrease the average delay at Intersections #15 and #27, thereby minimizing adverse construction-related transportation effects at these intersections.

LADOT Guidelines (LADOT 2016) require mitigation programs for impacts that are expected to be significant under the California Environmental Quality Act, which for the purposes of this report are also considered adverse effects under the National Environmental Policy Act (NEPA).

LADOT's Guidelines primarily aim to minimize the demand for trips by single-occupant vehicles by encouraging, promoting, and supporting the use of other sustainable modes of travel such as public transit, walking, and bicycling. Consistent with LADOT Guidelines (LADOT 2016), Mitigation Measure LU-1 includes provisions for new active transportation infrastructure south of LAUS to improve neighborhood connectivity, reduce vehicular travel, and encourage the use of non-motorized travel in the Project study area. Pursuant to LADOT Guidelines (LADOT 2016),

these active transportation improvements would minimize operational impacts during the PM peak hours for the 2031 and 2040 Plus Project conditions while also enhancing neighborhood connectivity.

It should also be noted that Metro prepared a CEQA Addendum in 2021 to address the latest traffic impact analysis requirements of California Senate Bill (SB) 743. Based on the results of the *Final Traffic Impact Assessment with Vehicle Miles Traveled Analysis* (Metro 2021), no operational-related impacts would occur because the Project is consistent with Southern California Association of Governments Regional Transportation Plan/Sustainable Communities Strategy (SCAG RTP/SCS) and would not change the existing land use of LAUS resulting in no cumulative VMT impacts or unmitigated significant VMT impacts.

1.0 Introduction

The Los Angeles County Metropolitan Transportation Authority (Metro), as the owner of Los Angeles Union Station (LAUS), is proposing the infrastructure improvements associated with the Link Union Station (Link US) Project (Project or proposed action) to address existing capacity constraints at LAUS. For the purposes of the National Environmental Policy Act (NEPA), Metro is serving as the local Project sponsor and joint lead agency.

Pursuant to 23 United States Code (USC) Section 327 and a memorandum of understanding (MOU) between the Federal Railroad Administration (FRA) and the State of California, effective July 23, 2019, under a program known as NEPA Assignment, the California High-Speed Rail Authority (CHSRA) is responsible for the federal review and approval of environmental documents for projects on the high-speed rail (HSR) system and other passenger rail projects that directly connect to the HSR system, including the Link US Project. For the purposes of the environmental impact statement (EIS) being prepared, CHSRA is serving as the federal lead agency with NEPA responsibilities pursuant to the requirements of the NEPA Assignment MOU. CHSRA and Metro are preparing the EIS in compliance with NEPA (42 USC Section 4321 et seq.), the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 Code of Federal Regulations [CFR] Parts 1500–1508), FRA's Procedures for Considering Environmental Impacts (FRA's Environmental Procedures) (*Federal Register* [FR] 64(101), 28545-28556, May 26, 1999), 23 USC Section 139, and the NEPA Assignment MOU.[1, 2]

Pursuant to the MOU requirements between FRA and the State of California, FRA's Environmental Procedures are being used to determine environmental effects of the No Action Alternative and the Build Alternative.

Below is an overview of the purpose and need, the Project study area, the No Action Alternative, and the major components associated with the on-site infrastructure improvements proposed at and within the vicinity of LAUS that are associated with the Build Alternative considered in the EIS.

[1] While this environmental document was being prepared, FRA adopted new NEPA compliance regulations (23 CFR 771). Those regulations only apply to actions initiated after November 28, 2018. See 23 CFR 771.109(a)(4). Because this environmental document was initiated prior to that date, it remains subject to FRA's Environmental Procedures rather than the Part 771 regulations.

[2] The CEQ issued new regulations, effective April 20, 2022, updating the NEPA implementing procedures at 40 CFR Parts 1500–1508. However, because this environmental document was initiated prior to the effective date, it is not subject to the new regulations and CHSRA is relying on the regulations as they existed on the date of the initial Notice of Intent, May 31, 2016. Therefore, all citations to CEQ regulations in this environmental document refer to the 1978 regulations and the 1986 amendment, 51 *Federal Register* 15618 (April 25, 1986).

1.1 Purpose

The purpose of the proposed action is to increase the regional and intercity rail service capacity of LAUS and to improve schedule reliability at LAUS through the implementation of a run-through tracks configuration and elimination of the current stub end tracks configuration while preserving current levels of freight rail operations, accommodating the planned HSR system in Southern California, increasing the passenger/pedestrian capacity and enhancing the safety of LAUS through the implementation of a new passenger concourse, meeting the multi-modal transportation demands at LAUS.

1.2 Need

The need for the proposed action is generated by the forecasted increase in regional population and employment; implementation of federal, state, and regional transportation plans (RTP) that provide for increased operational frequency for regional and intercity trains; and introduction of the planned HSR system in Southern California. Localized operational, safety, and accessibility upgrades in and around LAUS will be required to meet existing demand and future growth.

1.3 Project Location and Study Area

The Build Alternative consists of infrastructure improvements in Downtown Los Angeles in the vicinity of LAUS (Figure 1-1). LAUS is located at 800 Alameda Street in the City of Los Angeles, California. LAUS is bounded by United States Highway 101 (US-101) to the south, Alameda Street to the west, Cesar Chavez Avenue to the north, and Vignes Street to the east. The northern Project limit is at North Main Street (Mile Post 1.18) and the southern Project limit is in the vicinity of Control Point (CP) Olympic, south of Interstate 10 and Olympic Boulevard (Mile Post 142.70).

Figure 1-2 depicts the Project study area, which is generally used to characterize the affected environment, unless otherwise specified, and provide a geographic context for the existing and proposed infrastructure improvements at and within the vicinity of LAUS. The Project study area includes three main segments (Segment 1: Throat Segment, Segment 2: Concourse Segment, and Segment 3: Run-Through Segment). The existing conditions within each segment are summarized north to south below:

- **Segment 1: Throat Segment** – This segment, known as the LAUS throat, includes CP Chavez and the area north of the platforms at the LAUS rail yard, from North Main Street at the north to Cesar Chavez Avenue at the south. In the throat segment, all arriving and departing trains are required to traverse through a complex network of lead tracks, switches, and crossovers. Five lead tracks provide access into and out of the rail yard, except for one location near the Vignes Street Bridge, where it reduces to four lead tracks. Currently, special track work consisting of multiple turnouts and double-slip switches are used in the throat to direct trains into and out of the appropriate assigned terminal platform tracks. The Garden Tracks (stub-end tracks where private train cars are currently stored)

are also located just north of the platforms. Land uses in the vicinity of the throat segment are residential, industrial, and institutional.

- **Segment 2: Concourse Segment** – This segment is between Cesar Chavez Avenue and US-101 and includes LAUS, the rail yard, the East Portal Building, the baggage handling building with associated parking areas and access roads, the ticketing/waiting halls, and the 28-foot-wide pedestrian passageway with connecting ramps and stairways below the rail yard. Land uses in the vicinity of the concourse segment are residential, commercial, and public.
- **Segment 3: Run-Through Segment** – This segment is south of LAUS and extends east to west from Alameda Street to the west bank of the Los Angeles River and north to south from Keller Yard to CP Olympic. This segment includes US-101, the Commercial Street/Ducommun Street corridor, Metro Red and Purple Lines Maintenance Yard (Division 20 Rail Yard), BNSF Railway (BNSF) West Bank Yard, Keller Yard, the main line tracks on the west bank of the Los Angeles River from Keller Yard to CP Olympic, and the Amtrak lead track connecting the main line tracks with Amtrak's Los Angeles Maintenance Facility in the vicinity of 8th Street. Land uses in the vicinity of the run-through segment are primarily industrial and manufacturing.

The Project study area has a dense street network ranging from major highways to local city streets. The roadways within the Project study area include the El Monte Busway, US-101, Bolero Lane, Leroy Street, Bloom Street, Cesar Chavez Avenue, Commercial Street, Ducommun Street, Jackson Street, East Temple Street, Banning Street, First Street, Alameda Street, Garey Street, Vignes Street, Main Street, Aliso Street, Avila Street, Bauchet Street, and Center Street.

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Figure 1-1. Project Location and Regional Vicinity

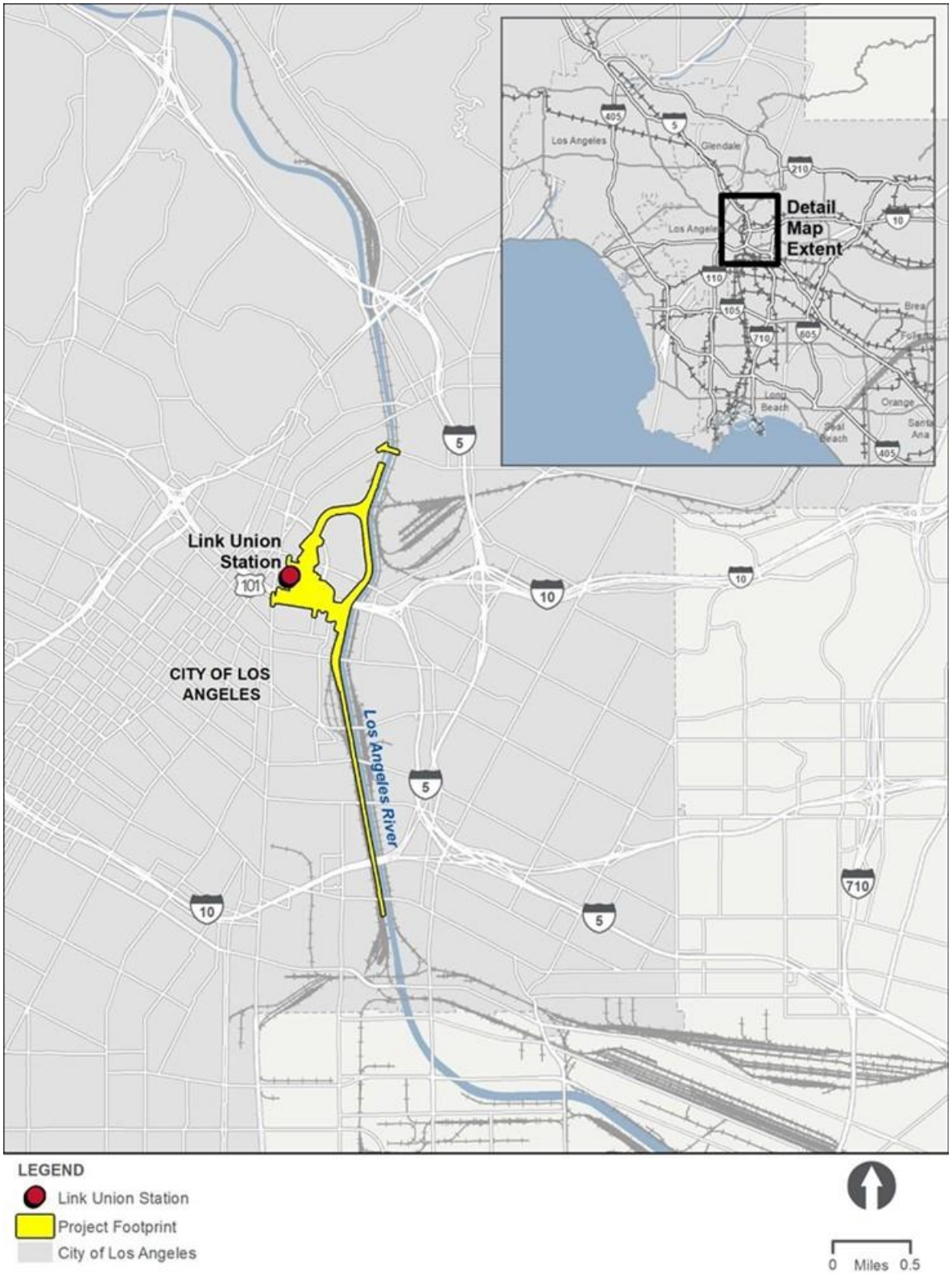

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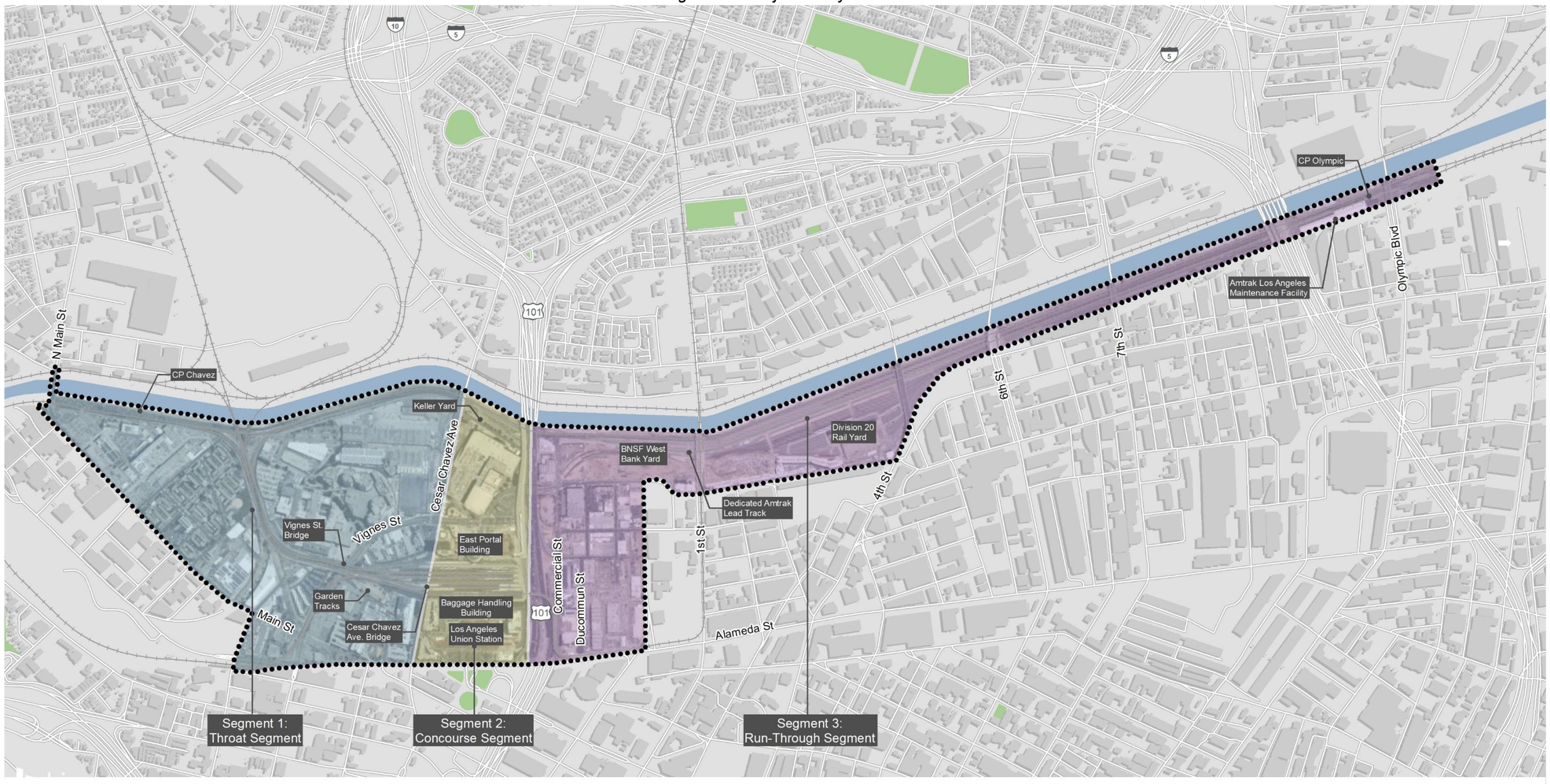
Figure 1-2. Project Study Area



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1.4 Project Alternatives

The EIS includes an evaluation of the No Action Alternative and one build alternative (Build Alternative). The Build Alternative would include, but not be limited to, new lead tracks north of LAUS (Segment 1: Throat Segment), an elevated throat and rail yard with concourse-related improvements at LAUS (Segment 2: Concourse Segment), and 10 run-through tracks south of LAUS (Segment 3: Run-Through Segment).

1.4.1 No Action Alternative

NEPA (40 CFR 1502.14(d)) requires federal agencies to include an analysis of "the alternative of no action." For NEPA purposes, the No Action Alternative is the baseline against which the effects of implementing the Build Alternative is evaluated against to determine the extent of environmental and community effects. For the No Action Alternative, the baseline year is 2016, and the horizon year is 2040.

The No Action Alternative represents the future conditions that would occur if the proposed infrastructure improvements and the operational capacity enhancements at LAUS were not implemented. The No Action Alternative reflects the foreseeable effects of growth planned for the area in conjunction with other existing, planned, and reasonably foreseeable projects and infrastructure improvements in the Los Angeles area, as identified in planning documents prepared by Southern California Association of Governments (SCAG), Metro, and/or Metrolink, including the 2023 Federal Transportation Improvement Program (FTIP) (SCAG 2023), *Final 2008 Regional Comprehensive Plan* (SCAG 2008), and the 2020 RTP/Sustainable Communities Strategy (SCS): Connect SoCal (SCAG 2020).

Conditions in the Project study area would remain similar to the existing condition, as described below:

- **Segment 1: Throat Segment** – Trains would continue to operate on five lead tracks that do not currently accommodate the planned HSR system. The tracks north of LAUS would remain at the current elevation, and the Vignes Street Bridge and Cesar Chavez Avenue Bridge would remain in place.
- **Segment 2: Concourse Segment** – LAUS would not be transformed from a stub-end tracks station into a run-through tracks station, and the 28-foot-wide pedestrian passageway would be retained in its current configuration. No modifications to the existing passenger circulation routes or addition of vertical circulation elements (VCE; escalators and elevators) at LAUS would occur.
- **Segment 3: Run-Through Segment** – Commercial Street would remain in its existing configuration, and implementation of active transportation improvements would likely be implemented along Center Street in concert with the *Connect US Action Plan* (Metro 2015). No modifications to the BNSF West Bank Yard would occur.

1.4.2 Build Alternative

The key components associated with the Build Alternative are summarized north to south below:

- **Segment 1: Throat Segment (lead tracks and throat track reconstruction)** – The Build Alternative includes subgrade and structural improvements in Segment 1 of the Project study area (throat segment) to increase the elevation of the tracks leading to the rail yard. The Build Alternative includes the addition of one new lead track in the throat segment for a total of six lead tracks to facilitate enhanced operations for regional/intercity rail trains (Metrolink/Amtrak) and operations for HSR trains within a shared track alignment. Regional/intercity and HSR trains would share the two western lead tracks in the throat segment. The existing railroad bridges in the throat segment at Vignes Street and Cesar Chavez Avenue would also be reconstructed. North of CP Chavez on the west bank of the Los Angeles River, the Build Alternative also includes safety improvements at the Main Street public at-grade railroad crossing (medians, restriping, signals, and pedestrian and vehicular gate systems) to facilitate future implementation of a quiet zone by the City of Los Angeles.
- **Segment 2: Concourse Segment (elevated rail yard and expanded passageway)** – The Build Alternative includes an elevated rail yard and expansion of the existing 28-foot-wide pedestrian passageway in Segment 2 of the Project study area (concourse segment). The rail yard would be elevated approximately 15 feet. New passenger platforms would be constructed on the elevated rail yard with associated VCEs (stairs, escalators, and elevators) to enhance safety elements and improve Americans with Disabilities Act (ADA) accessibility. Platform 1, serving the Gold Line, would be lengthened, and elevated to optimize east to west passenger circulation. The pedestrian passageway would be expanded at the current grade to a 140-foot width to accommodate a substantial increase in passenger capacity with new functionally modern passenger amenities while providing points of safety to meet applicable California Building Code (CBC) and National Fire Protection Association (NFPA) 130 Standards for Fixed Guideway Transit Systems. The expanded passageway and associated concourse improvements would facilitate enhanced passenger circulation and provide space for ancillary support functions (back-of-house uses, baggage handling, etc.), transit-serving retail, and office/commercial uses while creating an opportunity for an outdoor, community-oriented space with new plazas east and west of the elevated rail yard (East and West Plazas). Amtrak ticketing and baggage check-in services would be enhanced, and new baggage carousels would be constructed in a centralized location under the rail yard. A canopy would be constructed over the West Plaza up to 70 feet in height, and two design options are considered for canopies that would extend over the rail yard (Section 1.4.3).
- **Segment 3: Run-Through Segment (10 run-through tracks)** – The Build Alternative includes 10 new run-through tracks south of LAUS in Segment 3 of the Project study area (run-through segment). The Build Alternative includes common rail infrastructure from LAUS to the west bank of the Los Angeles River (vicinity of First Street Bridge) to support

run-through tracks for both regional/intercity rail trains and HSR trains. At the BNSF West Bank Yard, dedicated lead tracks for Amtrak trains and BNSF trains, in combination with implementation of common rail infrastructure would result in permanent loss of freight rail storage track capacity at the north end of BNSF West Bank Yard (5,500 track feet).

The Build Alternative would also require modifications to US-101 and local streets (including potential street closures and geometric modifications); improvements to railroad signal, positive train control (PTC), and communication systems; modifications to the Gold Line light rail platform and tracks; modifications to the mainline tracks on the west bank of the Los Angeles River; modifications to the Amtrak lead track; addition of access roadways to the railroad right-of-way (ROW); land acquisitions; addition of utilities; utility relocations, replacements, and abandonments; and addition of drainage facilities/water quality improvements.

1.4.3 Rail Yard Canopy Design Options

Two design options for canopies over the elevated platforms in the rail yard are considered in conjunction with the concourse-related improvements as part of the Build Alternative.

- **Rail Yard Canopy Design Option 1 (individual canopies)** – This design option would include replacing the existing historic butterfly canopies with individual canopies above each platform. New individual canopies would extend up to 25 feet above each platform and would be similar in form to the existing butterfly canopies but sized to fit the widened and lengthened platforms. Platform lengths would vary between 450 and 1,445 feet. Platforms would be up to 30 feet wide.
- **Rail Yard Canopy Design Option 2 (grand canopy)** – This design option would include replacing the existing historic butterfly canopies with a large grand canopy that would extend up to 75 feet above the elevated rail yard platforms. The grand canopy would be up to 1,500 feet long and wide enough to provide cover over all elevated platforms in the rail yard.

1.5 Project Implementation Approach

The implementation of infrastructure improvements would generally occur in two main phases that are evaluated as scenario years in the EIS: the interim condition and the full build-out condition. The infrastructure improvements for each of these scenarios are described below.

1.5.1 Interim Condition (Phase A)

The interim condition (also referred to as Phase A) is when the run-through track infrastructure south of LAUS and the associated signal modifications, property acquisitions, and civil/structural improvements to facilitate new run-through service would be implemented. The interim condition does not include new lead tracks north of LAUS, or the elevated rail yard and new concourse-related improvements at LAUS. The interim condition aligns with a construction completion date as early as 2026.

A summary of the proposed activities associated with the interim condition is provided below.

- Acquire properties south of LAUS within the Project footprint.
- Relocate utilities north and south of LAUS.
- Acquire a portion of the BNSF West Bank Yard (majority north of First Street) and remove 5,500 feet of existing storage tracks at BNSF West Bank Yard.
- Construct special track work and modify signal/communication infrastructure north of LAUS.
- Construct a run-through track ramp on the southern extent of Platform 4 at LAUS.
- Construct a common viaduct/deck over US-101.
- Construct a common embankment from Vignes Street to Center Street south of LAUS.
- Construct common Center Street Bridge south of LAUS.
- Construct common embankment or new common bridge from Center Street to Amtrak Bridge south of LAUS.
- Construct common Amtrak Bridge south of LAUS.
- Construct Division 20 access road.
- Construct common rail embankment on the west bank of the Los Angeles River (from Amtrak Bridge to First Street Bridge).
- Construct new dedicated lead tracks for BNSF freight trains and Amtrak trains.
- Construct two run-through tracks from Platform 4 at LAUS to the main line tracks along the west bank of the Los Angeles River.

Some embankments and/or bridges south of LAUS could be constructed in a phased manner.

1.5.2 Full Build-Out Condition (Phase B)

The full build-out condition (also referred to as Phase B) is when new lead tracks and the elevated throat north of LAUS, along with the elevated rail yard and concourse-related improvements at LAUS would be implemented. The full build-out condition aligns with a construction completion date as early as 2031.

A summary of the proposed activities associated with the full build-out condition is provided below.

- Construct new compatible lead tracks and reconstruct throat north of LAUS.
- Construct new bridges over Vignes Street and Cesar Chavez Avenue north of LAUS.

- Construct elevated rail yard, concourse-related improvements, and East/West Plazas at LAUS.
- Construct remaining run-through tracks for regional/intercity rail operations on previously constructed structures south of LAUS.

The full build-out condition includes the common rail infrastructure for the planned HSR system that would be located throughout the Link US Project limits, including improvements at LAUS. Operation of HSR trains would occur on two lead tracks north of LAUS, Platforms 2 and 3 and associated Tracks 3 through 6 at LAUS, and on HSR run-through tracks supported by common rail bridges and embankments south of LAUS. Operation of the planned HSR system is or will be considered in CHSRA's environmental documentation for the Burbank to Los Angeles and Los Angeles to Anaheim Project Sections.

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2.0 Report Purpose

The purpose of this Traffic Impact Assessment is to:

1. Document the traffic impacts (synonymous with effects) related to the Build Alternative on the existing roadway system, traffic volumes and conditions, truck percentages, transit services, pedestrian and bicyclist movements, and parking availability within the Project study area based on changes to Existing Year (2016) condition, 2031, and 2040.
2. Document the:
    a. Methods used to complete the analysis
    b. Criteria applied for determining the context and intensity of the impacts
3. Identify potential traffic impacts (and mitigation) associated with short-term construction and long-term operations of the Build Alternative.
4. Provide the necessary traffic-related data, analysis, and documentation to support other environmental technical studies (air quality, noise, and vibration).

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3.0 Approach

In order to address the purpose for this traffic impact assessment, the following approach was taken:

- **Review Existing Conditions:** Document the existing roadway system, traffic volumes and conditions, truck percentages, transit services, and pedestrian and bicyclist movements within the Project study area.
- **Review Future Conditions:** Document the future roadway system and the methodologies used to forecast future traffic volumes.
- **Analyze Traffic Conditions:** Perform traffic impact analysis for Existing Year (2016)[3] condition and future 2031 and 2040 traffic for No Project, Plus Project, and Plus Project Construction conditions. Perform the CMP regional transportation system impact analysis. Perform on-street parking analysis to address how on-street parking availability would be affected during construction and operation.
- **Conclusion:** Summarize this study and provide mitigation measures for addressing identified traffic impacts.
- **Mitigation:** Identify measures that could be used to mitigate potential impacts.

[3] This traffic study had begun in 2015. Therefore, the existing year is year 2016. Existing traffic conditions for 2016 are based on traffic counts collected in the base year (2015), except for traffic counts at the intersection of Cesar Chavez Avenue/Union Station North Driveway, which were conducted in 2018.

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4.0 Study Scope and Organization

As discussed in Section 3.0, this traffic impact assessment is based on traffic counts that were obtained in 2015 and one intersection count that was obtained in 2018.

4.1 Scope

This traffic impact assessment methodology in this report is based on the MOU submitted to and approved by LADOT (Appendix A), dated February 2019. Traffic impacts were identified by determining the effects of traffic on the operations and performance of the study intersections and US-101 for 2031 and 2040. For the purpose of this traffic impact assessment, the year 2031 corresponds to the full build-out condition or "Opening Year" when construction of the new lead tracks, elevated rail yard, and passenger concourse is complete. The year 2040 is the "Horizon Year" consistent with the environmental evaluation for the 2016 RTP/SCS and associated travel demand model applied for the traffic impact analysis. The future train movements estimated to occur through LAUS as described in the *Link US Rail Planning Technical Memorandum* are also based on planning documents with a 2040 horizon year (Appendix C of the EIS/SEIR).

This traffic impact assessment identifies potential effects on local streets and on the US-101 for the following six traffic conditions:

1. Existing Year (2016) condition.
2. 2031 No Project condition (existing conditions plus background traffic growth from 2016 to 2031 – Same as No Action Alternative).
3. 2040 No Project condition (existing conditions plus background traffic growth from 2016 to 2040 – Same as No Action Alternative).
4. 2031 Plus Project Construction condition (2031 No Project traffic plus Project-related traffic during concurrent construction of all major Project elements, including the lead tracks, expanded passageway, and run-through track infrastructure – Same as Build Alternative: Construction).
5. 2031 Plus Project condition (2031 No Project condition plus Project-related traffic – Same as Build Alternative: Operation).
6. 2040 Plus Project condition (2040 No Project condition plus Project-related traffic – Same as Build Alternative: Operation).

The Plus Project condition is compared with the No Project condition to determine if traffic impacts would occur based on LADOT Guidelines (LADOT 2016)[4]. The terminology used for the purposes of the traffic impact analysis is described below:

- The "No Project condition" corresponds to the No Action Alternative and includes projected growth forecasts that reflect traffic increases due to background growth in the region. Based on direction from LADOT, a 0.2 percent per year growth rate was applied to the Existing Year (2016) condition traffic volume to generate ambient traffic growth. The Project-related traffic effects are reported in this section in a comparative format with the No Project condition for 2031 and 2040.
- The "Plus Project Construction condition" corresponds to the timeframe when construction is occurring. This scenario includes projected growth forecasts that reflect traffic under the No Project condition plus expected traffic volume changes due to construction activities. Construction would require workers and equipment working simultaneously in multiple locations. This analysis assumes that trucks would arrive and depart the construction site throughout the workday and that construction would be conducted in four construction phases within a general time frame of 6 years. Construction-related trips would be generated based on the detailed construction phasing plans, staging areas, and projections for required materials and labor force for construction of the Build Alternative. Details on the phasing and assumptions for the estimated numbers of trucks, from 12 to 63, that would enter and exit out of the staging areas on any given day for each construction phase are discussed in this report. Under the worst-case phase (Phase 1 of 4), it is assumed that 22 trucks would arrive or depart during the AM peak hour and 8 trucks would arrive or depart during the PM peak hour.

  The 2031 Plus Project Construction condition represents the worst-case scenario for Project-related traffic effects, since all major components of the Build Alternative would be constructed concurrently by 2031. Although run-through track infrastructure south of LAUS may be implemented prior to 2031, the 2031 Plus Project Construction condition is purposely conservative by evaluating potential traffic-related effects assuming all major Project elements would be constructed concurrently. If run-through track infrastructure south of LAUS is constructed prior to the elevated rail yard and concourse-related improvements, fewer construction-related traffic effects and associated truck trips are anticipated to occur than reported herein because this evaluation assumes all major components are constructed concurrently.
- The "Plus Project condition" corresponds to operation of the Build Alternative and includes projected growth forecasts that reflect the traffic under the No Project condition plus expected traffic volume changes due to operation of the Build Alternative in 2031 and 2040.

[4] The 2016 Guidelines were in effect when this traffic study was initiated. LADOT issued a new set of guidelines in 2019, after the CEQA EIR for Link Union Station was approved. The new guidelines are not retroactive on previously approved projects.

This traffic impact assessment includes an evaluation of potential effects that may result during the weekday AM and PM peak hours of traffic, in addition to potential effects on the regional highway and transit systems to meet the requirements of the Los Angeles County CMP. This traffic impact assessment also includes an evaluation of how the Build Alternative, once completed, would affect on-street parking.

4.2 Organization

The remainder of this traffic impact assessment is divided into the following sections:

- **Section 5.0: Traffic Data and Traffic Analysis Methodology** presents traffic counts (intersection peak hour, average daily traffic [ADT], vehicle counts, counts from other studies), and discusses LOS thresholds for traffic analysis.
- **Section 6.0: Existing Conditions** describes the existing roadway system, traffic volumes, traffic conditions, truck percentages, transit services, and pedestrian and bicyclist movements within the Project study area.
- **Section 7.0: Future Traffic Projections and Roadway Characteristics** describes the future roadway system and the methodologies used to forecast future traffic volumes.
- **Section 8.0: Traffic Impact Analysis** presents an assessment of existing and future traffic volumes and LOS.
- **Section 9.0: CMP Transportation Impact Analysis** presents the results of the CMP regional transportation system impact analysis.
- **Section 10.0: On-Street Parking Impact Analysis** summarizes the results of impacts on on-street parking availability.
- **Section 11.0: Conclusion** identifies potential adverse short-term and long-term traffic impacts and mitigation measures to reduce the potential for adverse effects.
- **Section 12.0: References** provides a list of all references cited in this traffic impact assessment.

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5.0 Traffic Data and Traffic Analysis Methodology

5.1 Traffic Study Area

Upon initiation of this study, Metro and LADOT determined that due to projected trip generation resulting from implementation of the Build Alternative, the appropriate area to consider for potential traffic related effects would be the intersections and portion of US-101 in the immediate vicinity of LAUS. This traffic study area covers all roads and intersections likely to be affected by construction and operation of the Build Alternative. Direct effects on the local transportation network were assessed within the traffic study area. A full description of the intersections and roadways evaluated in this traffic study area are further described below in Section 5.2.

The data collection, base model development, data calibration for the model development for LOS analysis was developed in Synchro using the methodology from Federal Highway Administration, Volume III – Guidelines for Applying Traffic Microsimulation Modeling Software. For the Build Alternative, construction and operational trip generation methodology analysis was derived from trip rates from Institute of Transportation Engineers (ITE) Trip Generation manual.

5.2 Traffic Data

Traffic counts were collected in conjunction with this study, and separate traffic counts were collected in support of the environmental documents for the planned HSR system (Burbank to Los Angeles and Los Angeles to Anaheim Project Sections). This traffic impact assessment reconciles the individual traffic counts obtained in the traffic study area to document the existing traffic conditions.

Based on discussions with LADOT and Metro, 32 intersections were evaluated for effects along the local transportation network within the traffic study area, utilizing traffic count data for the Existing Year (2016) condition. The intersections were selected for this study because they are located in the immediate vicinity of LAUS and may be affected by traffic generated from proposed office and retail land uses, or detours.

Traffic counts were performed at 31 intersections by National Data and Surveying Services for the study on September 9, 2015, and November 5, 2015. Two sets of counts were performed at Intersections #9 and #10 (the intersection of Alameda Street and El Monte Busway and the intersection of Alameda Street and Los Angeles Street, respectively); the second sets of counts are referred to as counts for Intersections #109 and #110. Additional traffic counts at these two intersections were performed by National Data and Surveying Services on June 18, 2015, and November 19, 2015, in support of Metro's LAUS Master Plan Project.

A technical memorandum was prepared to document the potential traffic condition changes and resulting conclusions under the build conditions if a new set of post-pandemic traffic counts (instead of the year 2015 traffic counts) were conducted and applied to the impact evaluation. This technical memorandum is contained in Appendix O. As presented in the technical

memorandum, although construction and operational-related traffic delay may cause unsatisfactory LOS at some local intersections, the regional traffic conditions are not expected to be affected by the application of either the year 2015 traffic counts or post-pandemic traffic counts. Furthermore, a traffic demand management program, a comprehensive construction transportation management plan, and Mitigation Measure LU-1 would remain applicable to reducing any potential adverse construction and operational effects pursuant to LADOT Guidelines (LADOT 2016). In summary, the year 2015 traffic counts are still valid and remain to be applied for this impact evaluation.

The intersection at the Union Station North Driveway and Cesar Chavez Avenue was added to this traffic impact assessment in September 2018 during subsequent stages of the traffic impact evaluation. Traffic counts at this intersection (Intersection #32) were conducted by Gibson Transportation Consulting, Inc., in August 2018, and were adjusted to reflect the full occupancy in the adjacent apartment buildings since they were partly unoccupied when the initial counts were conducted.

The study area is located within a fully developed urban area. The traffic count data used in this traffic impact assessment is reflective of existing conditions in the year 2016. The counts conducted at 32 intersections included ADT and intersection turn movements. Counts for vehicle classification, bicyclists, and pedestrians were also performed at the study intersections.

Traffic counts were collected at the following 32 intersections:

1. Alameda Street and Commercial Street
2. Garey Street and Commercial Street
3. Vignes Street and Commercial Street
4. Center Street and Commercial Street
5. Alameda Street and Temple Street
6. Vignes Street and Temple Street
7. Alameda Street and 1st Street
8. Vignes Street and 1st Street
9. Alameda Street and El Monte Busway (westbound)/Arcadia Street (two sets of counts)
10. Alameda Street and Los Angeles Street (eastbound) (two sets of counts)
11. Alameda Street and Cesar Chavez Avenue
12. Alameda Street and Vignes Street/Alpine Street
13. Vignes Street and Cesar Chavez Avenue
14. Vignes Street and Ramirez Street
15. Vignes Street and Main Street
16. Alameda Street/Spring Street and College Street

17. Alameda Street and Main Street/Ord Street
18. Alameda Street and Main Street/Bauchet Street
19. Main Street and Cesar Chavez Avenue
20. Alameda Street at Northbound US-101 northbound on-ramp
21. Los Angeles Street and Arcadia Street
22. Los Angeles Street and Aliso Street
23. Los Angeles Street and Temple Street
24. Los Angeles Street and 1st Street
25. Judge John Aiso Street and Temple Street
26. Judge John Aiso Street/San Pedro Street and 1st Street
27. Mission Road and Cesar Chavez Avenue
28. Mission Road and 1st Street
29. Central Avenue and 1st Street
30. Vignes Street and Bauchet Street
31. Ramirez Street and Center Street
32. Cesar Chavez Avenue and Union Station North Driveway

The Project study area and intersection locations are illustrated on Figure 5-1, and intersection turning movement count sheets are provided in Appendix B. Traffic counts were performed at the study intersections between 6:00 and 9:00 AM for the AM peak period and between 3:30 and 6:30 PM for the PM peak period.

In addition, tube counts to document the 24-hour directional ADT were conducted at the following 12 locations:

1. Alameda Street north of Commercial Street
2. Hewitt Street south of Commercial Street
3. Commercial Street west of Garey Street
4. Garey Street south of Commercial Street
5. Commercial Street east of Garey Street
6. Vignes Street south of Commercial Street
7. Ducommun Street between Vignes Street and Center Street
8. Jackson Street between Vignes Street and Center Street
9. Temple Street between Vignes Street and Center Street

10. Center Street north of Commercial Street
11. Center Street south of Commercial Street
12. Cesar Chavez Avenue east of Alameda Street

The ADT on Alameda Street south of Commercial Street included vehicle classifications. The locations of ADTs are illustrated on Figure 5-2, and ADT count sheets are provided in Appendix B1.

5.3 Traffic Analysis Methodology

5.3.1 Intersection Level of Service Standards and Methodology

The methodology prescribed in the LADOT Guidelines (LADOT 2016) was applied because this was the applicable guidance to conduct the LOS analysis for all intersections (and roadway segments) within City's jurisdiction at the time this Traffic Impact Assessment was prepared. The City's guidelines define the minimum acceptable intersection operating conditions for all intersections. According to LADOT Guidelines (LADOT 2016), operating at LOS E or F is considered unsatisfactory. The definitions for the range of levels of service for signalized and stop-controlled intersections under the *Highway Capacity Manual* (HCM; Transportation Research Board 2010) are listed in Table 5-1 and Table 5-2, respectively.

Figure 5-1. Traffic Study Area and Intersection Locations

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Figure 5-2. 2015 Average Daily Traffic Locations and Volumes

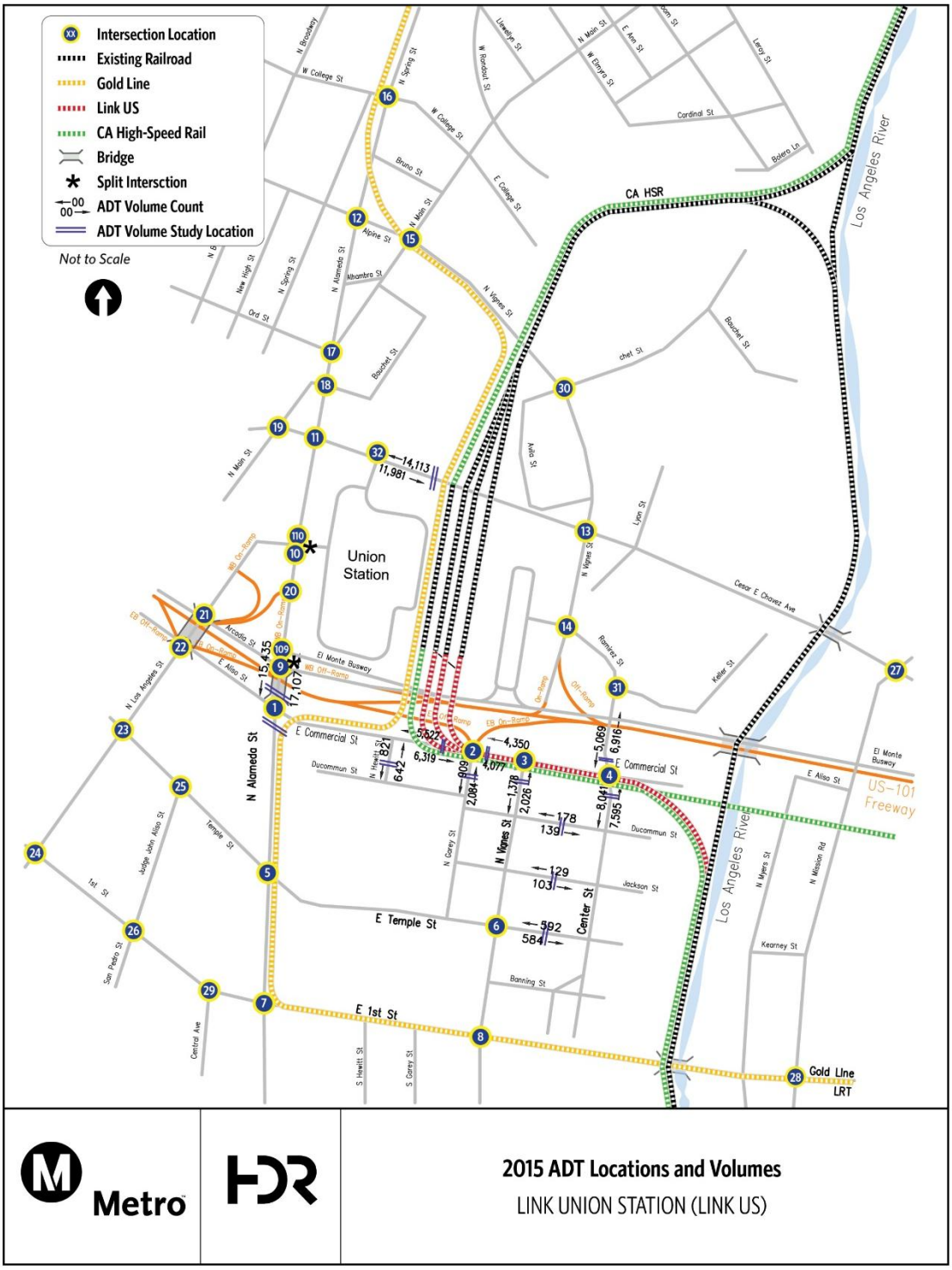

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Table 5-1. Level of Service Definitions for Signalized Intersections

LOS	Definition/Interpretation	Signalized Intersection Delay (seconds per vehicle)
A	Excellent operation. All approaches to the intersection appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation.	≤ 10
B	Very good operation. Many drivers begin to feel somewhat restricted within platoons of vehicles. This represents stable flow. An approach to an intersection may occasionally be fully utilized and traffic queues start to form.	> 10 and ≤ 20
C	Good operation. Occasionally drivers may have to wait for more than 60 seconds and backups may develop behind turning vehicles. Most drivers feel somewhat restricted.	> 20 and ≤ 35
D	Fair operation. Cars are sometimes required to wait for more than 60 seconds during short peaks. There are no long-standing traffic queues. This level is typically associated with design practice for peak periods.	> 35 and ≤ 55
E	Poor operation. Some long-standing vehicular queues develop on critical approaches.	> 55 and ≤ 80
F	Forced flow. Represents jammed conditions. Backups from locations downstream or on the cross street may restrict or prevent movements of vehicles out of the intersection approach lanes; therefore, volumes carried are not predictable. Potential for stop-and-go type traffic flow.	> 80

Source: Transportation Research Board 2010
Notes:
For signalized intersections, the LOS is based on the average for all vehicles entering the intersection.
LOS=level of service

Table 5-2. Level of Service Definition for Stop-Controlled Intersections

LOS	Unsignalized Intersection Delay (seconds per vehicle)
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	≥ 50

Source: Transportation Research Board 2010
Notes:
For unsignalized intersections, the LOS is based on the delay for the worst-performing approach.
LOS=level of service

The study intersections were analyzed as an integrated network. The freeway segment was analyzed according to the Los Angeles County CMP methodology (Table 5-3).

Table 5-3. Level of Service Definitions – Freeway Mainline Segments

Demand/Capacity Ratio	LOS
0.00–0.35	A
> 0.35–0.54	B
> 0.54–0.77	C
> 0.77–0.93	D
> 0.93–1.00	E
> 1.00–1.25	F(0)
> 1.25–1.35	F(1)
> 1.35–1.45	F(2)
> 1.45	F(3)

Source: Metro 2010
Notes:
LOS=level of service

For this study, HCM delay-based methodology utilizing Synchro software was used for calculating the intersection LOS for existing and future conditions. Since the Project would be considered infrastructure-related (i.e., transit, rail, bicycle, and roadway improvements), HCM delay-based methodology was utilized, as opposed to the Circular 212 Critical Movement Analysis Planning Method. Per City guidelines, HCM delay-based methodology is acceptable for infrastructure projects.

5.3.2 Freeway Level of Service Standards

Freeway mainline LOS is estimated through calculation of the demand to capacity (D/C) ratio and associated LOS, according to Table 5-3. Table 5-3 explains the correlations between D/C ratios and LOS for freeway mainline segments.

5.3.3 Los Angeles Department of Transportation Impact Criteria (Delay Methodology)

An adverse effect on intersection capacity would occur if the Build Alternative would result in the following delays at traffic study area intersections Table 5-4.

- If final LOS is C, an increase in average delay of ≥6.0 seconds.
- If final LOS is D, an increase in average delay of ≥4.0 seconds.

- If final LOS is E or F, an increase in average delay of ≥2.5 seconds.

Table 5-4. Transportation Impact Criteria (Delay Methodology)

LOS	Final Delay (seconds)	Project-Related Increase in Delay (seconds)
C	> 20–35	≥ 6.0
D	> 35–55	≥ 4.0
E	> 55–80	≥ 2.5
F	> 80	≥ 2.5

Notes:
LOS=level of service

Final delay means the future delay per vehicle at an intersection with consideration to effects from the Build Alternative with ambient and Project-related growth, but without proposed traffic mitigation. Project-related increase in delay means the change in delay between final delay and future delay with ambient and Project-related growth, but without proposed traffic mitigation.

5.3.4 Los Angeles County Congestion Management Program Methodology

The LOS methodology from 2010 CMP was used to analyze traffic impacts along the US-101 based on early coordination and discussion with Caltrans and Metro in 2016 when this Traffic Impact Assessment was initiated. As noted in the MOU prepared for this TIA (Appendix A), the Project is subject to freeway impact analysis in addition to CMP analysis. Per the CMP, an adverse effect would occur if traffic demand on the US-101 would result in an increase of 2 percent of capacity (volume to capacity [V/C] ≥ 0.02), causing LOS F (V/C > 1.00).

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6.0 Existing Conditions

This section describes key roadway segments and intersections, reports existing daily roadway and peak hour intersection traffic volume information, and the LOS analysis for the Existing Year (2016) condition.

6.1 Existing Street Network

The primary street network in the traffic study area is described below. Figure 6-1 presents the primary street network within the traffic study area and existing lane geometry at each study intersection.

6.1.1 East-West Roadways

Cesar Chavez Avenue is a major arterial north of LAUS with two through lanes in each direction east of Alameda Street and three through lanes in each direction west of Alameda Street. It has one left-turn pocket at all major connecting intersections (Cesar Chavez Avenue intersects with two major streets: Alameda Street and Vignes Street). Cesar Chavez Avenue crosses the Los Angeles River via a bridge. North of Cesar Chavez Avenue, there are no river-crossing east-west roadways until Main Street, which is 0.8 mile away. Cesar Chavez Avenue crosses underneath the northern section of the rail yard at LAUS. No on-street parking is allowed on Cesar Chavez Avenue.

El Monte Busway runs just north of US-101 and abuts the south side of LAUS. It connects to both US-101 and I-10 and terminates at Alameda Street with on- and off-ramps at Alameda Street. The El Monte Busway off-ramp also provides exits for westbound traffic from US-101. The on-ramp can be used only by buses and vehicles with a FasTrak transponder (carpools of three or more can use the busway free of charge).

US-101 is the closest freeway to LAUS. In general, it has a north-south orientation. However, it runs east-west through the Project study area with four lanes in each direction. There are two sets of southbound on- and off-ramps in the Project study area, one of which is the recently completed reconfiguration of the US-101/Commercial Street ramp, located at the intersection of Commercial Street and Garey Street. The other set of southbound on- and off-ramps are west of the proposed infrastructure, located at the intersection of Los Angeles Street and Aliso Street. With respect to the northbound on- and off-ramps, there are three on-ramp and two off-ramp locations. A set of northbound on- and off-ramps is located at Vignes Street, south of Ramirez Street. The other two on-ramps are located on Los Angeles Street and Alameda Street.

Arcadia Street is the westbound half of a one-way couplet that runs for four blocks on either side of US-101 (Aliso Street is the eastbound half). Arcadia Street is aligned as the westbound extension of the El Monte Busway; it distributes US-101 traffic to Downtown Los Angeles through Los Angeles Street, Main Street, Spring Street, Broadway, and Hill Street.

Aliso Street is the eastbound half of a one-way couplet that runs for four blocks on either side of US-101 (Arcadia Street is the westbound half). Aliso Street runs eastbound merging into Commercial Street, terminating at its intersection with Alameda Street/Commercial Street. Aliso Street is located south of US-101 and operates as the frontage road for on-ramp and off-ramp traffic collection and distribution through local streets that connect to Downtown Los Angeles such as Los Angeles Street, Main Street, Spring Street, Broadway, and Hill Street.

Commercial Street, a two-way street, runs south of LAUS. West of Garey Street and the US-101 ramps, Commercial Street is classified as a major collector and has two through lanes in each direction; Commercial Street becomes Aliso Street west of Alameda Street. East of Garey Street and the US-101 ramps, Commercial Street narrows to one through lane in each direction. Commercial Street serves as an on- and off-ramp for US-101 and intersects with two major streets: Alameda Street and Center Street. No on-street parking is allowed on Commercial Street.

Temple Street is a major arterial and has two through lanes in each direction west of Alameda Street but is a minor arterial and narrows down to one through lane in each direction east of Alameda Street. Temple Street terminates at the railroad yard by the Los Angeles River.

1st Street is a major arterial with two through lanes in each direction that intersects with Alameda Street. The Gold Line operates in the median of 1st Street. No on-street parking is allowed on 1st Street.

6.1.2 North-South Roadways

Because both US-101 and the El Monte Busway traverse the traffic study area in an east-west orientation, only a limited number of north-south-oriented roadways are able to provide north-south access through overcrossing or undercrossing bridges. For example, San Pedro Street, Central Avenue, and Garey Street terminate south of US-101. Vignes Street terminates on either side of US-101. A list of the north-south roadways considered in the evaluation is presented and described below.

Alameda Street is a major arterial bordering the west side of LAUS. It has three through lanes and a left-turn pocket in each direction. It intersects with Cesar Chavez Avenue, LAUS, a northbound US-101 on-ramp, the northbound US-101/Arcadia Street off-ramp, Aliso Street, Commercial Street, Temple Street, and 1st Street. Farther north, Alameda Street becomes Spring Street and curves northeast toward the Lincoln Heights community. No on-street parking is allowed on Alameda Street within the Project study area.

Los Angeles Street is a major arterial west of Alameda Street with two through lanes and one left-turn pocket in each direction. It has interchanges with US-101, both northbound and southbound, and intersects with 1st Street and Temple Street, and with Alameda Street at LAUS. No on-street parking is allowed on Los Angeles Street.

Center Street/Ramirez Street is a major arterial that runs east of LAUS with one through lane in each direction. Center Street intersects with Commercial Street. North of Commercial Street,

Center Street becomes Ramirez Street and then joins Vignes Street at LAUS. On-street parking is allowed on Center Street, south of Commercial Street.

Vignes Street provides access to LAUS and terminates as on- and off-ramps to US-101. It then resumes as a major collector at Commercial Street south of US-101 to beyond 1st Street.

Mission Road is the first arterial east of the Los Angeles River that connects the communities east of the river to LAUS via Cesar Chavez Avenue.

LAUS is located approximately 0.3 mile west of the Los Angeles River. With the river running north-south within the vicinity of LAUS, only a limited number of east-west roadways (Cesar Chavez Avenue, 1st Street, and US-101) are able to provide access as bridges to the communities east of the river.

The intersections included as part of the evaluation are listed below and depicted in Figure 6-1:

1. Alameda Street and Commercial Street
2. Garey Street and Commercial Street
3. Vignes Street and Commercial Street
4. Center Street and Commercial Street
5. Alameda Street and Temple Street
6. Vignes Street and Temple Street
7. Alameda Street and 1st Street
8. Vignes Street and 1st Street
9. Alameda Street and El Monte Busway (westbound)/Arcadia Street (two sets of counts)
10. Alameda Street and Los Angeles Street (eastbound) (two sets of counts)
11. Alameda Street and Cesar Chavez Avenue
12. Alameda Street and Vignes Street/Alpine Street
13. Vignes Street and Cesar Chavez Avenue
14. Vignes Street and Ramirez Street
15. Vignes Street and Main Street
16. Alameda Street/Spring Street and College Street
17. Alameda Street and Main Street/Ord Street
18. Alameda Street and Main Street/Bauchet Street
19. Main Street and Cesar Chavez Avenue
20. Alameda Street at Northbound US-101 northbound on-ramp

21. Los Angeles Street and Arcadia Street
22. Los Angeles Street and Aliso Street
23. Los Angeles Street and Temple Street
24. Los Angeles Street and 1st Street
25. Judge John Aiso Street and Temple Street
26. Judge John Aiso Street/San Pedro Street and 1st Street
27. Mission Road and Cesar Chavez Avenue
28. Mission Road and 1st Street
29. Central Avenue and 1st Street
30. Vignes Street and Bauchet Street
31. Ramirez Street and Center Street
32. Cesar Chavez Avenue and Union Station North Driveway

In addition, to document the 24-hour directional ADT, automatic counts were conducted at the following 12 roadway segment locations:

1. Alameda Street north of Commercial Street
2. Hewitt Street south of Commercial Street
3. Commercial Street west of Garey Street
4. Garey Street south of Commercial Street
5. Commercial Street east of Garey Street
6. Vignes Street south of Commercial Street
7. Ducommun Street between Vignes Street and Center Street
8. Jackson Street between Vignes Street and Center Street
9. Temple Street between Vignes Street and Center Street
10. Center Street north of Commercial Street
11. Center Street south of Commercial Street
12. Cesar Chavez Avenue east of Alameda Street

6.2 Existing Traffic Volumes and Operating Conditions

6.2.1 Existing Traffic Conditions

Arterial Annual Daily Traffic

Alameda Street: For existing conditions, 32,542 vehicles travel daily on Alameda Street north of Commercial Street, which consists of a northbound volume of 17,107 vehicles and a southbound volume of 15,435 vehicles. It should be noted that there is a notable difference between the AM and PM periods, with the AM period (12 midnight to 12 noon) having a volume of 13,760 vehicles (42.3 percent ADT) and the PM period having a volume of 18,782 vehicles (57.7 percent ADT). Peak hour periods are discussed below.

Commercial Street: The ADT for Commercial Street west of Garey Street totals 11,841 vehicles, of which the eastbound ADT is 6,319 vehicles and the westbound ADT is 5,522 vehicles. Meanwhile, the ADT is 8,427 vehicles on Commercial Street east of Garey Street, which comprises 4,077 vehicles heading eastbound and 4,350 vehicles heading westbound. Garey Street south of Commercial Street has an ADT of 2,993 vehicles, consisting of 2,084 vehicles heading northbound and 909 vehicles heading southbound. The reduction on Commercial Street from 11,841 vehicles west of Garey Street to 8,427 vehicles east of Garey Street indicates that many motorists who use Commercial Street turn at the US-101 eastbound (US-101 southbound) on-ramp or onto Garey Street.

Hewitt Street: The ADT on the north-south-oriented Hewitt Street between Commercial Street and Ducommun Street is 1,463 vehicles, of which the northbound ADT is 642 vehicles and the southbound ADT is 821 vehicles. It appears likely that Hewitt Street is used by motorists to avoid heavier traffic volumes at the intersection of Commercial Street and Garey Street.

Center Street: The ADT north of Commercial Street is 11,985 vehicles, which consists of 6,916 vehicles northbound and 5,069 vehicles southbound. Meanwhile, the ADT is 15,636 vehicles south of Commercial Street, which comprises 7,595 vehicles northbound and 8,041 vehicles southbound. The reduction from an ADT of 15,636 vehicles south of Commercial Street to an ADT of 11,985 vehicles north of Commercial Street indicates that Commercial Street is accessed by motorists from Center Street.

Vignes Street: The ADT on Vignes Street between Ducommun Street and Commercial Street is 3,404 vehicles, which consists of 2,026 vehicles northbound and 1,378 vehicles southbound. This segment is likely to be used by motorists as an alternative route to Center Street or Garey Street.

Temple, Jackson, and Ducommun Streets: There are three segments between Vignes Street and Center Street that have an ADT of 1,176 vehicles on Temple Street, 232 vehicles on Jackson Street, and 317 vehicles on Ducommun Street. These low traffic volumes indicate that these segments serve as minor streets in the local roadway network.

Cesar Chavez Avenue: The ADT on Cesar Chavez Avenue east of Alameda Street is 26,094 vehicles, comprised of an ADT of 11,981 vehicles eastbound and an ADT of 14,113 vehicles westbound. These volumes indicate a 46 percent eastbound and 54 percent westbound directional split.

ADT count information is depicted on Figure 5-2.

Existing Peak Hour Traffic Volumes

The AM and PM peak hour intersection turn movements are shown on Figure 6-2. As shown, the existing peak hour volumes were balanced between adjacent intersections and adjusted accordingly and are based on the traffic counts conducted between 6:00 and 9:00 AM for the AM peak period and between 3:30 and 6:30 PM for the PM peak period.

Vehicle Classification and Truck Percentages

Vehicle classification counts were conducted through both ADT (automatic counts dated September 9, 2015, and September 17, 2015) and intersection turn movement counts (manual counts dated June 18, 2015; September 9, 2015; November 5, 2015; and November 19, 2015). Manual counts were used to ensure accuracy, particularly for identifying the number of axles on a truck during AM and PM peak hours. ADT counts were used for their ability to cover a 24-hour period.

Vehicle classification counts were conducted at all study intersections. The following four intersections are in the direct vicinity of the proposed run-through tracks and were also included in the machine counts for ADT on Alameda Street south of Commercial Street:

- Intersection 1 – Alameda Street at Commercial Street
- Intersection 2 – Garey Street/US-101 southbound ramps at Commercial Street
- Intersection 3 – Vignes Street at Commercial Street
- Intersection 4 – Center Street at Commercial Street

Vehicles classified include cars, trucks, and buses. The three-axle truck and bus percentages of the four intersections during AM peak hours and PM peak hours are depicted in Table 6-1. Additional information, including turn movements and ADT truck and bus percentages, can be found in Appendix C.

Figure 6-1. Existing Street Network and Lane Geometry at Traffic Study Area Intersections

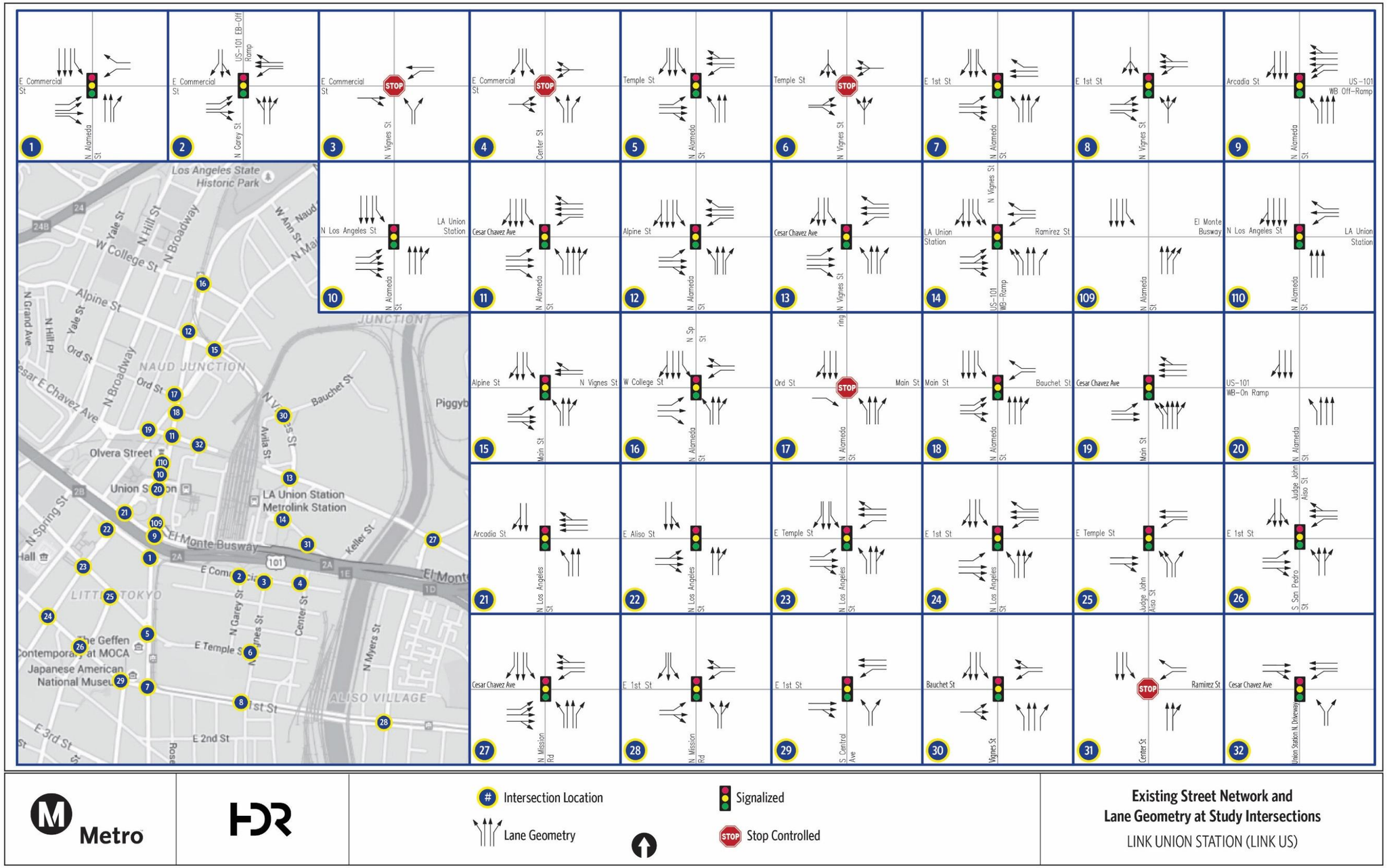

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Figure 6-2. Existing Peak Hour Traffic Volumes

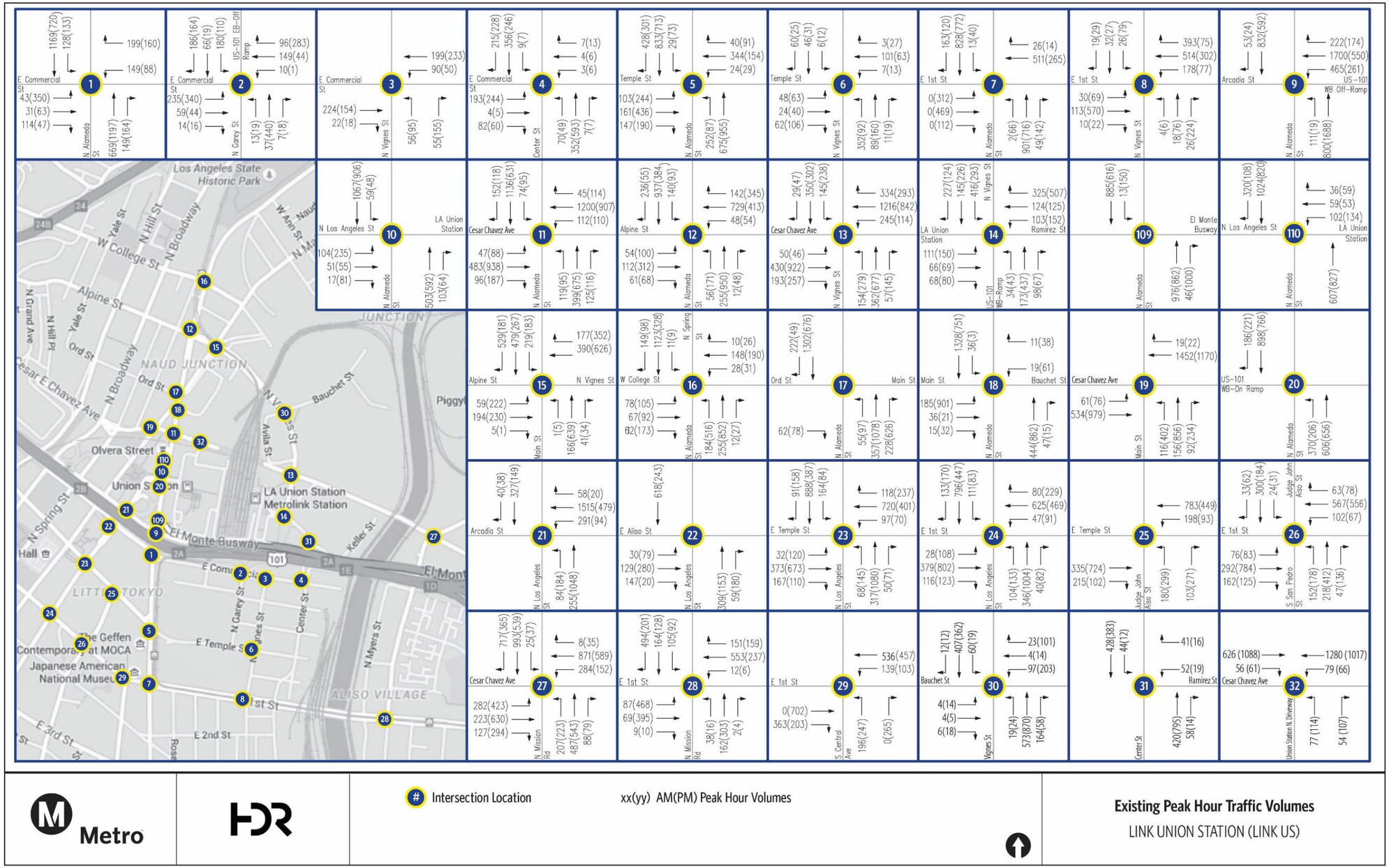

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Table 6-1. Vehicle Classification on Commercial Street		
Peak Period	**Car (%)**	**Truck and Bus (%)**
AM Peak		
At Alameda Street	92.0	8.0
At Garey Street/US-101 southbound ramp	89.6	10.4
At Vignes Street	91.0	9.0
At Center Street	84.6	15.4
PM Peak		
At Alameda Street	95.3	4.7
At Garey Street/US-101 southbound ramp	96.5	3.5
At Vignes Street	89.2	10.8
At Center Street	89.9	10.1

During both AM and PM peak hours, the combined truck and bus percentages are generally less than 10 percent on Commercial Street within the study area. An exception is the intersection at Garey Street/US-101 southbound ramp in the AM peak hour (Intersection 2), the intersection at Vignes Street in the PM peak hour (Intersection 3), and the Center Street/Commercial Street intersection (Intersection 4) where the truck and bus percentage are higher than 10 percent during both AM and PM peak hours.

6.2.2 Existing Intersection Level of Service

Table 6-2 summarizes the existing LOS during the AM and the PM peak hours for the intersections analyzed. Intersection LOS worksheets are presented in Appendix D. In the AM peak hour, 31 of the 32 intersections currently operate at LOS C or better, while 30 of the 32 currently operate at LOS C or better in the PM peak hour. It should be noted that if the intersections are so congested that the actual demand cannot be processed by the signal, then the performance of the intersections may be poorer than the LOS calculations indicate. It should, therefore, be noted that the observed LOS could be worse than the one based on the calculations in the analysis.

Table 6-2. Existing Peak Hour Intersection Level of Service							
Intersection		**AM Peak**			**PM Peak**		
		Delay (Sec)	**V/C**	**LOS**	**Delay (Sec)**	**V/C**	**LOS**
1	Alameda Street and Commercial Street	29.9	0.56	C	33.9	0.84	C

Table 6-2. Existing Peak Hour Intersection Level of Service

Intersection		AM Peak			PM Peak		
		Delay (Sec)	V/C	LOS	Delay (Sec)	V/C	LOS
2	Garey Street and Commercial Street	31.4	0.38	C	34.2	0.47	C
3	Vignes Street and Commercial Street[a]	9.6	0.37	A	9.9	0.39	A
4	Center Street and Commercial Street[a]	16.0	0.68	C	33.0	1.00	D
5	Alameda Street and Temple Street	13.9	0.65	B	15.4	0.71	B
6	Vignes Street and Temple Street[a]	14.5	0.69	B	9.7	0.40	A
7	Alameda Street and 1st Street	17.8	0.53	B	17.3	0.59	B
8	Vignes Street and 1st Street	21.7	0.49	C	27.4	0.56	C
9	Alameda Street and El Monte Busway/Arcadia Street	19.5	0.83	B	14.5	0.60	B
10	Alameda Street and Los Angeles Street eastbound	12.4	0.31	B	12.7	0.33	B
110	Alameda Street and Los Angeles Street westbound	4.2	0.33	A	5.6	0.29	A
11	Alameda Street and Cesar Chavez Avenue	15.3	0.74	B	14.9	0.67	B
12	Alameda Street and Vignes Street/Alpine Street	11.8	0.56	B	14.1	0.60	B
13	Vignes Street and Cesar Chavez Avenue	19.0	0.75	B	20.4	0.85	C
14	Vignes Street and Ramirez Street	23.4	0.41	C	25.9	0.51	C
15	Vignes Street and Main Street	17.5	0.57	B	41.9	0.97	D
16	Alameda Street/Spring Street and College Street	16.0	0.59	B	17.0	0.68	B
17	Alameda Street and Main Street/Ord Street[a]	0.6	0.33	A	0.7	0.40	A
18	Alameda Street and Main Street/Bauchet Street	5.7	0.40	A	8.8	0.56	A
19	Main Street and Cesar Chavez Avenue	7.6	0.42	A	19.0	0.62	B
20	Alameda Street and Northbound US-101[b]	--	--	--	--	--	--
21	Los Angeles Street and Arcadia Street	7.2	0.57	A	5.1	0.50	A
22	Los Angeles Street and Aliso Street	9.4	0.29	A	11.3	0.59	B

Table 6-2. Existing Peak Hour Intersection Level of Service

Intersection		AM Peak			PM Peak		
		Delay (Sec)	V/C	LOS	Delay (Sec)	V/C	LOS
23	Los Angeles Street and Temple Street	15.0	0.59	B	16.5	0.70	B
24	Los Angeles Street and 1st Street	14.8	0.53	B	19.4	0.80	B
25	Judge John Aiso Street and Temple Street	8.2	0.38	A	7.9	0.41	A
26	Judge John Aiso Street/San Pedro Street and 1st Street	15.6	0.42	B	15.0	0.63	B
27	Mission Road and Cesar Chavez Avenue	46.4	1.08	D	23.9	0.85	C
28	Mission Road and 1st Street	28.3	0.77	C	31.1	0.83	C
29	Central Avenue and 1st Street	8.9	0.32	A	11.0	0.48	B
30	Vignes Street and Bauchet Street	10.7	0.28	B	19.1	0.48	B
31	Ramirez Street and Center Street	1.8	0.19	A	0.6	0.34	A
32	Union Station North Driveway and Cesar Chavez Avenue	13.5	0.53	B	14.2	0.50	B

Notes:
[a] Non-signalized intersection
[b] Freeway on-ramp, neither signalized nor stop-sign controlled
LOS=level of service; V/C=volume to capacity

6.2.3 Existing Volumes and Traffic Conditions on US-101

Freeway traffic data from the 2010 CMP were utilized for this analysis because it was the most recently available at the time of preparation[5] to assess the existing operating conditions on US-101 north of Vignes Street (Post Mile 0.45). D/C ratios were estimated assuming a capacity of 2,000 vehicles per hour, per lane. Table 6-3 shows the existing US-101 mainline segment north of Vignes Street LOS results. As shown, this freeway segment currently operates at an unacceptable LOS of E or worse, during both AM and PM peak hours.

[5] Prior to 2019 and the passage of SB 743, CMP traffic data was updated once every 10 years.

Table 6-3. Freeway Mainline Level of Service – Existing Year (2016) Condition									
Freeway Analysis Location	Peak	Northbound				Southbound			
		Demand	Capacity	D/C	LOS	Demand	Capacity	D/C	LOS
US-101 North of Vignes Street (Post Mile 0.45)	AM	10,900	8,000	1.36	F(2)	7,500	8,000	0.94	E
	PM	10,800	8,000	1.35	F(1)	11,000	8,000	1.38	F(2)

Source: Metro 2010
Notes:
D/C=demand to capacity; LOS=level of service

6.3 Existing Public Transit Usage

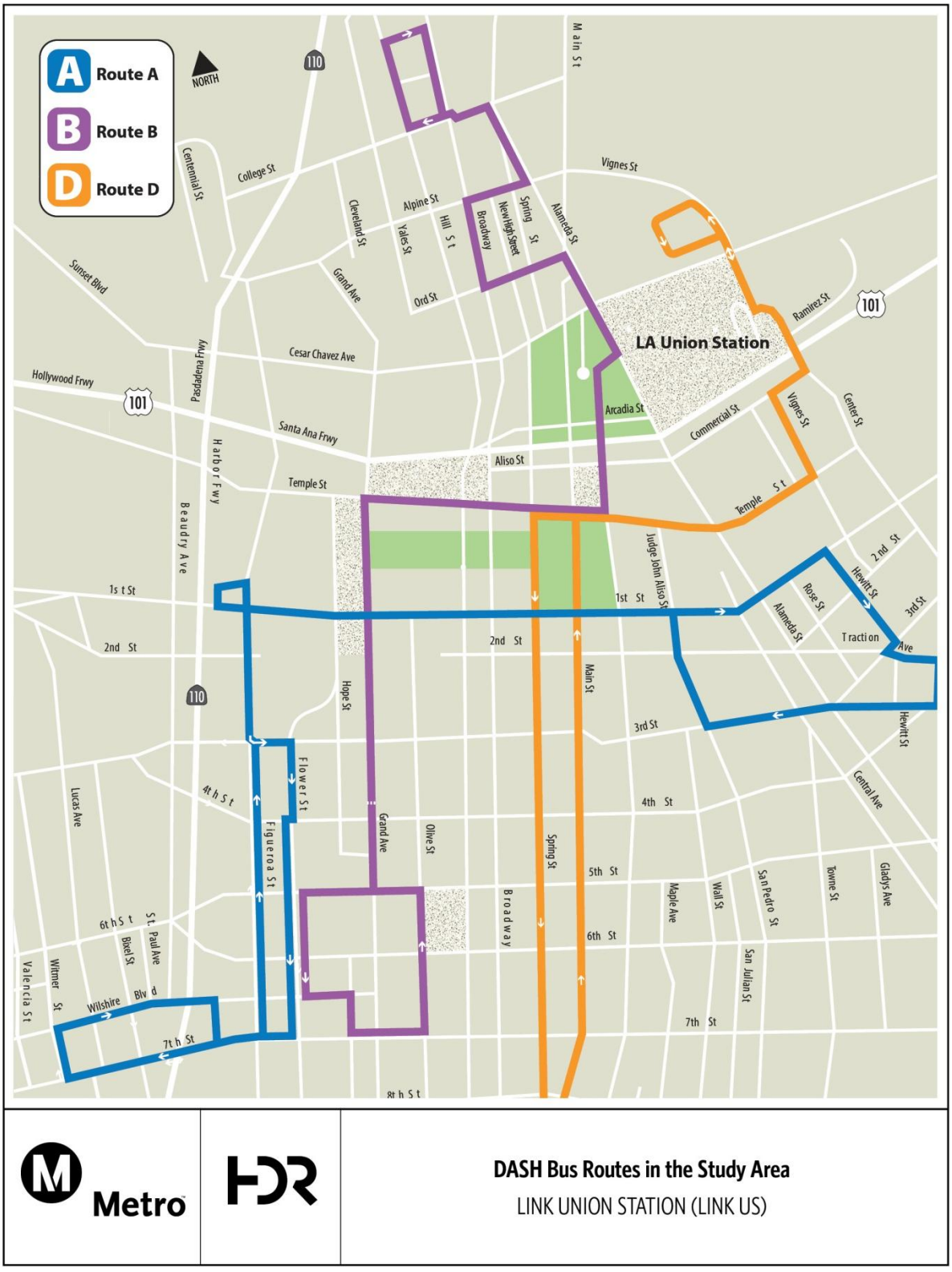
LAUS is the hub of an extensive transit system, including bus, rail, and high-occupancy vehicle facilities. The Patsaouras Transit Plaza on the east side of LAUS is a major hub of transit activity in Downtown Los Angeles where numerous bus routes start, stop, or terminate. Transit services include long-haul, express, and local municipal buses provided by LADOT, Metro, and other agencies. Buses include the Los Angeles International Airport FlyAway provided by Los Angeles World Airports, with scheduled ground transportation between Los Angeles International Airport and LAUS. Express buses are provided by Orange County Transportation Authority, Foothill Transit, LADOT, and other surrounding agencies. Local buses include LADOT Downtown Area Short Hop and other local service providers. Along with bus routes, the Patsaouras Transit Plaza provides connection to Metro Red and Purple Lines, Gold Line, Metrolink, and Amtrak trains.

Public transit ridership was substantially reduced during the COVID-19 pandemic due to lockdown. The ridership level has increased post-pandemic. However, the post-pandemic ridership levels are still below the pre-pandemic ridership levels that are used for the evaluation.

On weekdays, approximately 1,046 buses per day are served in the Patsaouras Transit Plaza. On Saturdays and Sundays, approximately 556 and 655 buses are served, respectively. Thus, in a week, approximately 6,441 total buses are served. Under an estimation that each bus carries approximately 30 passengers, the Patsaouras Transit Plaza accommodates approximately 190,000 individual trips per week, approximately 31,000 individual trips per weekday, and approximately 18,000 individual trips per weekend day, which, as a whole, reduces the number of motorists using roadways in the Project study area.

South of LAUS, LADOT Downtown Area Short Hop Route D is the only bus route using Center Street. Other Downtown Area Short Hop bus routes in the area include Routes A and B. Detailed bus routes are shown on Figure 6-3. Bus schedule and detailed information can be found in Appendix E. Additionally, the El Monte Busway on-ramp is a shared-use bus corridor and high-occupancy vehicle lane that travels west along US-101.

Figure 6-3. Downtown Area Short Hop Bus Routes in Project Study Area



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6.4 Pedestrians and Bicyclists

The traffic study area intersections currently experience a high number of pedestrian and bicyclist activities during both AM and PM peak hours. As part of this study, pedestrian and bicyclist counts were collected and included in the intersection analysis as applicable.

Pedestrian and bicyclist activities were observed at each study intersection by National Data and Surveying Services, while manual counts were conducted during AM and PM peak periods for the following intersections:

- At the intersection of Alameda Street and Commercial Street, the amount of pedestrian activity was notably high on each crosswalk of the intersection during both AM and PM peak hours. During the AM peak periods, there were 0 to 224 pedestrians per hour crossing a leg of this intersection, with the south leg having the highest volume. During the PM peak periods, the counts ranged from 0 to 144 pedestrians per hour, with the south leg again having the highest volume. Bicyclists were observed at this intersection, and counts were similar for both AM and PM peak periods; the counts for each movement ranged from 0 to 9 bicyclists per hour.
- At the intersection of Garey Street and Commercial Street, there were few pedestrians during both AM and PM peak hours. Of the observed pedestrians, only the south leg had volumes ranging from 7 to 15 pedestrians per hour during the AM and PM peak periods. Bicyclists were observed at each approach for AM and PM peak hours; however, only 1 bicyclist was observed at the westbound approach.
- At the intersection of Center Street and Commercial Street, the number of pedestrians was low on all legs for AM and PM peak hours. The pedestrian counts for all the legs that had crosswalks observed 11 pedestrians during the AM peak hour and 28 pedestrians during the PM peak hour. Bicyclists were observed at this intersection, and numbers were similar during AM and PM peak periods; the counts for each movement ranged from 5 to 26 bicyclists per hour.

The above pedestrian and bicyclist volumes demonstrate that the intersection of Alameda Street and Commercial Street experiences higher pedestrian and bicyclist volumes than other nearby intersections and is used during both morning and evening peak hours. Pedestrian and bicyclist count data can be found in Appendix F.

There are existing bicycle lane facilities along Main Street, Los Angeles Street, 1st Street, and 3rd Street. Metro is also implementing the *Connect US Action Plan* (formerly the Union Station and 1st/Central Station Linkages Study; Metro 2015) to improve historical and cultural connections in Downtown Los Angeles by enhancing pedestrian and bicycle travel options. Central to the study is improving access to LAUS. Under the *Connect US Action Plan*, Alameda Street between Cesar Chavez Avenue and US-101 would be modified to further emphasize bicycle and pedestrian mobility by reducing one vehicular travel lane in each direction in order to widen the sidewalk for pedestrian and bicycle use.

6.5 Approach to Identification of Baseline Condition

Based on LADOT's guidelines (Section 5.3.3), the effects that may result from the Build Alternative and deterioration in the operational performance of study intersections due to the added delay are measured by the difference in delay between the Plus Project and the No Project conditions during the opening year (2031). The opening year was selected as a baseline rather than existing conditions because of the relatively long period before construction would be complete and when the proposed infrastructure would be operational. Comparisons to existing conditions might therefore be misleading. The traffic counts were conducted in 2015 and were used to estimate the baseline volumes for the opening year by adding annual growth rate and traffic from the other planned projects located in the vicinity of the traffic counts performed.

The existing Plus Project condition analysis was conducted as part of this traffic impact assessment. The LOS analysis for all study intersections for the existing Plus Project scenario was included in Appendix G. As identified in the appendix, the opening year is the analysis baseline.

It should be noted that for the 2031 opening year and 2040 horizon year conditions, the analysis consists of the comparison of LOS and delay between the corresponding No Project and Plus Project conditions.

7.0 Future Traffic Projections and Roadway Characteristics

This section describes the methodology for performing traffic forecasts and the resulting traffic volumes projected for 2031 and 2040 conditions at key roadway segments and intersections.

Two future years were evaluated: (1) 2031 and (2) 2040. Forecasts for five future conditions were developed:

- 2031 No Project condition
- 2040 No Project condition
- 2031 Plus Project Construction condition
- 2031 Plus Project condition
- 2040 Plus Project condition

No Project conditions forecasts reflect traffic increases due to background growth in the region. Plus Project conditions forecasts reflect the traffic under No Project conditions plus expected traffic volume changes due to construction and operation. Cumulative Plus Project Construction conditions forecasts reflect traffic of the cumulative base plus expected traffic volume changes due to construction.

7.1 Traffic Forecasting Methodology

Trip distribution is the process of identifying the probable origins, destinations, and directions or traffic routes that would be utilized by Project-related traffic. The potential interaction between the proposed infrastructure and surrounding regional access routes is considered to identify the route where the traffic would distribute.

For the purpose of this traffic impact assessment, the 2016 SCAG RTP/SCS model was used as the basis for ambient traffic growth in Downtown Los Angeles per the MOU approved by LADOT. The City of Los Angeles sub-area model is built upon the latest version of the SCAG 2016 RTP/SCS regional traffic model. The model includes all traffic analysis zones in the City of Los Angeles. The City of Los Angeles provided a list of projects that are approved or in the process of approval to use as cumulative projects in the traffic impact analysis.

The following steps were taken to develop the 2031 and 2040 traffic forecasts using the SCAG model data:

1. A list of cumulative projects LADOT provided was compared against the land use assumptions in the SCAG model.
2. It was determined that all of the cumulative projects that were listed in the MOU (Appendix A) were included in the SCAG model land use assumptions with the exception

of three specific projects. Therefore, these three projects were not part of the 0.2 percent annual growth rate that was used to develop the future volumes estimates, and therefore, the trips generated from these three projects were added manually to the existing baseline volumes.

3. Based on projected growth adjacent to and within the Project study area extracted from SCAG model and direction from LADOT[6], a 0.2 percent per year growth rate was applied to the existing condition traffic volume to develop future No Project condition forecasts.
4. Trip generation estimates of the three specific projects were identified and the additional trips were added to the future year 2031 and 2040 No Project condition forecasts from Step 3, above.

A cumulative project list was obtained from LADOT for an area within a 3-mile radius of the Project, and the analysis was compared with the SCAG land use data. Three projects were identified that were not included in the SCAG/City model. Associated trip generation rates and estimates for AM and PM peak hour trips were added to the cumulative year traffic to account for these projects. The trip generation rates and estimates for the three specific projects are included in Table 7-1.

Table 7-1. Cumulative Projects Trip Generation Estimates

Project	Location	Description	Estimated Trip Generation						
			Daily Vehicular Trips	AM Peak Hour Trips			PM Peak Hour Trips		
				In	Out	Total	In	Out	Total
1	441 Bauchet Street	Los Angeles County Men's Central Jail	—	64	75	139	69	208	277
2	129 College Street	College Station	—	169	290	459	307	201	508
3	800 Alameda Street	HSR[a]	32 percent of 40,960 = 13,107	1,305	870	2,175	870	1,305	2,175

Notes:
[a] Trip generation from the planned HSR system is based on data shared by the Authority.
HSR=high-speed rail

7.2 Characteristics of 2031 and 2040 Roadway System

For the 2031 No Project condition, it is assumed that there would be no major changes to the roadway network aside from those proposed in the 2016 RTP/SCS.

[6] Confirmed at a meeting with City of Los Angeles Department of Transportation (LADOT) on May 25, 2016.

For the 2040 No Project condition, it is assumed that the *Connect US Action Plan* (Metro 2015) would already be implemented, as well as the LAUS Forecourt and Esplanade Improvements Project. The LAUS Forecourt and Esplanade Improvements Final EIR was certified by the Metro Board of Directors in 2018. The modifications to Alameda Street would reduce the number of lanes from Cesar Chavez Avenue to Arcadia Street/El Monte Busway. The northbound and southbound through lanes would be reduced from three lanes to two lanes. In addition to the lane reductions, Los Angeles Street across from LAUS would be closed and vacated for an exclusive pedestrian plaza. With this closure, LAUS would have a combined intersection for entrances and exits. An illustration of the LAUS Forecourt and Esplanade improvements concept is shown on Figure 7-1.

The 2040 No Project condition is, therefore, different from existing conditions with respect to the roadway network and traffic distribution with the completion of the LAUS Forecourt and Esplanade Improvements Project. Below is a summary of concept plans with the lane configurations for the Alameda Street road improvements.

7.2.1 Intersection #3: Vignes Street and Commercial Street

- Westbound and northbound left turns are prohibited with the proposed raised median along Commercial Street.

7.2.2 Intersection #9: Alameda Street and Arcadia Street

- Eliminate one through lane (future configuration would be one through/right and one through lane southbound).
- Northbound through/right lane becomes trap right (onto El Monte Busway), two northbound lanes until Cesar Chavez Avenue.

7.2.3 Intersections #10 and #110: Alameda Street and Los Angeles Street

- East/west would be split phase, southbound protected left; eastbound left turn prohibited; intersections 10 and 110 are merged into one intersection (east leg).
- No right-turn on red is noted for most of the right turns (to eliminate pedestrian conflicts); the crosswalk would run concurrent with the westbound through/left phase.

7.2.4 Intersection #11: Alameda Street at Cesar Chavez Avenue

- Southbound through/right lane becomes right-turn-only lane; two southbound receiving lanes south of the intersection.
- Northbound right-turn-only lane, two through lanes.

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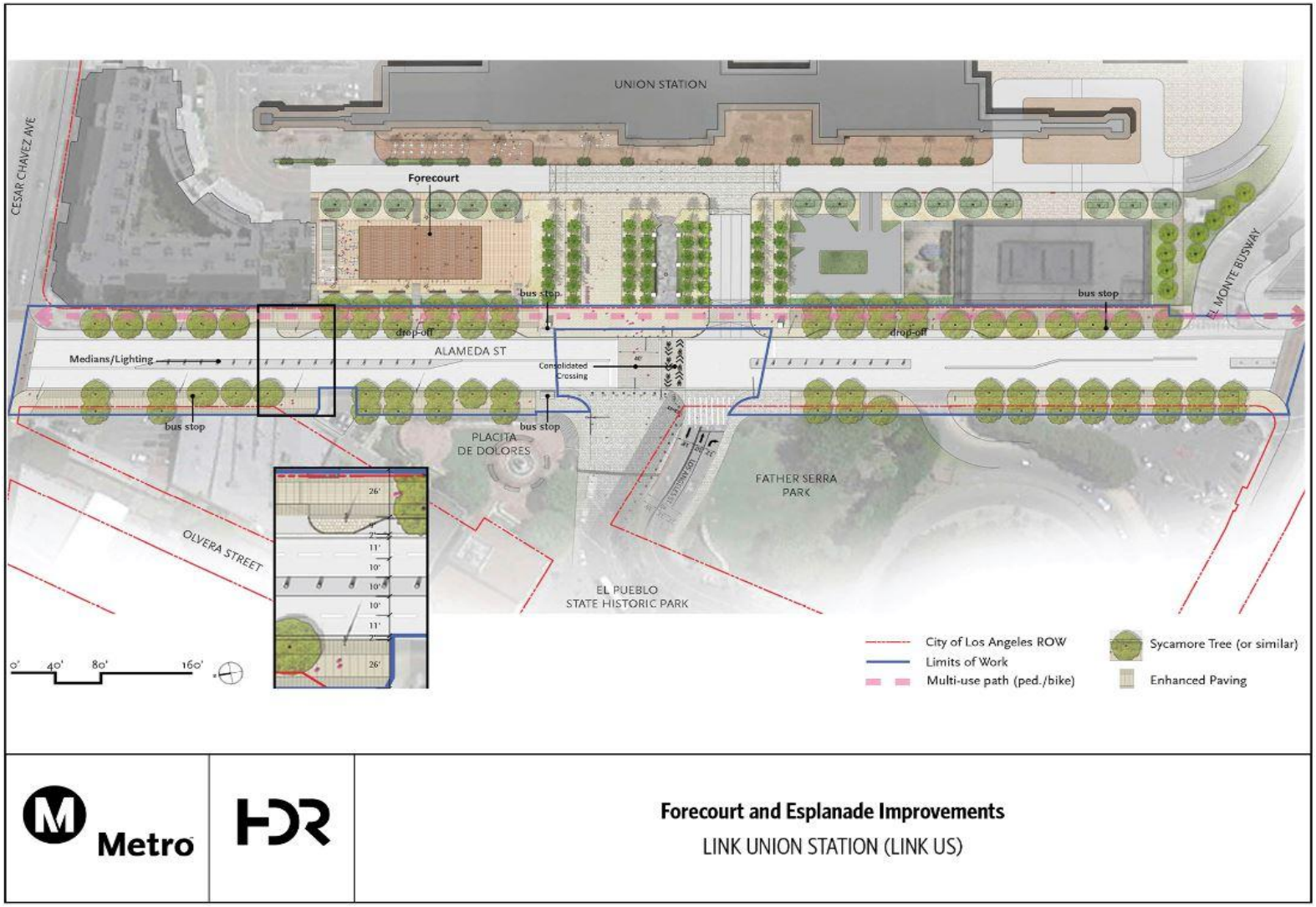
Figure 7-1. Alameda Street Improvements (Los Angeles Union Station Forecourt and Esplanade Improvements Project)



Source: Metro 2015

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7.2.5 Intersection #20: Alameda Street and US-101 Northbound On-ramp

- Eliminate one through lane (future configuration would be one through/right and one through lane southbound).
- Northbound two through lanes.

7.3 2031 and 2040 No Project Traffic Projections

The No Project traffic conditions have been estimated using the methodology identified in Section 7.1, Traffic Forecasting Methodology.

The No Project scenario consists of the cumulative base traffic conditions that reflect the background growth and the related cumulative projects that were identified and were not included in the regional growth model. The cumulative traffic growth rate in the traffic study area is assumed to increase at 0.2 percent per year from 2016 to 2031 and 2040. The resulting peak hour traffic volumes under 2031 No Project and 2040 No Project conditions are illustrated on Figure 7-2 and Figure 7-3, respectively. Below are the planned increases in new transit services in the near future:

1. Regional Connector Project is expected to be completed by 2023.
    a. It would connect Gold Line to Red/Purple Lines.
    b. Future frequency of trains would reduce to 2 minutes on combined Red/Purple Lines during peak.
2. Crenshaw/Los Angeles International Airport Transit Project was completed and open to the public on Oct 7, 2022.
3. Los Angeles World Airport People Mover Project is expected to be completed in 2023.

7.4 Project Construction Traffic Generation

Construction of the Build Alternative would require large amounts of workers, materials, and equipment working simultaneously in multiple locations. The additional traffic generated during construction would consist of construction equipment, construction employee vehicles, construction material deliveries, and haul of landfill materials in trucks.

This traffic impact evaluation is conservative and adequately addresses potential effects in the interim condition because it assumes all major Project elements would be constructed concurrently (lead tracks, elevated rail yard, run-through tracks, and concourse-related improvements). If run-through track infrastructure south of LAUS is constructed prior to the elevated rail yard and concourse-related improvements, fewer construction-related traffic effects are anticipated to occur at the same time than reported herein because fewer truck trips and associated traffic volumes would be generated at once. The greatest potential for effects is addressed within this traffic analysis for both construction and operational scenarios.

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Figure 7-2. 2031 No Project Peak Hour Traffic Volumes

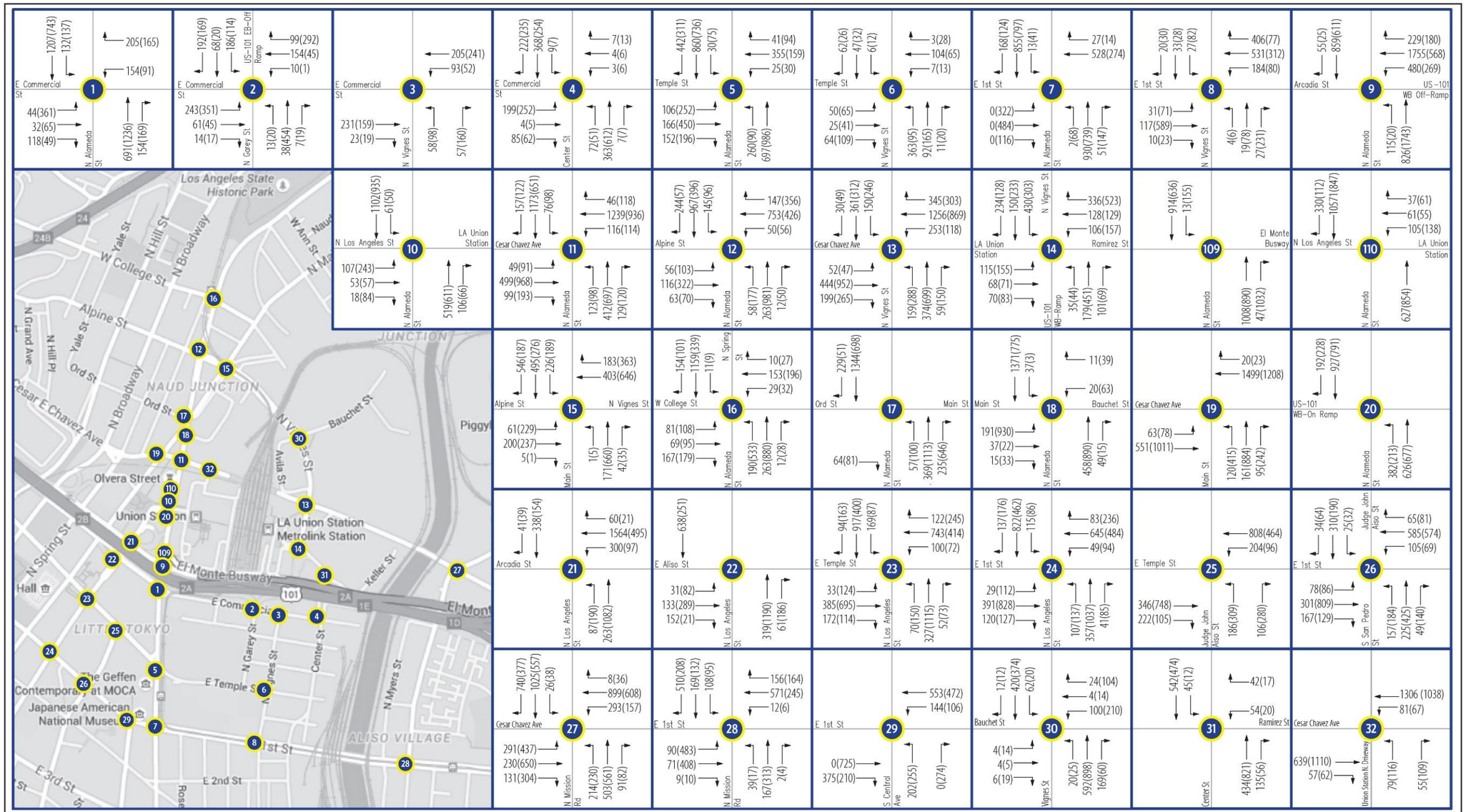

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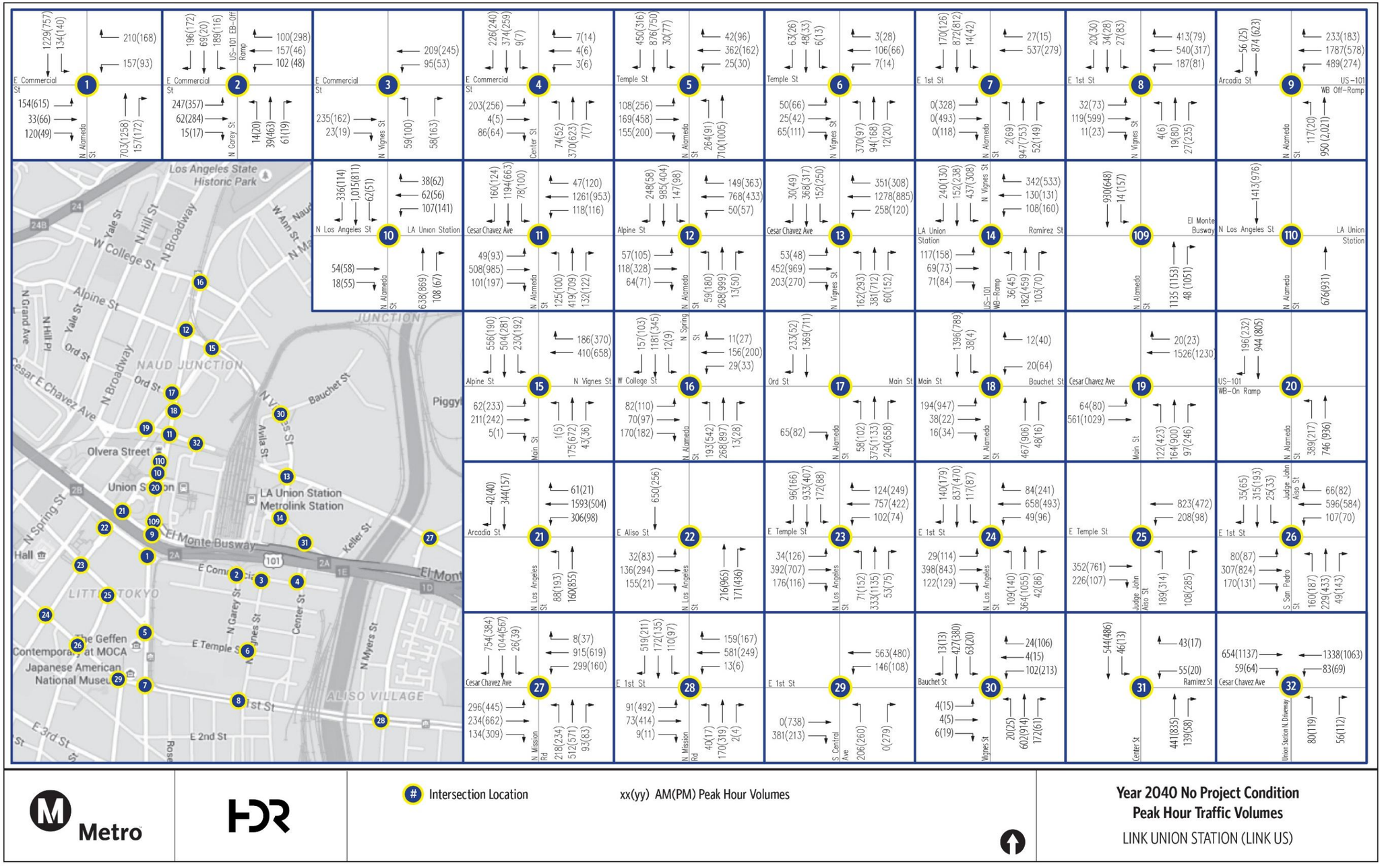
Figure 7-3. 2040 No Project Peak Hour Traffic Volumes



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A detailed construction phasing plan was developed for the environmental impact evaluation of the Build Alternative based on construction sequencing and durations, truck traffic, and equipment use.

The detailed construction phasing plans described below are based on a conservative estimate of typical construction activities because it assumes all major Project elements would be constructed concurrently (lead tracks, elevated rail yard, run-through tracks, and concourse-related improvements) within a general time frame of 6 years. All phases were developed to provide adequate platform space and associated tracks to maintain rail operations for existing Gold Line and regional/intercity rail service, as well as safe and adequate passenger movement throughout the construction process. The underlying assumptions and approach to the construction phasing plan and construction scenario is summarized below:

- No less than three track leads from the north and eight platform tracks would be available at all times to maintain operational objectives during construction.
- Full closure of the rail yard is possible between midnight and 5:00 AM.
- The East Portal Building would provide continuous passenger access during construction.
- The construction duration is based on a 5-days-per-week, 10-hours-per-day schedule. Where permissible, nighttime construction would be implemented in certain locations.
- Double birthing (two tracks utilizing one platform) would be maximized to the extent feasible.
- Shoring walls would be placed 10 feet from centerline of existing track.
- Construction work zones areas would be contained to help manage the staging, distribution of materials, and personnel to specific areas.
- Effects on existing roadways and traffic signal operations would be minimized to the extent possible.
- Ancillary roadway improvements (widening, restriping, curb/gutter, etc.) and drainage/ water quality improvements would be constructed throughout all construction phases, as needed.
- On average, Project construction would affect up to 5 acres within each segment of the Project footprint(s) per day.

The following discussion outlines the general construction activities that would occur within each segment of the Project study area. Figure 7-4 through Figure 7-7 depict the four construction phases with the Build Alternative.

7.4.1 Build Alternative – Detailed Construction Scenario

Reconstruction of the throat, elevating the rail yard, and constructing new run-through tracks, concurrent with an expanded passageway would be completed in four main construction phases

(Phases I through IV). As discussed above, all construction activities would be conducted in a manner to minimize service disruptions to existing rail/transit service providers during construction.

Phase I Construction

Major work elements in this phase include construction of a temporary passenger gantry, removal of existing tracks and platforms and construction of temporary platforms, and construction of the run-through structures south of LAUS (Figure 7-4). Phase I construction activities planned within each of the main areas are summarized below:

- ***Segment 1: Throat Segment –*** Phase I includes reconstruction of the northern portion of the lead tracks in the throat area from CP Chavez to CP Mission, construction of a retaining wall/noise wall to support new lead tracks, removal of the Garden Tracks, special track work, and rail signal and communication work.
- ***Segment 2: Concourse Segment:***
    - ***Rail Yard Area –*** Phase I includes construction of a temporary platform (Platform 8) and a temporary overhead passenger gantry (pedestrian bridge) with stairways, escalators, and/or elevators. The temporary passenger gantry would be constructed above the rail yard to facilitate ongoing transit service with adequate passenger movement and safe ingress/egress areas during construction of the elevated rail yard below. Phase I also includes removal of the southernmost portion of Platforms 7 and 6, removal of Platforms 5 and 4, construction of temporary Platforms 5 and 4, removal of Platforms 3 and 2, along with the removal of the Garden Tracks, and associated track work.
    - ***Concourse Area –*** Phase I includes closure of passenger and vehicular access in the existing concourse and pedestrian passageway. Throughout construction, the existing pedestrian ingress/egress areas would be redirected to new access points at the East Portal Building and the parking lot west of Gold Line Platform 1, which would connect via the temporary passenger gantry. Construction of the East and West Plazas would commence during this phase.
- ***Segment 3: Run-Through Segment –*** Phase I includes construction of the US-101 Viaduct and run-through track embankments and viaducts south of LAUS. East of Center Street, Phase I also includes removal of storage tracks at the BNSF West Bank Yard north of 1st Street, construction of an embankment and track work in the vicinity of the existing two-track mainline, construction of the Amtrak Bridge, new lead tracks for BNSF freight trains and Amtrak trains, and rail signal and communication work to support regional/intercity rail infrastructure and HSR requirements.

Phase II Construction

Major work elements in this phase are associated with reconstruction of the Gold Line Platform 1 (Figure 7-5). Phase II construction activities planned within each of the main segments are summarized below.

- ***Segment 1: Throat Segment –*** Phase II includes continuation of special track work, removal and reconstruction of new lead tracks on an embankment, and rail signal and communication work in the throat area. The first phase of construction on the Cesar Chavez Avenue Bridge would also commence during Phase II.
- ***Segment 2: Concourse Segment:***
    - ***Rail Yard Area –*** Phase II includes construction of a temporary shoofly and platform to maintain Gold Line operations from temporary Platform 3. This phase also includes the removal and reconstruction of the existing Gold Line Platform 1 and associated track work including two new universal crossovers north and south of the existing platform. After construction of the new Gold Line Platform 1, the temporary shoofly and temporary Platform 3 would be removed.
    - ***Concourse Area –*** Phase II includes continuation of the East and West Plaza construction. No other construction activities would occur within the concourse area as part of Phase II. The existing concourse and pedestrian passageway under the rail yard would be closed to the public during Phase II. The temporary passenger gantry would facilitate ongoing transit service with adequate passenger movement and safe ingress/egress areas.
- ***Segment 3: Run-Through Segment –*** Phase II includes continuation of construction of the run-through track structures south of LAUS.

Phase III Construction

Major work elements in this phase include reconstruction of the throat (west to east), construction of the western portions of the Vignes Street and Cesar Chavez Avenue Bridges, construction of new permanent Platforms 2 through 5 (west to east)[7], construction of new run-through tracks, and construction of the expanded passageway (Figure 7-6). Phase III construction activities planned within each of the main areas are summarized below:

- ***Segment 1: Throat Segment –*** Phase III includes reconstruction of the southern portion of the throat area with new lead tracks on an embankment. Phase III also includes special track work, rail signal and communication work, and construction of the westerly portions of the Vignes Street and Cesar Chavez Avenue Bridges.

[7] Up to two platforms (Platforms 2 and 3) would be constructed to an elevation that accommodates level boarding requirements for high-speed rail (HSR) trains.

- ***Segment 2: Concourse Segment:***
  - ***Rail Yard Area –*** Phase III includes construction of new Platforms 2 and 3, removal of temporary Platforms 4 and 5, construction of Platform 4, removal of Platform 6, and construction of Platform 5. All associated track work in the rail yard would also be reconstructed west to east concurrent with construction of the new platforms, usually two tracks at a time. Rail signal and communication work would also be completed in this phase.
  - ***Concourse Area –*** The existing concourse and pedestrian passageway under the rail yard would be closed to the public during Phase III. The temporary passenger gantry would facilitate ongoing transit service with adequate passenger movement and safe ingress/egress areas. Excavation, slabs, utilities, and interior work on the concourse would begin, and construction on the East and West Plazas would continue.
- ***Segment 3: Run-Through Segment –*** Phase III includes continuation of construction activities for the run-through track infrastructure. Track work at the BNSF West Bank Yard and along the mainline would also be conducted in this phase.

Phase IV Construction

Major work elements in this phase include removal of Platform 7 and temporary Platform 8 to facilitate construction of the final two platforms in the elevated rail yard (Platforms 6 and 7) and construction of the concourse-related improvements associated with the expanded passageway below the rail yard (Figure 7-7). Phase IV construction activities planned within each of the main areas are summarized below.

- ***Segment 1: Throat Segment –*** Phase IV includes continuation of construction of the Vignes Street and Cesar Chavez Avenue Bridges, new embankment, track work, tie-ins to existing tracks, and rail signal and communication work.
- ***Segment 2: Concourse Segment:***
  - ***Rail Yard Area –*** Phase IV includes removal of Platform 7 and temporary Platform 8 to facilitate construction of the final two platforms in the elevated rail yard (Platforms 6 and 7) and removal of the temporary passenger gantry.
  - ***Concourse Area –*** Phase IV includes completion of new foundations and walls, new amenities, and the new expanded passageway. Construction work on the East and West Plazas would also be completed during this phase.
- ***Segment 3: Run-Through Segment –*** Final track work to support mainline connections for regional/intercity rail trains and HSR trains would be required during this phase.

Construction Staging Areas

Figure 7-8 depicts potential construction staging and assembly areas that may be utilized. Construction staging and assembly areas were selected by identifying agency-owned property

(i.e., Metro, California Department of Transportation, etc.) and/or vacant properties with the most opportunity for efficiency and utility throughout construction.

Construction Site Access

There are several potential site access points that could be utilized during various stages of construction. The following are the potential site access points:

- Northern/middle part of the track throat area: access via old Alhambra Avenue and College Street.
- Middle part of throat area: access via existing vacant property located along the west side of throat area just north of Vignes Street.
- East side of station yard/throat area: access via Avila Street.
- West side of station yard: access via access road serving Postal Annex building and Bauchet Street.
- West side of proposed concourse/station yard: access via LAUS access road serving Mozaic Apartments.
- South side of station yard: access via existing LAUS access road serving Metropolitan Water District building and Amtrak baggage handling building.

7.4.2 Construction Detours and Street Closures

Construction of the Build Alternative would require multiple phases and stages. Traffic detours for required street closures would be identified as part of a comprehensive traffic management plan. Illustrations of the construction detours and street closures are shown on Figure 7-9 through Figure 7-11. An overview of detour routes and street closures are shown on Figure 7-9. The detailed closure at Vignes Street and Cesar Chavez Avenue and associated detour routes are shown on Figure 7-10 and Figure 7-11, respectively. The closures at Vignes Street and Cesar Chavez Avenue are not planned to occur concurrently, and paths of travel would be allowed on all designated detour routes. A summary of the detours and street closures in the traffic study area is provided below.

- **Segment 1: Throat Segment –** In the throat segment, the Vignes Street Bridge would be reconstructed at the same location as the existing bridge, and construction activities would occur in two portions: the westerly and easterly portions, resulting in closure of Vignes Street during the reconstruction of either the easterly or westerly portion. For this duration, traffic along Vignes Street would be rerouted along Cesar Chavez Avenue and Alameda Street. Temporary traffic delays and disruption to pedestrian sidewalks and bicycle network would occur during bridge reconstruction and reconfiguration of local street circulation would be required to accommodate construction activities. However, these impacts are temporary and would cease after completion of construction.

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Figure 7-4. Build Alternative – Detailed Construction Scenario (Phase I)

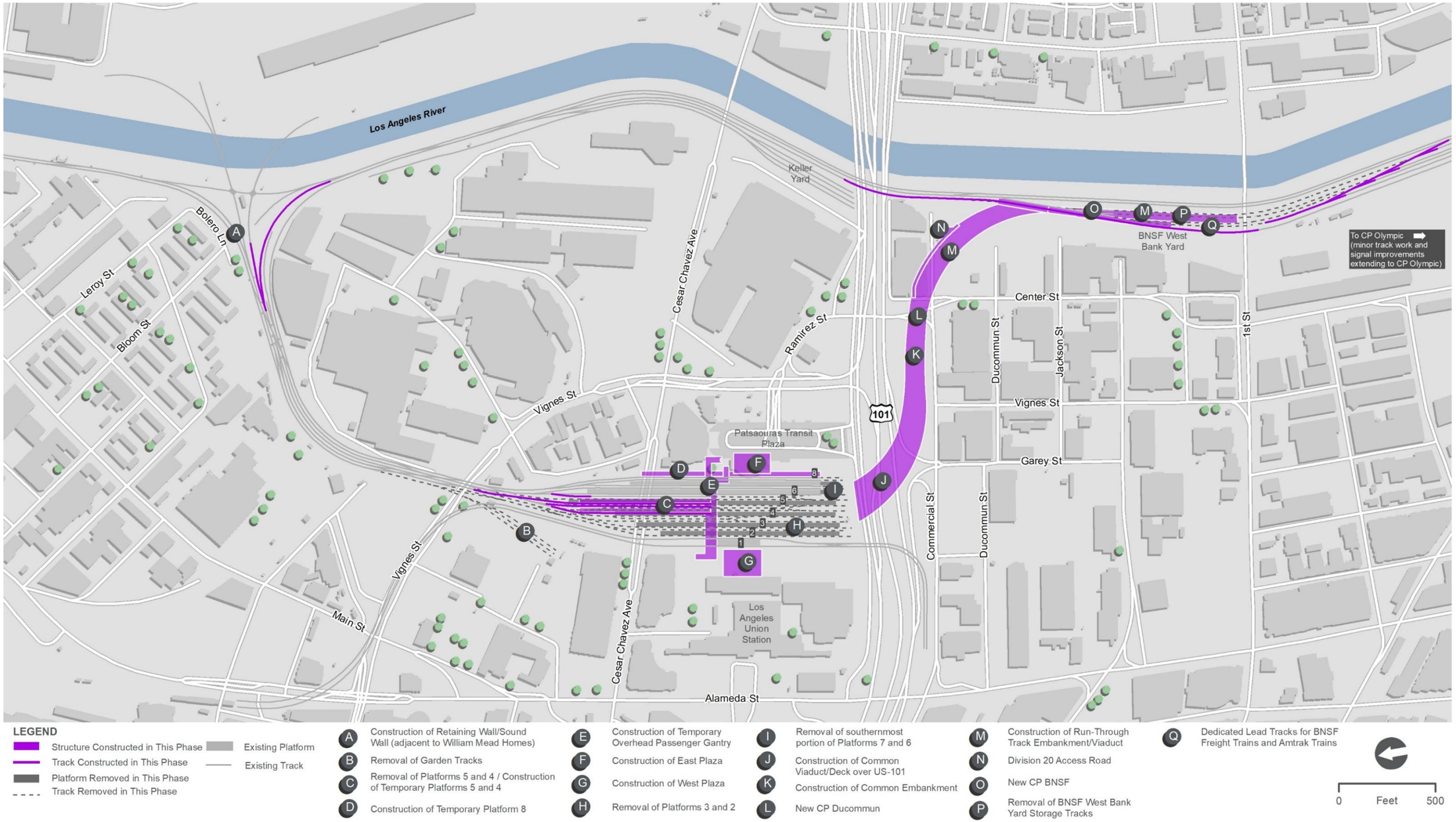

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Figure 7-5. Build Alternative – Detailed Construction Scenario (Phase II)

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Figure 7-6. Build Alternative – Detailed Construction Scenario (Phase III)

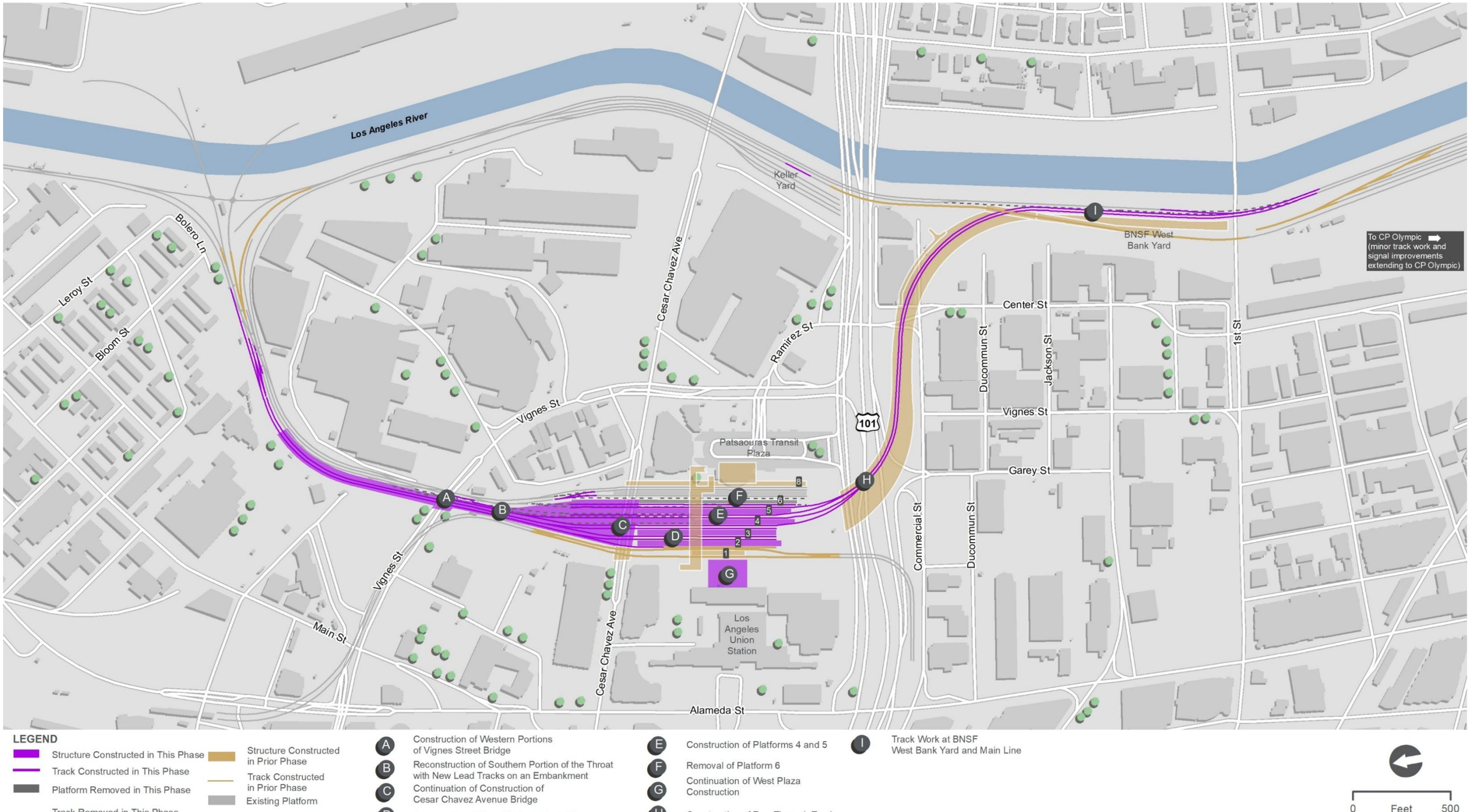

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Figure 7-7. Build Alternative – Detailed Construction Scenario (Phase IV)

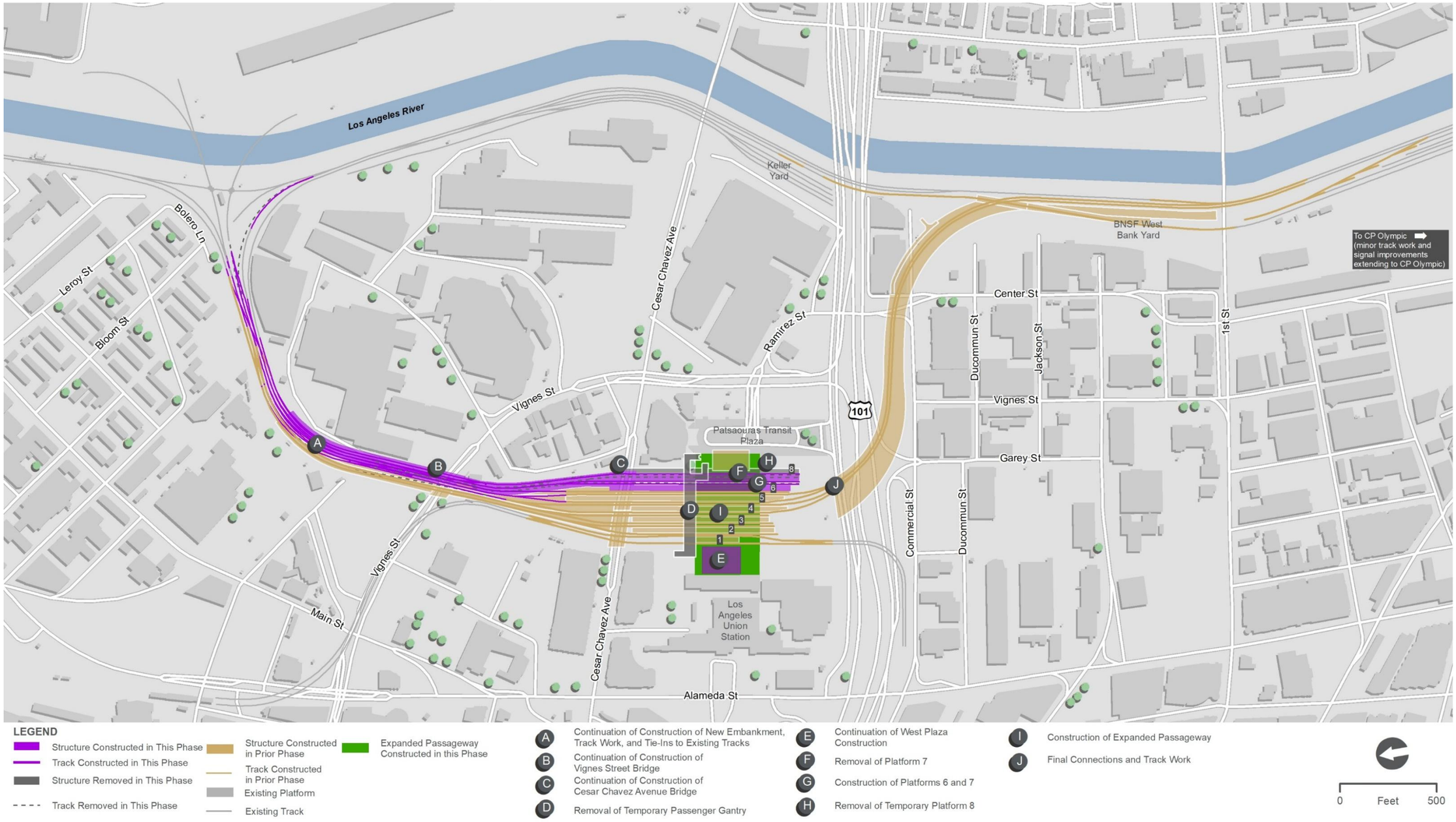

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Figure 7-8. Potential Staging Areas for Build Alternative

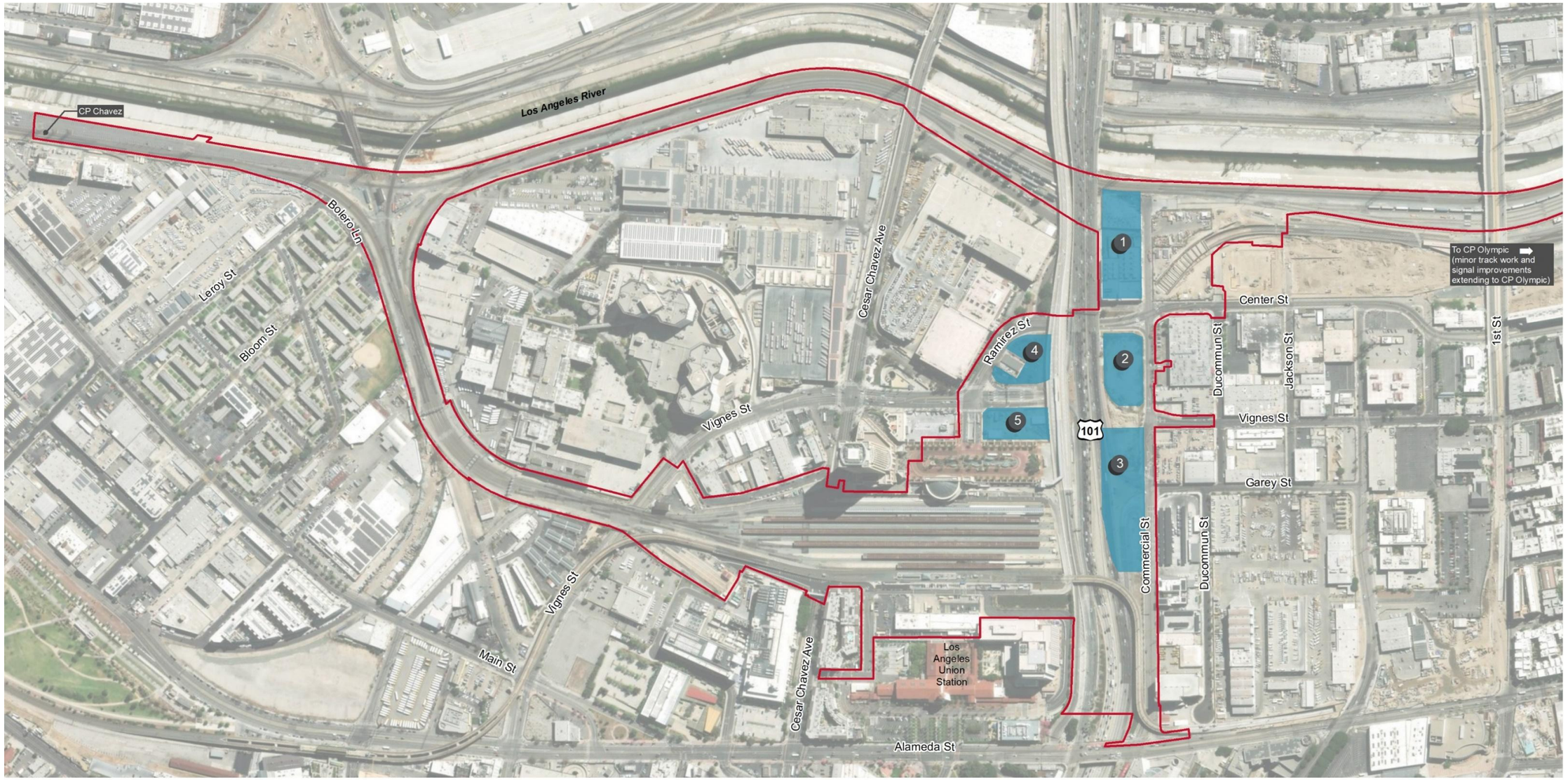

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Figure 7-9. Construction Detours and Street Closures

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Figure 7-10. Construction Detours and Vignes Street Closure

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Figure 7-11. Construction Detours and Cesar Chavez Avenue Closure

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- **Segment 2: Concourse Segment –** In the concourse segment, the Cesar Chavez Avenue Bridge would be reconstructed at the same location as the existing bridge, resulting in closure of Cesar Chavez Avenue during demolition of the existing bridge. During this road closure, traffic along Cesar Chavez Avenue would be rerouted along Vignes Street and Alameda Street. Similar to Vignes Street closure described above in Segment 1, temporary traffic delays and disruption to pedestrian sidewalks and bicycle network would occur during bridge reconstruction, and reconfiguration of local street circulation would be required to accommodate construction activities. These impacts are temporary and would cease after completion of construction.
- **Segment 3: Run-Through Segment –** In the run-through segment, local street closures are not planned to occur because run-through tracks would be located north of Commercial Street on vacant property. For the Build Alternative, the existing traffic lanes along the El Monte Busway and US-101 would be maintained during the peak hour throughout construction of run-through track infrastructure, although short-term overnight closures of the El Monte Busway, US-101 mainline, and southbound ramps at Commercial Street would be necessary to erect and dismantle falsework during construction of the US-101 Viaduct (see discussion below for the US-101 Mainline).

7.4.3 Construction Trips

Construction of the Build Alternative would require large numbers of workers and materials with equipment working simultaneously in multiple locations. The additional traffic generated during construction would consist of construction equipment, construction employee vehicles, and construction material deliveries and hauling of landfill materials in trucks. The 2031 Plus Project Construction condition traffic volumes were developed based on the projected distribution of construction traffic between four construction phases for the Build Alternative. Further details of the construction phases are provided in Section 7.4.4.

Construction Workers Trips

Construction workers would arrive at the construction site during early AM peak. Most of the construction workers arrive at the construction site during the AM peak hour and leave the site either before or after the typical PM peak period. Per General Light Industrial workers (LU 110) of 10th Edition of ITE Trip Generation manual, the weekday afternoon peak hour average rate is 0.49 with 78 percent of exiting trips (0.49*78 percent ≈ 38 percent). To be conservative, 40 percent of all construction worker trips, i.e., AM peak hour trips, has been assumed to leave during the PM peak hour and applied in the project. As a result, construction worker traffic has been added to the AM and PM peak hour traffic volumes for the 2031 Plus Project Construction condition.

As discussed in Section 4.0, the impact evaluation provided in this traffic impact assessment is conservative and identifies the greatest potential for Project-related traffic effects. The evaluation is based on detailed construction phasing plans for concurrent construction of new lead tracks and an elevated rail yard, the expanded passageway, and run-through track infrastructure south of LAUS with the highest daily and AM and PM peak hour Project-related construction workers'

trips that could occur. The average numbers of construction workers per day were taken from construction estimate information in Appendix H.

Construction Vehicle Trips

This analysis assumes that trucks would arrive and depart the construction site throughout the workday. The truck trips included in the evaluation are associated with delivery of supplies/ equipment and hauling of soil/materials to the landfill site as detailed below.

- This traffic impact assessment assumes that a maximum of 35 trucks (or 175 passenger car equivalent) would cycle in and out of the traffic study area and staging areas on any given day for each construction phase. Based on this estimate, it is assumed that during the peak hour of construction, 22 trucks would arrive or depart during the AM peak hour, and 8 trucks would arrive or depart during the PM peak hour.

The purpose and distribution of the truck trips would depend on the phase of construction being undertaken. Truck trips would likely occur along Mission Road, Cesar Chavez Avenue, Alameda Street, and Vignes Street between construction sites, staging areas, and concrete facilities north of the traffic study area, and at the landfill located outside of the traffic study area. Figure 7-12 presents the truck haul routes. The greatest numbers of construction vehicle trips, both daily and for the AM and PM peak hour conditions, were included as part of the traffic analysis. The numbers of trucks were taken from construction estimate information in Appendix H.

Table 7-2 summarizes the construction-related trips that would be generated based on the detailed construction phasing plans, staging areas, and projections for required materials and labor force for construction of the Build Alternative.

7.4.4 Project Construction Trip Distribution and Assignment

Project construction trip distribution assumptions were developed using the SCAG regional traffic model as a guide and considering site access, surrounding land uses, and the roadway network. Trip distribution percentages and peak hour intersection volumes that were discussed and approved by LADOT as part of the MOU process are shown in the Appendix A.

7.4.5 2031 Plus Project Construction Trip Projections

Project Construction Trip Distributions

Trip distribution is the process of identifying the probable origins, destinations, and directions or traffic routes that would be utilized by construction traffic. The potential interaction between the proposed construction staging areas per corresponding phases and surrounding regional access routes is considered to identify the route where the traffic would distribute.

Figure 7-12. Truck Haul Routes

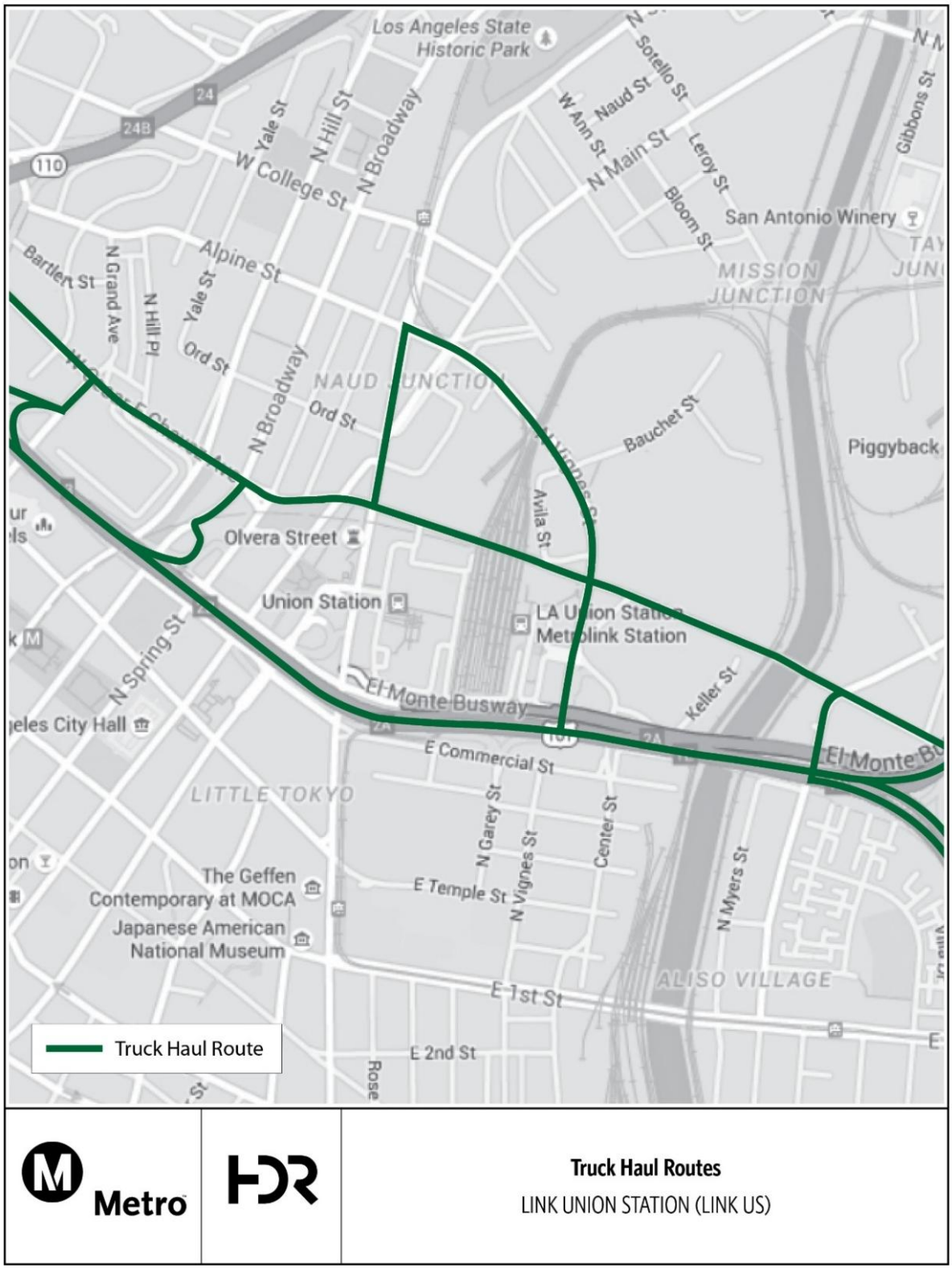

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Table 7-2. Construction Trip Generation for Build Alternative

Trip Type	Number Required per Day	Unit	Daily Trips (passenger car equivalent)	AM Peak Hour (passenger car equivalent)			PM Peak Hour (passenger car equivalent)		
				In	Out	Total	In	Out	Total
Phase 1									
Employee vehicles/ construction worker trips	583	Workers	1,166	583	0	583	0	233	233
Trucks	63	Trucks	315	20	20	40	8	8	16
Total trips - Phase 1	—	—	1,481	603	20	623	8	241	249
Phase 2									
Employee vehicles/ construction worker trips	330	Workers	660	330	0	330	0	132	132
Trucks	47	Trucks	235	15	15	30	6	6	12
Total trips - Phase 2	—	—	895	345	15	360	6	138	144
Phase 3									
Employee vehicles/ construction worker trips	346	Workers	692	346	0	346	0	138	138
Trucks	49	Trucks	245	16	16	32	6	6	12
Total trips - Phase 3	—	—	937	362	16	378	6	144	150
Phase 4									
Employee vehicles/ construction worker trips	435	Workers	870	435	0	435	0	174	174
Trucks	12	Trucks	60	4	4	8	2	2	4
Total trips - Phase 4	—	—	930	439	4	443	2	176	178

Table 7-2. Construction Trip Generation for Build Alternative									
Trip Type	Number Required per Day	Unit	Daily Trips (passenger car equivalent)	AM Peak Hour (passenger car equivalent)			PM Peak Hour (passenger car equivalent)		
				In	Out	Total	In	Out	Total
Total construction traffic in passenger car equivalent (worst phase)			**1,481**	**603**	**20**	**623**	**8**	**241**	**249**

Notes:
Passenger car equivalent of 5.0 for truck trips.
For AM peak hour truck trips, hourly average of daily truck trips was split equally for inbound and outbound. Assumed that PM peak hour truck trips would be 40 percent of AM peak hour trips.
Assumed 8-hour workday.

It was assumed that the majority of the construction workers would travel to and from the construction staging areas via US-101, utilizing the Vignes Street and Commercial Street ramps. Other construction workers would travel to and from the construction staging areas from the north via Main Street and Spring Street and from the south via Los Angeles Street and Alameda Street.

It was also assumed that trucks would travel on surrounding designated truck routes (Mission Road, Cesar Chavez Avenue, Alameda Street, and Vignes Street) to and from the construction staging areas. A majority of the trucks would travel to and from the construction staging areas via US-101, utilizing the Mission Road and Vignes Street ramps. Other trucks would travel to and from the construction staging areas via Main Street.

Construction vehicles and worker trip distribution percentages are depicted on Figure 7-13 and Figure 7-14, respectively.

Illustrations of the construction workers, vehicles, and 2031 Plus Project Construction peak hour traffic volumes for the Build Alternative are shown on Figure 7-15, Figure 7-16, and Figure 7-17, respectively.

Projected peak hour traffic volume distributions during construction activity in 2031 are included in Appendix I.

7.5 Project Traffic Generation

The Project-related trip generation is based on trip generation rates approved by LADOT.

The trip generation consists of three elements:

1. Growth in background traffic due to increased non-Project-related activity at LAUS.
2. Growth in traffic from new retail/commercial land uses at LAUS.
3. Growth in passenger ridership from increased bus/train activity at LAUS.

7.5.1 Growth in Background Traffic Due to Increased Non-Project-Related Activity at Los Angeles Union Station

This trip generation methodology takes into consideration non-Project-related background traffic that would already be in place if the Project were not implemented. The background traffic growth rate of 0.2 percent per year (Section 7.1) is applied for the time period between 2016 and 2040. With a background traffic growth rate of 0.2 percent per year, a 4.8 percent growth in traffic levels is anticipated between 2016 and 2040. These trips are background traffic because they are related to the increased non-Project-related activities that would occur in the vicinity of the Project in the near future.

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Figure 7-13. Construction Vehicles' Trip Distribution

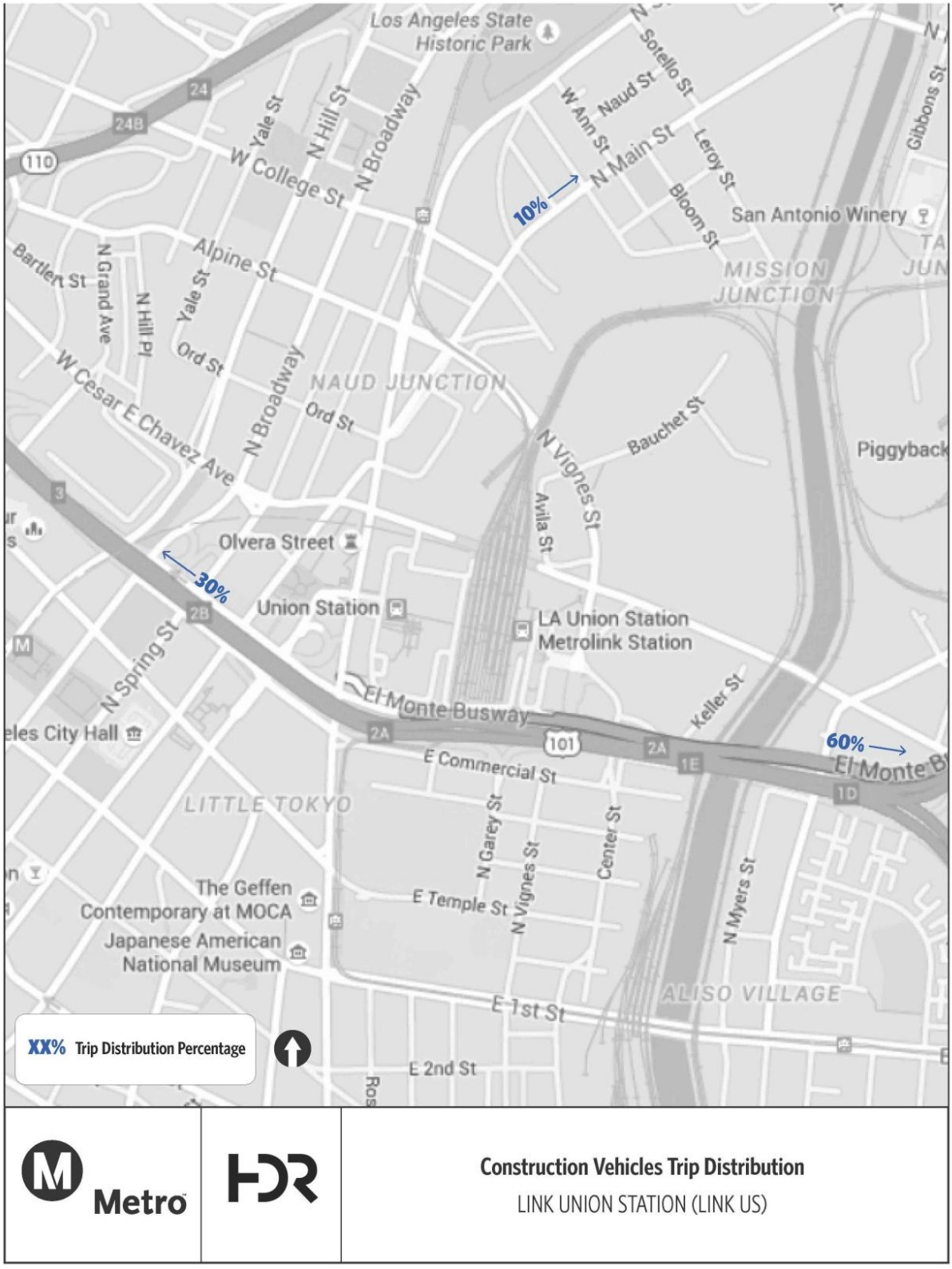

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Figure 7-14. Construction Workers' Trip Distribution

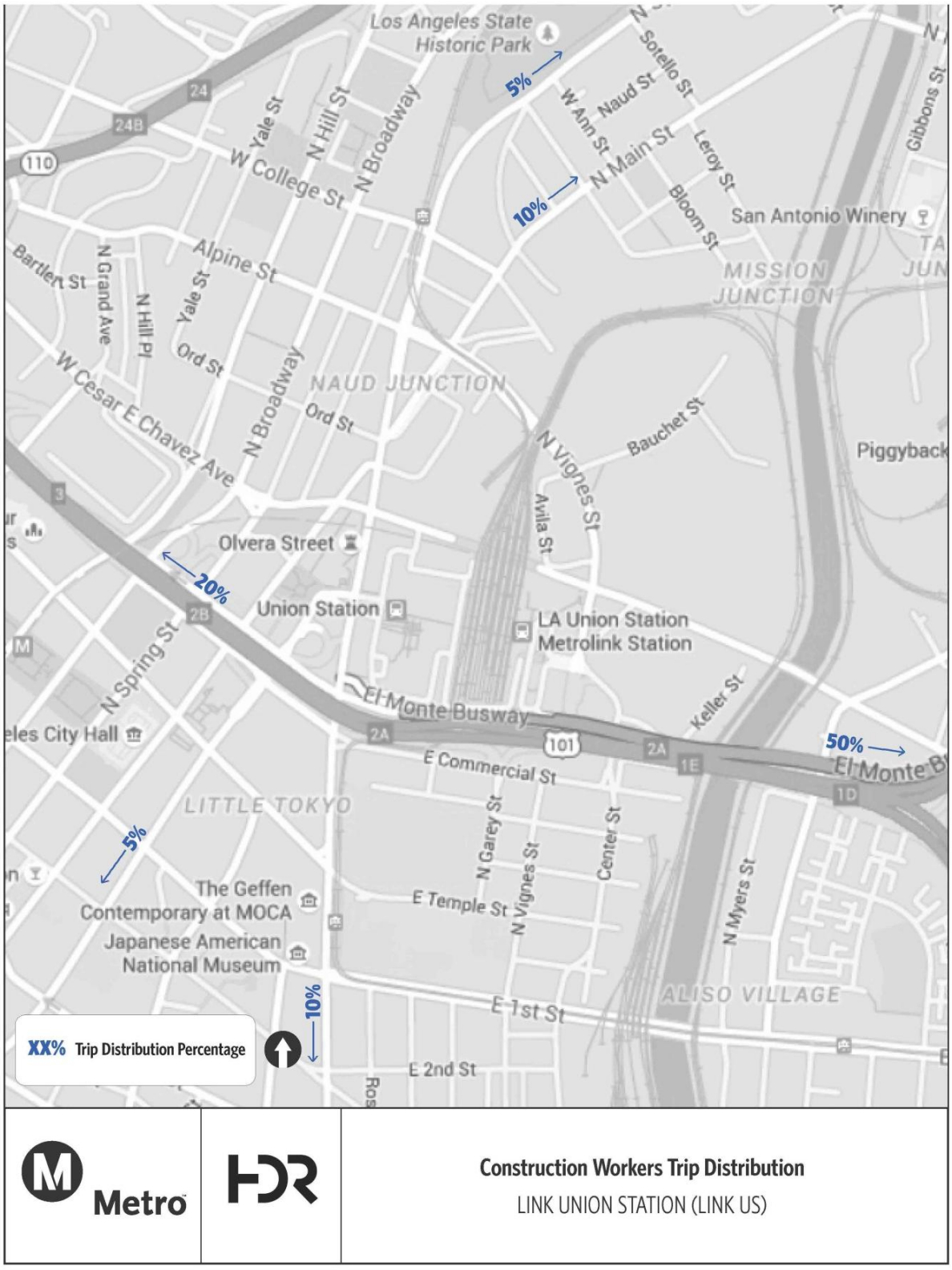

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Figure 7-15. 2031 Plus Project Construction – Construction Workers Peak Hour Traffic Volumes

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Figure 7-16. 2031 Plus Project Construction – Construction Vehicles Peak Hour Traffic Volumes

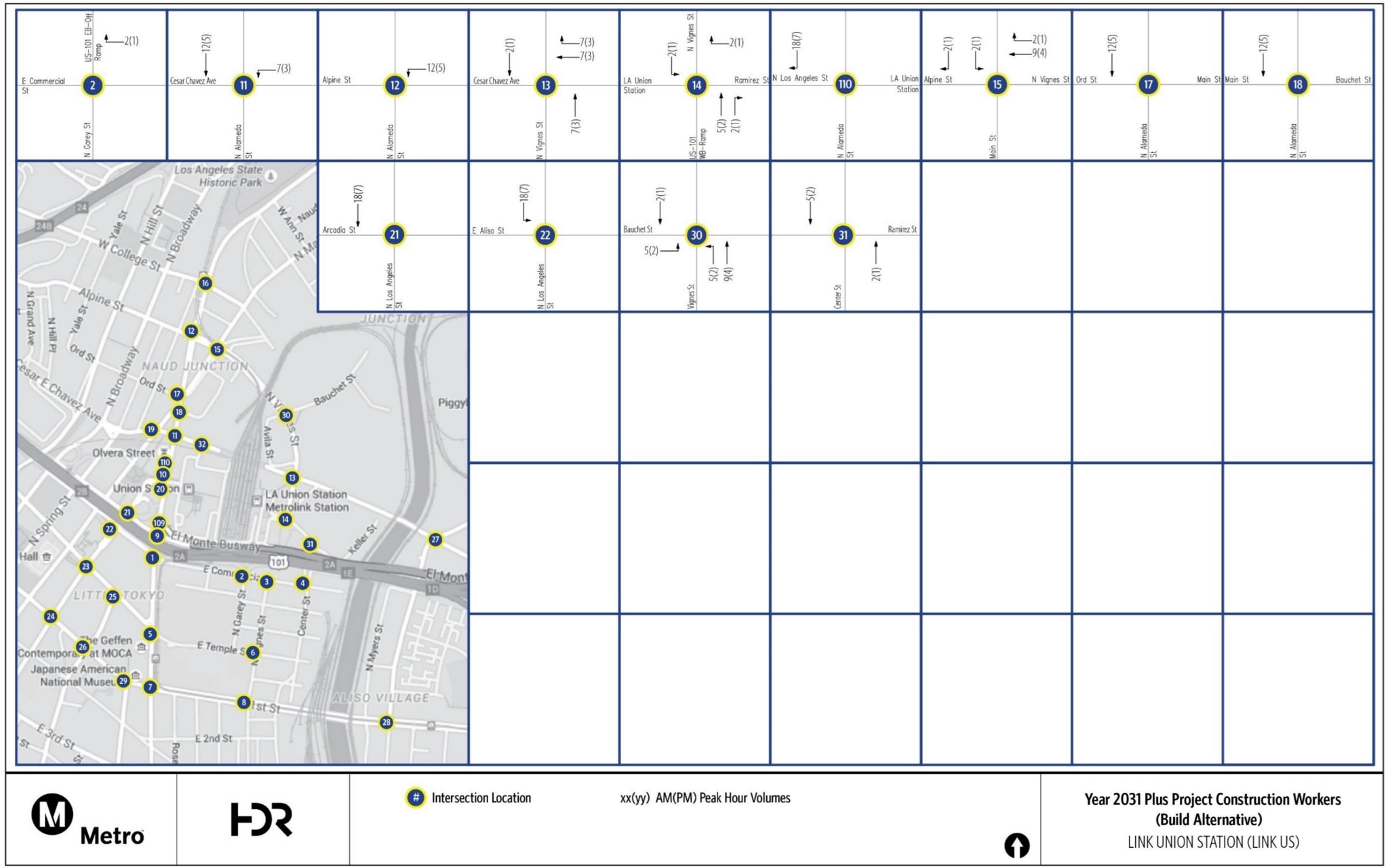

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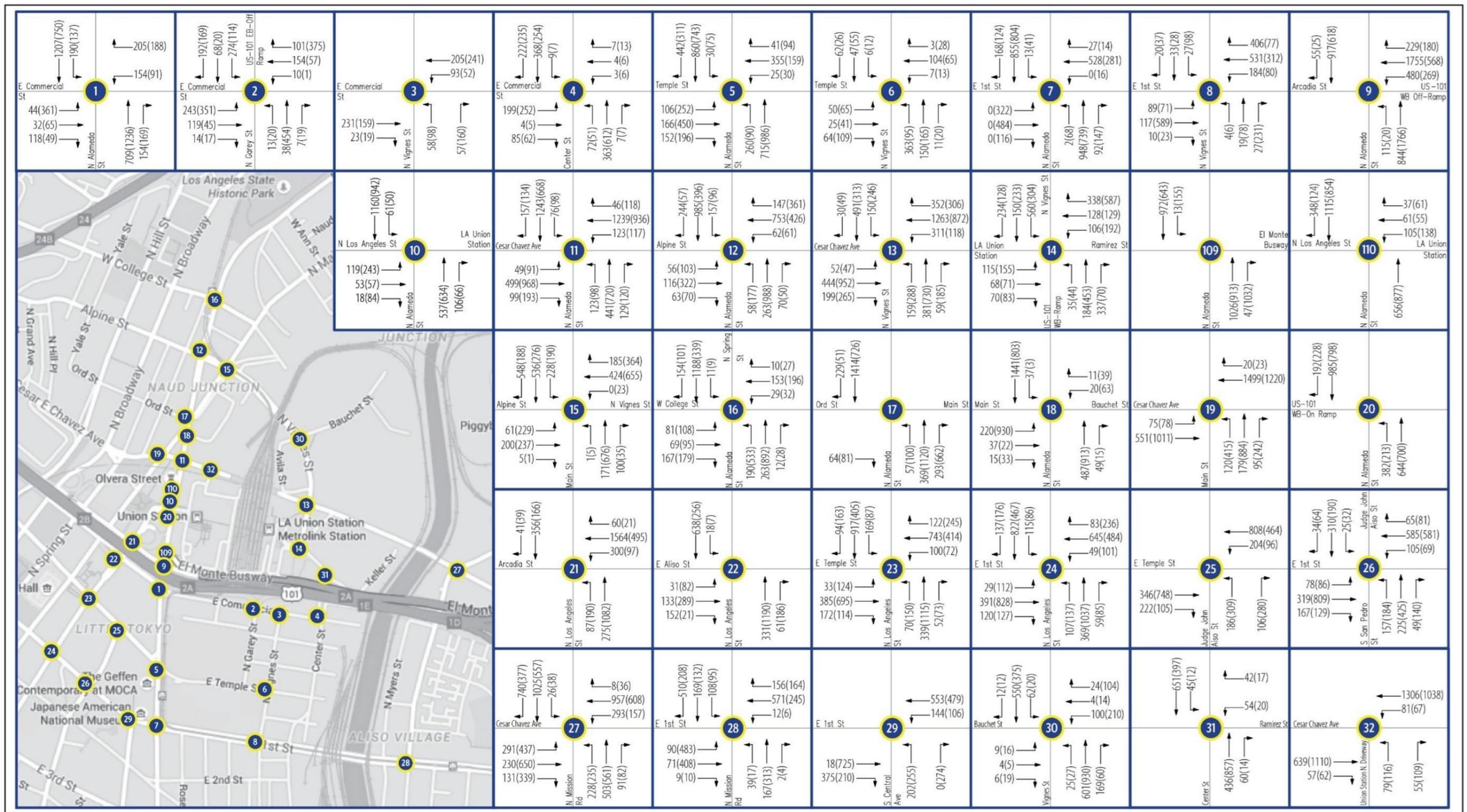
Figure 7-17. 2031 Plus Build Alternative Construction Peak Hour Traffic Volumes



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7.5.2 Growth in Traffic from New Retail/Commercial Land Uses at Los Angeles Union Station

This trip generation methodology takes into consideration the additional trips and associated travel demand for new land uses proposed as part of the Build Alternative including up to 160,000 square feet of transit-oriented retail space and approximately 30,400 square feet of office/commercial space at LAUS. As discussed below, the majority of the customers to this retail space is assumed to be transit passengers and, thus, would be arriving/departing the retail space as pedestrians. The additional vehicle trips associated with this retail space would be limited to vendors, deliveries, and employees required to serve the transit riders at this retail space.

The scale and size of the proposed retail and office/commercial space at LAUS is based on a 2016 market study conducted for Metro (The Concord Group 2016). The market study indicated that up to 189,800 square feet of retail and commercial space could be supported by transit passengers coming through LAUS; it further identified the types of retail and commercial uses that could be supported without generating outside visitors who could result in additional vehicular traffic to and from LAUS. Therefore, for the purposes of this Project-related trip generation methodology, all customers using the proposed 160,000 square feet of retail space and 30,400 square feet of office/commercial space are assumed to be traveling to and from LAUS using bus or transit, and their trips would not be made by automobiles. However, the employees in the retail and commercial space would arrive by automobile, and customers would be existing transit passengers coming to and from LAUS. The 80 percent transit mode split for the employees in the retail and office/commercial space is a reasonable assumption, given the results of the 2016 market study and the mode split surveys conducted at LAUS, as discussed below.

7.5.3 Growth in Passengers/Increased Ridership from Increased Bus/Train Activity at Los Angeles Union Station

Ridership growth at LAUS is expected due to the operational efficiencies realized by the Project-related capacity enhancements that would allow for increased future rail/transit services.

In 2011, Metro conducted a system-wide onboard survey of passengers at LAUS to determine the ridership mode splits. A total of 20,200 passengers in the AM peak period, 24,400 passengers in the mid-day peak period, and 26,600 passengers in the PM peak period were surveyed. The mode split of passengers to and from LAUS is presented on Figure 7-18 (inbound trips) and Figure 7-19 (outbound trips). As shown, the trips in and out of LAUS consist of 93 to 97 percent of the AM trips, 94 to 90 percent of the mid-day trips, and 94 to 95 percent of the PM trips transferred from one form of transit to another (and did not include an automobile trip to and from LAUS). The remaining 10 percent trips in and out of LAUS consist of passengers walking. This indicates that the majority of passengers who arrive at LAUS transfer from one mode of transit to another. Therefore, for the purposes of this Project-related trip generation methodology, vehicular trips generated due to the increased ridership resulting from Project-related capacity enhancements at LAUS are negligible. The passengers walking to and from LAUS constitute

primarily local trips that originate and end within 1 mile of LAUS (first mile to last mile). Figure 7-20 presents the walking trip distribution of passengers to and from LAUS.

While the background traffic growth is not part of the Project trip increment, the background traffic growth and the Project-related traffic combine to illustrate the total trips to/from LAUS. The Project-related traffic impact may appear low because the actual number of trips associated with the transit-oriented retail and office/commercial space is low, given the transit capture of these trips.

7.5.4 Project Trip Generation

The Build Alternative is anticipated to have a positive impact on regional transportation and circulation through increased efficiency and enhanced capacity of the regional/intercity rail network and increased transportation services at LAUS.

Table 7-3 summarizes the projected trip generation in 2031 and 2040. As shown, the Build Alternative is anticipated to generate a net of 40 additional vehicular trips during the AM peak hour, and 127 additional vehicular trips during the PM peak hour.

7.5.5 Land Use Equivalency Program

A land use equivalency program was developed to maintain flexibility of proposed land uses and floor areas at LAUS so Metro could respond to the dynamic and evolving needs of the Southern California economy. This program, which was submitted to and approved by LADOT, defines a framework within which the proposed mix of land uses, discussed in Section 7.5.2, could be modified within the development footprint as defined by the approved entitlements without resulting in any new adverse effects on the local transportation network. The program directs how development would be implemented within the Project footprint for the Build Alternative and allows for flexibility so that existing land uses could be exchanged for other permitted land uses at LAUS such that no additional trips would result from any exchange that is consistent with the program.

In the context of traffic circulation and effects, this relates to the overall number of trips generated by the Project and allows land use exchanges as long as the total number of peak hour trips generated does not exceed the totals identified in this traffic impact assessment. Table 7-4 shows the land use trip equivalencies developed for the Build Alternative. These are based on the PM peak hour trips, as this is the higher of the peak periods studied and reflect the highest street system traffic volumes.

Table 7-4 identifies the conversion factor for the land use exchange. For example, to exchange 30,400 square feet of office/commercial space to retail space, the amount of office/commercial square footage (30,400 square feet) would be multiplied by the exchange rate of 0.40 (30,400 x 0.40), which would equate to 12,160 square feet of retail space.

Figure 7-18. Mode Split for Inbound Trips

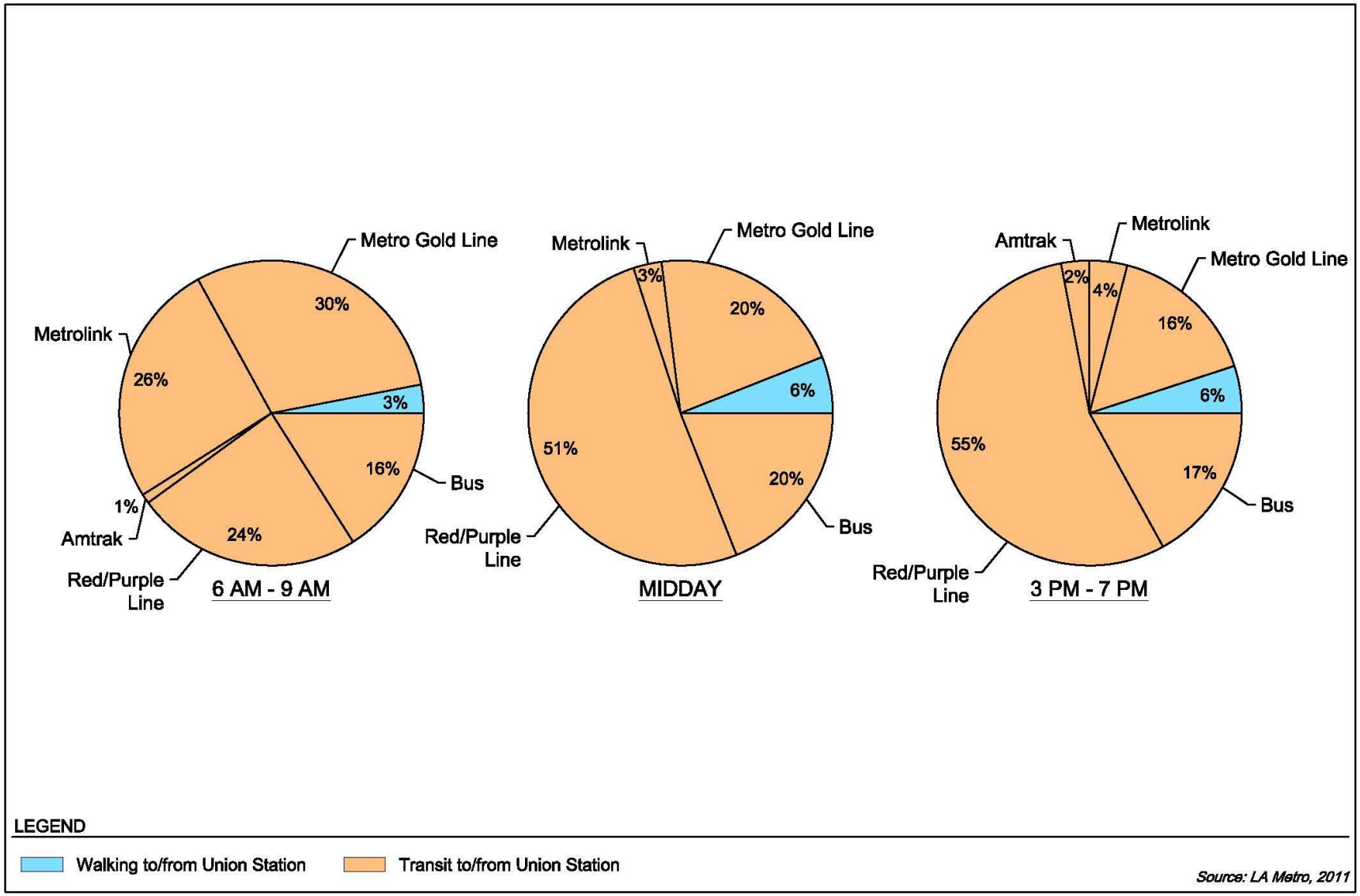

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Figure 7-19. Mode Split for Outbound Trips

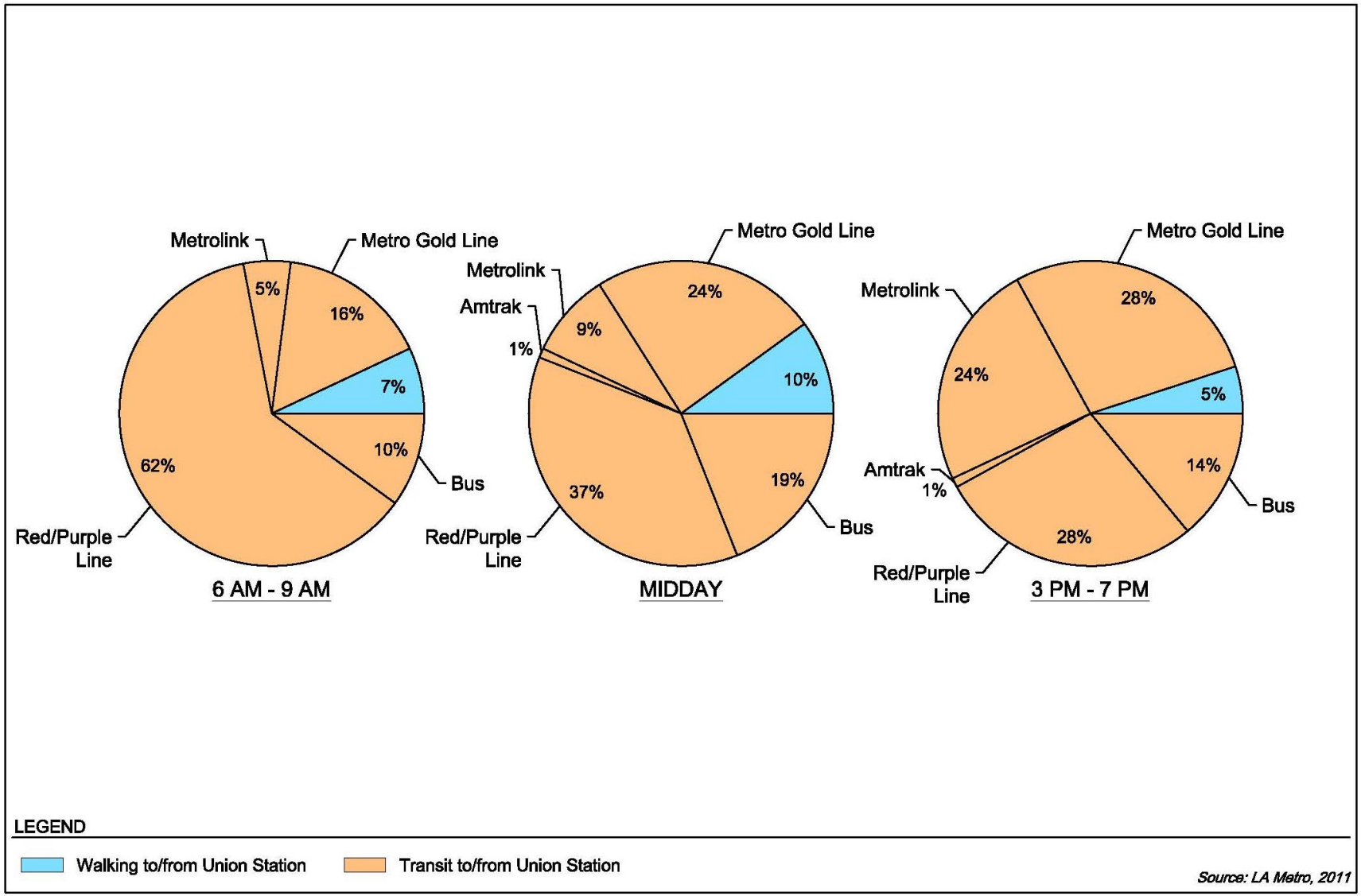

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Figure 7-20. Walking Trip Distribution

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Table 7-3. Project Trip Generation

Land Use[a]	Size	Units	Institute of Transportation Engineers Land Use Code	Trip Generation Rates (a)							Trip Generation						
				Daily Rate	AM Peak Hour			PM Peak Hour			Daily Trips	AM Peak Hour			PM Peak Hour		
					Rate	In (%)	Out (%)	Rate	In (%)	Out (%)		Total	In	Out	Total	In	Out
East Plaza																	
Transit-oriented retail	69.22	KSF	820	42.70	0.96	62	38	3.71	48	52	2,956	66	41	25	257	123	134
Office/commercial	30.40	KSF	710	11.03	1.56	88	12	1.49	17	83	335	47	42	6	45	8	38
Concourse																	
Transit-oriented retail	40.00	KSF	820	42.70	0.96	62	38	3.71	48	52	1,708	38	24	15	148	71	77
West Plaza																	
Transit-oriented retail (plaza)	17.7	KSF	820	42.70	0.96	62	38	3.71	48	52	756	17	11	6	66	32	34
Transit-oriented retail (terrace)	32.48	KSF	820	42.70	0.96	62	38	3.71	48	52	1,387	31	19	12	121	58	63
Shared transit trip reduction (80 percent transit mode split reduction)											5713	160	109	51	509	233	276
Subtotal new trips due to Link Union Station											1,428	40	27	13	127	58	69
Existing LAUS vehicular trips (b)											22,111	1,573	930	643	1,698	670	1,028
Total new trips											1,428	40	27	13	127	58	69
Percentage of existing traffic											6	3	3	2	7	9	7

Notes:
[a] Project land uses based on the Build Alternative description as of January 17, 2023
Trip generation rates/ fitted curve equations from Trip Generation, 9th Edition (Institute of Transportation Engineers 2012)
Existing 2015 driveway counts collected by Fehr and Peers on November 19, 2015
LAUS=Los Angeles Union Station; KSF=units of 1,000 square feet

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Table 7-4. Land Use Equivalency – PM Peak Hour Traffic

Donor Land Use[a]	Recipient Land Use[b]					
	Retail (KSF)	Office / Commercial (KSF)	Restaurant (KSF)	Apartments (Dwelling Units)	Condominium (Dwelling Units)	Hotel (Rooms)
Retail (KSF)	—	2.49	0.50	5.98	7.13	6.18
Office / Commercial (KSF)	0.40	—	0.20	2.40	2.87	2.48
Restaurant (KSF)	2.02	5.03	—	12.08	14.40	12.48
Apartments (Dwelling Units)	0.17	0.42	0.08	—	1.19	1.03
Condominiums (Dwelling Units)	0.14	0.35	0.07	0.84	—	0.87
Hotel (Rooms)	0.16	0.40	0.08	0.97	1.15	—

Source: Trip generation rates/fitted curve equations from Trip Generation, 9th Edition (Institute of Transportation Engineers 2012)
Notes:
[a] Land use change from
[b] Land use change to
KSF=units of 1,000 square feet

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7.5.6 Project Trip Distribution and Assignment

Project trip distribution assumptions were developed using the SCAG regional traffic model and considered the site access, surrounding land uses, and the roadway network. Figure 7-21 shows the trip distribution percentages discussed and approved by LADOT as part of the MOU process. Appendix J presents the Project trip distribution percentage calculation details.

7.6 2031 and 2040 Plus Project Traffic Projections

For 2031, the full build-out of the major components is assumed to be complete and the concourse is assumed to be in operation generating traffic. The Plus Project traffic conditions for this year are a combination of the traffic associated with the 2031 No Project condition with the addition of Project-related traffic. For 2031, the Build Alternative would assume Commercial Street (east of Center Street) would be vacated and a new Division 20 access road would be in place with a new intersection at Center Street.

The 2031 Plus Project conditions peak hour intersection turning movement volumes are illustrated on Figure 7-22. For 2040, Project-related traffic was added to the 2040 No Project condition projection to obtain the 2040 Plus Project traffic forecast. 2040 Plus Project condition peak hour intersection turning movement volumes are illustrated on Figure 7-23. The Build Alternative would accommodate up to 160,000 square feet of retail space and 30,400 square feet of office/commercial space at LAUS. Appendix K presents the allocation of Project-related traffic volumes at each study intersection.

7.7 US-101 Mainline 2031 and 2040 Traffic Projections and Geometry

Traffic conditions on the portion of the US-101 mainline north of Vignes Street were studied for traffic effects associated with implementation of the Build Alternative. Currently, there are four northbound and four southbound lanes at this location. The existing lane configuration is assumed to be present in 2031 and 2040, consistent with the SCAG 2016 RTP/SCS model. Traffic projections for 2031 and 2040 for the US-101 mainline were developed using the methodology from the previous study as indicated in the regional model.

No Project forecasts were developed by adding background traffic growth to the existing volumes obtained from the SCAG 2016 RTP/SCS model. An annual growth rate of 0.2 percent per year was conservatively assumed in the development of the 2031 and 2040 No Project forecasts based on the SCAG 2016 RTP/SCS. For the purposes of this analysis, it has been assumed that run-through tracks infrastructure south of LAUS would not impact US-101 on- and off-ramp operations because these ramps would be retained through 2040.

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Figure 7-21. Project-Related Trip Distribution

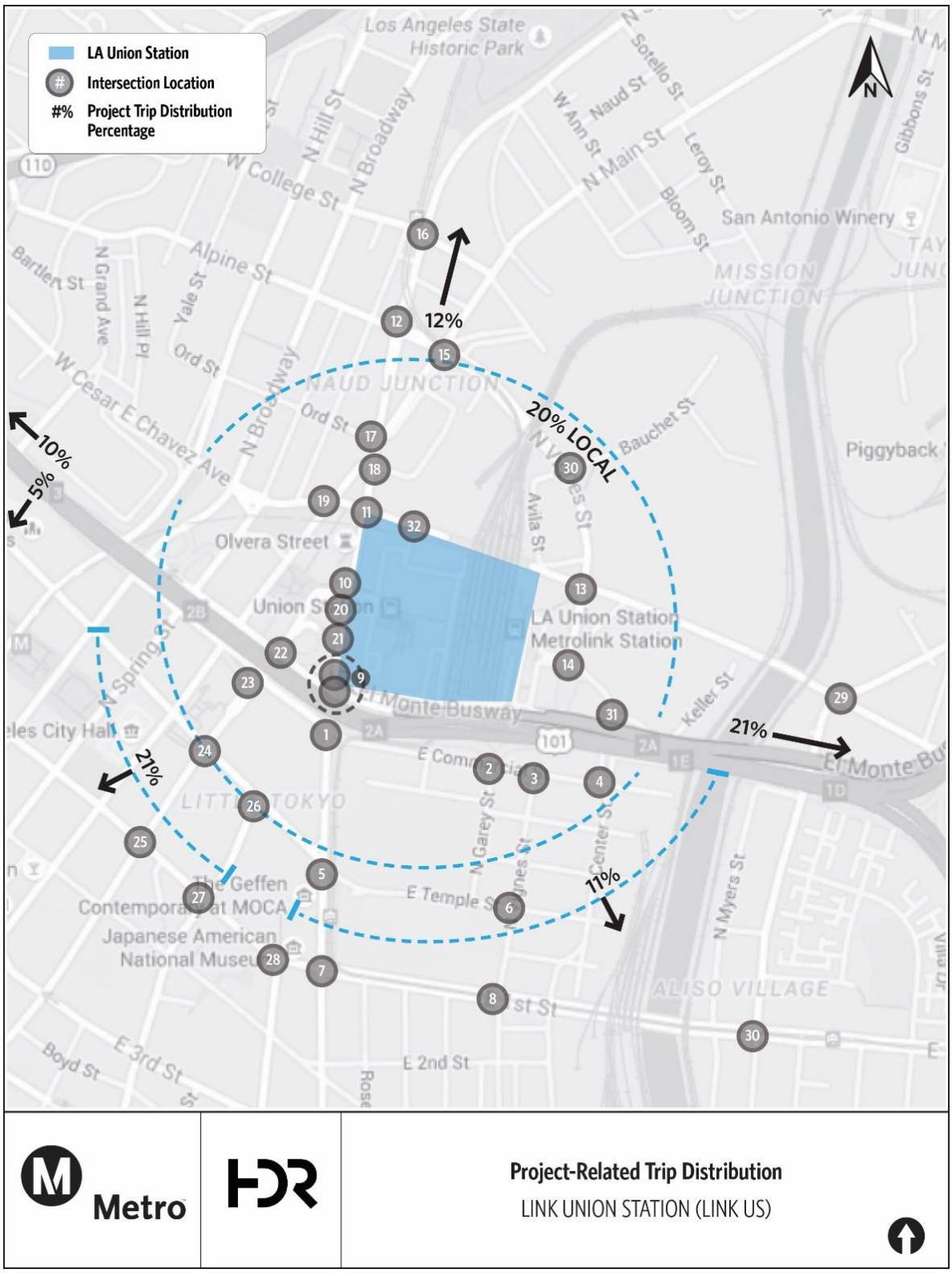

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Figure 7-22. 2031 Plus Project – Peak Hour Traffic Volumes

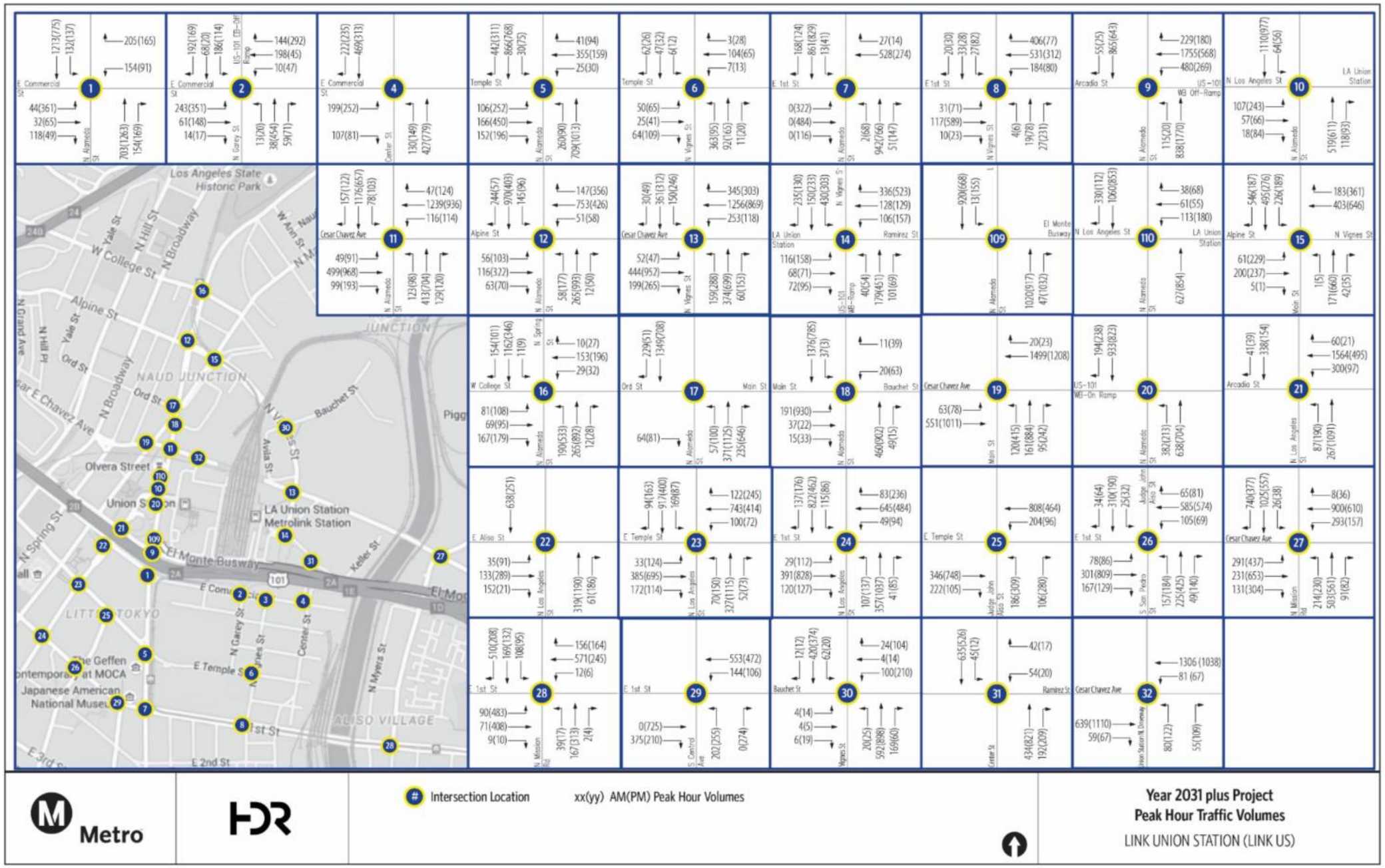

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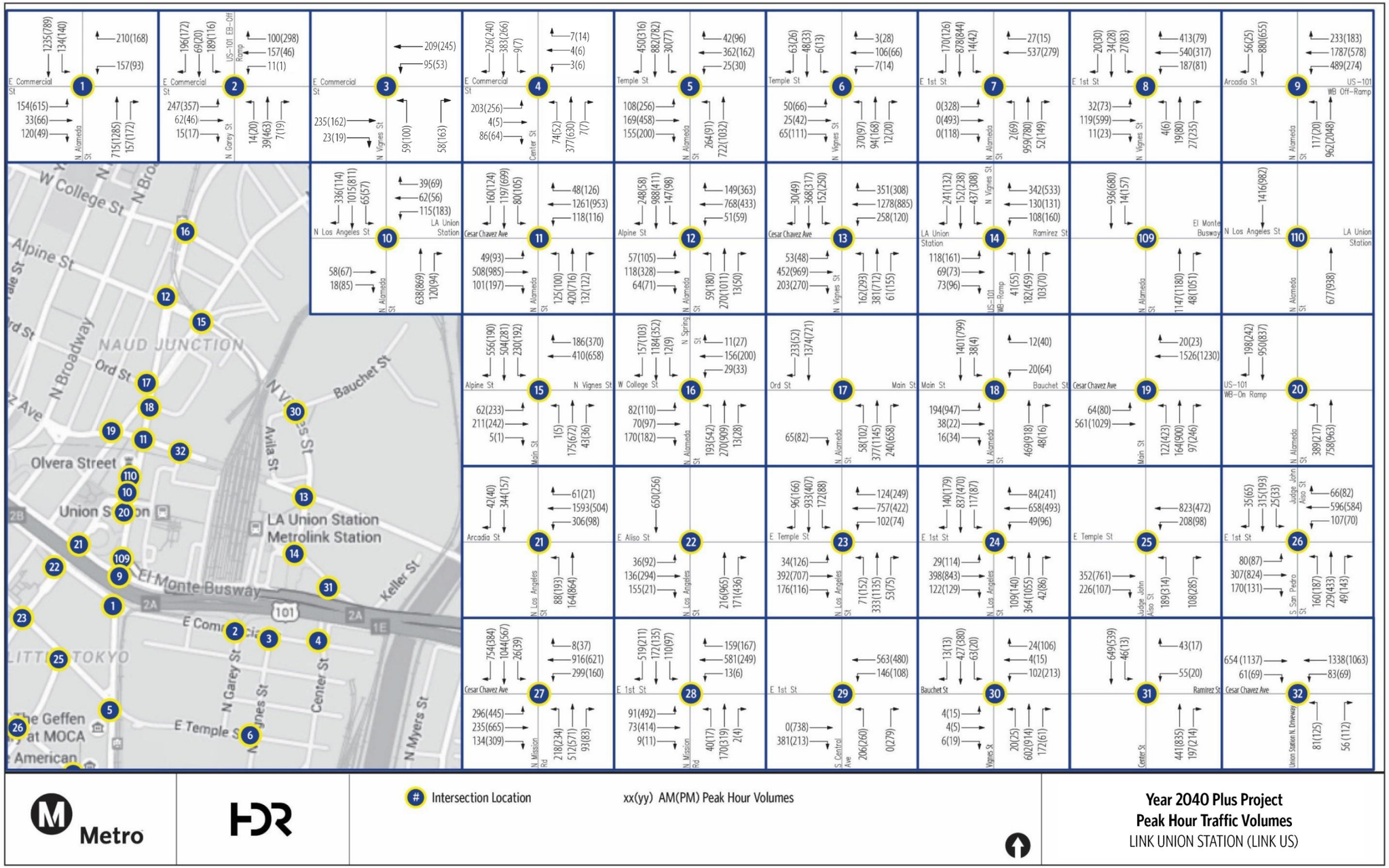
Figure 7-23. 2040 Plus Project – Peak Hour Traffic Volumes



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8.0 Traffic Impact Analysis

This section provides a description of the analysis methodology and projected 2031 and 2040 traffic conditions both with and without the Project. The analysis scenarios include:

- 2031 No Project condition;
- 2040 No Project condition;
- 2031 Plus Project Construction;
- 2031 Plus Project condition; and
- 2040 Plus Project condition.

8.1 2031 No Project Condition

For the purpose of the study, 2031 corresponds to opening year when construction of the new lead tracks, elevated rail yard, expanded passageway, and run-through track infrastructure are complete. The No Project traffic condition is analyzed to determine conditions without the Build Alternative. The 2031 No Project condition also assumes that the *Connect US Action Plan* (Metro 2015) has not been implemented. Therefore, the same roadway network conditions would exist in 2031 as the Existing Year (2016) condition.

The No Project condition consists of the cumulative base traffic conditions that reflect the background traffic growth. The cumulative traffic growth rate in the traffic study area is 0.2 percent for each future year. This growth rate was confirmed during a meeting with LADOT on May 25, 2016, and is incorporated as part of the approved MOU by LADOT. The cumulative base forecasts were developed by applying the annual 0.2 percent traffic growth rate to the Existing Year (2016) volumes and adding the cumulative Project-related trips to the ambient growth.

Table 8-1 summarizes 2031 No Project Condition LOS during the AM and PM peak hours for the study intersections, and Appendix L presents the Synchro worksheets for each study intersection. Most intersections operate at a good to excellent LOS, LOS C or better, during both AM and PM peak hours. The analysis shows that the following intersections perform at LOS E or F during the PM peak hour:

- Intersection #4: Center Street and Commercial Street (from LOS D to LOS F – PM Peak Hour).
- Intersection #15: Vignes Street and Main Street (from LOS D to LOS E – PM Peak Hour).
- Intersection #27: Mission Road and Cesar Chavez Avenue (from LOS D to LOS E – AM Peak Hour).

8.2 2040 No Project Conditions

The 2040 No Project condition assumes the completion of the proposed LAUS Forecourt and Esplanade Improvements Project. This would result in following modifications in the Project study area:

- Reduction of one through lane in northbound and southbound direction along Alameda Street.
- Addition of a curb-side drop-off zone on the east side of Alameda Street.
- Wider sidewalks on the west side of Alameda Street.
- Reconfiguration of driveway into LAUS, which would result in merging of entrance and exit into a single leg (east leg) of the intersection of Los Angeles Street at Alameda Street.
- Restricted left turn from Los Angeles Street to Alameda Street.

Table 8-2 summarizes the 2040 No Project condition LOS during the AM and the PM peak hours for the study intersections, and Appendix L presents the Synchro worksheets for each study intersection.

Table 8-1. 2031 No Project Condition Intersection Level of Service

Intersection		AM Peak			PM Peak		
		Delay (Sec)	V/C	LOS	Delay (Sec)	V/C	LOS
1	Alameda Street and Commercial Street	29.1	0.57	C	35.1	0.86	D
2	Garey Street and Commercial Street	31.3	0.39	C	34.1	0.49	C
3	Vignes Street and Commercial Street[a]	9.8	0.39	A	10.1	0.40	B
4	Center Street and Commercial Street[a]	17.2	0.71	C	57.5	1.18	F
5	Alameda Street and Temple Street	14.6	0.67	B	16.7	0.74	B
6	Vignes Street and Temple Street[a]	15.4	0.72	C	9.9	0.42	A
7	Alameda Street and 1st Street	18.3	0.54	B	17.3	0.61	B
8	Vignes Street and 1st Street	20.2	0.51	C	27.6	0.59	C
9	Alameda Street and El Monte Busway/Arcadia Street	21.1	0.88	C	14.6	0.62	B
10	Alameda Street and Los Angeles Street eastbound	12.1	0.32	B	12.4	0.34	B
110	Alameda Street and Los Angeles Street westbound	4.3	0.34	A	5.7	0.30	A
11	Alameda Street and Cesar Chavez Avenue	20.7	0.77	C	17.1	0.69	B

Table 8-1. 2031 No Project Condition Intersection Level of Service

Intersection		AM Peak			PM Peak		
		Delay (Sec)	V/C	LOS	Delay (Sec)	V/C	LOS
12	Alameda Street and Vignes Street/Alpine Street	11.6	0.58	B	13.8	0.62	B
13	Vignes Street and Cesar Chavez Avenue	18.5	0.78	B	25.1	0.86	C
14	Vignes Street and Ramirez Street	23.3	0.43	C	24.5	0.53	C
15	Vignes Street and Main Street	27.2	0.59	C	74.6	1.01	E
16	Alameda Street/Spring Street and College Street	16.5	0.61	B	17.7	0.71	B
17	Alameda Street and Main Street/Ord Street[a]	0.7	0.34	A	0.7	0.41	A
18	Alameda Street and Main Street/Bauchet Street	5.8	0.42	A	9.6	0.57	A
19	Main Street and Cesar Chavez Avenue	7.7	0.44	A	19.8	0.64	B
20	Alameda Street and Northbound US-101[b]	—	—	—	—	—	—
21	Los Angeles Street and Arcadia Street	7.7	0.59	A	4.8	0.52	A
22	Los Angeles Street and Aliso Street	9.4	0.30	A	11.8	0.61	B
23	Los Angeles Street and Temple Street	15.2	0.61	B	17.6	0.78	B
24	Los Angeles Street and 1st Street	15.2	0.55	B	20.7	0.90	C
25	Judge John Aiso Street and Temple Street	8.3	0.40	A	8.0	0.43	A
26	Judge John Aiso Street/San Pedro Street and 1st Street	15.6	0.44	B	15.3	0.66	B
27	Mission Road and Cesar Chavez Avenue	58.0	1.11	E	25.6	0.89	C
28	Mission Road and 1st Street	25.8	0.81	C	33.2	0.89	C
29	Central Avenue and 1st Street	8.8	0.33	A	11.3	0.49	B
30	Vignes Street and Bauchet Street	11.4	0.29	B	20.0	0.49	B
31	Ramirez Street and Center Street	1.7	0.24	A	0.6	0.35	A
32	Union Station North Driveway and Cesar Chavez Avenue	13.6	0.54	B	14.0	0.51	B

Notes:
[a] Non-signalized intersection
[b] Freeway on-ramp, neither signalized nor Stop-sign controlled
V/C=volume to capacity; LOS=level of service

Table 8-2. 2040 No Project Intersection Level of Service

Intersection		AM Peak			PM Peak		
		Delay (Sec)	V/C	LOS	Delay (Sec)	V/C	LOS
1	Alameda Street and Commercial Street	31.6	0.62	C	47.8	0.98	D
2	Garey Street and Commercial Street	31.3	0.39	C	34.6	0.49	C
3	Vignes Street and Commercial Street[a]	9.8	0.39	A	10.2	0.41	B
4	Center Street and Commercial Street[a]	18	0.73	C	62.5	1.22	F
5	Alameda Street and Temple Street	16.3	0.69	B	16.9	0.75	B
6	Vignes Street and Temple Street[a]	15.9	0.73	C	10	0.43	A
7	Alameda Street and 1st Street	18.5	0.55	B	16.2	0.63	B
8	Vignes Street and 1st Street	21.1	0.51	C	26.9	0.59	C
9	Alameda Street and El Monte Busway/Arcadia Street	90.3	0.89	F	15.7	0.69	B
10	Alameda Street and Union Station South	28.0	0.65	C	15.5	0.59	B
110	Alameda Street and Union Station North[a]	0.1	0.45	A	0.2	0.31	A
11	Alameda Street and Cesar Chavez Avenue	29.7	0.87	C	21.1	0.75	C
12	Alameda Street and Vignes Street/Alpine Street	12.5	0.59	B	14.4	0.63	B
13	Vignes Street and Cesar Chavez Avenue	18.1	0.79	B	21	0.88	C
14	Vignes Street and Ramirez Street	23.3	0.43	C	26	0.54	C
15	Vignes Street and Main Street	18.8	0.60	B	62.8	1.04	E
16	Alameda Street/Spring Street and College Street	16.8	0.63	B	16.8	0.73	B
17	Alameda Street and Main Street/Ord Street[a]	0.7	0.35	A	0.7	0.42	A
18	Alameda Street and Main Street/Bauchet Street	5.3	0.42	A	14	0.60	B
19	Main Street and Cesar Chavez Avenue	7.1	0.45	A	19.6	0.67	B
20	Alameda Street and Northbound US-101[b]	—	—	—	—	—	—
21	Los Angeles Street and Arcadia Street	8.9	0.62	A	5.9	0.44	A
22	Los Angeles Street and Aliso Street	10.1	0.30	B	12.1	0.64	B

Table 8-2. 2040 No Project Intersection Level of Service							
Intersection		AM Peak			PM Peak		
		Delay (Sec)	V/C	LOS	Delay (Sec)	V/C	LOS
23	Los Angeles Street and Temple Street	15.1	0.62	B	18	0.82	B
24	Los Angeles Street and 1st Street	14.1	0.56	B	21.9	0.97	C
25	Judge John Aiso Street and Temple Street	7.8	0.41	A	8.2	0.44	A
26	Judge John Aiso Street/San Pedro Street and 1st Street	16.1	0.45	B	15.4	0.67	B
27	Mission Road and Cesar Chavez Avenue	59.7	1.21	E	26.6	0.92	C
28	Mission Road and 1st Street	26.9	0.83	C	36.9	0.93	D
29	Central Avenue and 1st Street	9.1	0.33	A	11.4	0.50	B
30	Vignes Street and Bauchet Street	11.8	0.29	B	20.9	0.50	C
31	Ramirez Street and Center Street	1.8	0.25	A	0.7	0.36	A
32	Union Station North Driveway and Cesar Chavez Avenue	13.0	0.54	B	14.1	0.52	B

Note:
[a] ***Non-signalized intersection***
[b] ***Freeway on-ramp, neither signalized nor Stop-sign controlled***
V/C=volume to capacity; LOS=level of service

The following four intersections experience deficient LOS for the 2040 No Project condition:

AM peak hour:

- Intersection #9: Alameda Street at El Monte Busway/Arcadia Street (from LOS B to LOS F – AM Peak Hour).
- Intersection #27: Mission Road at Cesar Chavez Avenue (from LOS D to LOS E – AM Peak Hour).

PM peak hour:

- Intersection #4: Center Street and Commercial Street (from LOS D to LOS F – PM Peak Hour).
- Intersection #15: Vignes Street at Main Street (from LOS D to LOS E – PM Peak Hour).

LOS F at Alameda Street at El Monte Busway/Arcadia Street (Intersection #9) is due to implementation of the LAUS Forecourt and Esplanade Improvements Project, which includes a

one-lane reduction on Alameda Street between Cesar Chavez Avenue and Arcadia Street. Finally, the intersections of Center Street at Commercial Street, Cesar Chavez Avenue at Mission Road, and Vignes Street at Main Street would perform at an LOS E or F without the Build Alternative in 2040.

8.3 2031 Plus Project Construction Condition

As discussed earlier, some closures of local streets would be required during construction, which would result in changes in traffic patterns through the Project study area and, thus, would require traffic detouring. Given that traffic would be diverted to intersections adjacent to affected roadways, the LOS of these adjacent intersections would be affected.

Table 8-3 summarizes peak hour LOS for all study locations for the 2031 Plus Project Construction condition for the Build Alternative. Appendix M presents the Synchro worksheets for each study intersection.

According to LADOT Guidelines (LADOT 2016), when utilizing the HCM methodology for signalized intersections for transportation infrastructure projects, a transportation effect would be deemed adverse in accordance with Table 5-4 (LADOT 2016).

As shown in Table 8-3, the following two intersections are likely to be impacted during construction of the Build Alternative:

- Intersection #15: Vignes Street and Main Street (LOS F – PM peak; no impact on AM peak)
- Intersection #27: Mission Road and Cesar Chavez Avenue (LOS E – AM; no impact on PM peak)

Traffic Management Plan

As described in Section 11.0 prior to construction, a comprehensive traffic management plan would be prepared to include applicable diagrams, documents, drawings, and specifications that identify the steps that would be taken to demonstrate how local traffic mobility and circulation would be maintained to avoid adverse effects during construction.

Traffic Demand Management Program

As described in Section 11.0, a traffic demand management program would be implemented during construction to provide a variety of additional transportation access choices in order to promote non-auto travel for construction workers. The traffic demand management program should demonstrate that the number of construction worker vehicles traveling to the construction areas has been minimized. The traffic demand management program may consist of a project-sponsored vanpool, project shuttle, carpool program, transit fare subsidy, and other applicable programs.

Table 8-3. 2031 Plus Project Construction - Intersection Level of Service

Intersection Number	Intersection Name	AM Peak						PM Peak					
		2031 (No Project)		2031 (Plus Project Construction)		Delta in Delay	Adverse Effects?	2031 (No Project)		2031 (Plus Project Construction)		Delta in Delay	Adverse Effects?
		Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)		Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	
1	Alameda Street and Commercial Street	29.1	C	31.3	C	2.2	No	35.1	D	38.4	D	3.3	No
2	Garey Street and Commercial Street	31.3	C	31.6	C	0.3	No	34.1	C	35.4	D	1.3	No
3	Vignes Street and Commercial Street	9.8	A	9.8	A	0.0	—	10.1	B	10.1	B	0.0	—
4	Center Street and Commercial Street[a]	17.2	C	17.2	C	0.0	No	57.5	F	57.5	F	0.0	No
5	Alameda Street and Temple Street	14.6	B	14.6	B	0.0	No	16.7	B	15.2	B	-1.5	No
6	Vignes Street and Temple Street[a]	15.4	C	19.3	C	3.9	No	9.9	A	10.0	B	0.1	No
7	Alameda Street and 1st Street	18.3	B	17.9	B	-0.4	No	17.3	B	19.5	B	2.2	No
8	Vignes Street and 1st Street	20.2	C	22.4	C	2.2	No	27.6	C	26.1	C	-1.5	No
9	Alameda Street and El Monte Busway/Arcadia Street	21.1	C	21.7	C	0.6	No	14.6	B	14.6	B	0.0	No
10	Alameda Street and Los Angeles Street Eastbound	12.1	B	12.6	B	0.5	No	12.4	B	17.4	B	0.2	No
110	Alameda Street and Los Angeles Street Westbound	4.3	A	4.1	A	-0.2	No	5.7	A	5.1	A	-0.6	No
11	Alameda Street and Cesar Chavez Avenue	20.7	C	21.4	C	0.7	No	17.1	B	17.5	B	0.4	No
12	Alameda Street and Vignes Street/Alpine Street	11.6	B	12.7	B	1.1	No	13.8	B	13.4	B	-0.4	No
13	Vignes Street and Cesar Chavez Avenue	18.5	B	19.8	B	1.3	No	25.1	C	26.3	C	1.2	No
14	Vignes Street and Ramirez Street	23.3	C	24.4	C	1.1	No	24.5	C	25.4	C	0.9	No
15	Vignes Street and Main Street	27.2	C	23.8	C	-3.4	No	74.6	**E**	82.8	**F**	8.2	**Yes**
16	Alameda Street/Spring Street and College Street	16.5	B	16.5	B	0.0	No	17.7	B	17.3	B	-0.4	No
17	Alameda Street and Main Street/Ord Street[a]	0.7	A	0.6	A	-0.1	No	0.7	A	0.7	A	0.0	No
18	Alameda Street and Main Street/Bauchet Street	5.8	A	6.1	A	0.3	No	9.6	A	11.2	B	1.6	No
19	Main Street and Cesar Chavez Avenue	7.7	A	8.1	A	0.4	No	19.8	B	20.1	C	0.3	No
20	Alameda Street and Northbound US-101[b]	—	—	—	—	—	—	—	—	—	—	—	—

Table 8-3. 2031 Plus Project Construction - Intersection Level of Service

Intersection Number	Intersection Name	AM Peak						PM Peak					
		2031 (No Project)		2031 (Plus Project Construction)		Delta in Delay	Adverse Effects?	2031 (No Project)		2031 (Plus Project Construction)		Delta in Delay	Adverse Effects?
		Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)		Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	
21	Los Angeles Street and Arcadia Street	7.7	A	7.4	A	-0.3	No	4.8	A	4.9	A	0.1	No
22	Los Angeles Street and Aliso Street	9.4	A	9.6	A	0.2	No	11.8	B	11.9	B	0.1	No
23	Los Angeles Street and Temple Street	15.2	B	15.4	B	0.2	No	17.6	B	17.5	B	-0.1	No
24	Los Angeles Street and 1st Street	15.2	B	15.0	B	-0.2	No	20.7	C	22.1	C	1.4	No
25	Judge John Aiso Street and Temple Street	8.3	A	8.2	A	-0.1	No	8.0	A	8.0	A	0.0	No
26	Judge John Aiso Street/San Pedro Street and 1st Street	15.6	B	15.9	B	0.3	No	15.3	B	14.2	B	-1.1	No
27	Mission Road and Cesar Chavez Avenue	58.0	**E**	61.8	**E**	3.8	**Yes**	25.6	C	26.4	C	0.8	No
28	Mission Road and 1st Street	25.8	C	29.5	C	3.7	No	33.2	C	32.9	C	-0.3	No
29	Central Avenue and 1st Street	8.8	A	8.5	A	-0.3	No	11.3	B	12.2	B	0.9	No
30	Vignes Street and Bauchet Street	11.4	B	11.1	B	-0.3	No	20.0	B	19.5	B	-0.5	No
31	Ramirez Street and Center Street	1.7	A	1.7	A	0.0	No	0.6	A	0.7	A	0.1	No
32	Union Station North Driveway and Cesar Chavez Avenue	13.6	B	13.6	B	0.0	No	14.0	B	14.0	B	0.0	No

Notes:
[a] Non-signalized intersection
[b] Freeway on-ramp, neither signalized nor Stop-sign controlled
LOS=level of service; Sec=seconds
Bold indicates LOS of E or F with Adverse Effect

8.4 2031 and 2040 Plus Project Conditions

For 2031 and 2040, the Build Alternative would generate traffic in the vicinity of LAUS resulting from the addition of retail and office/commercial space at LAUS. In consideration of the potential traffic effects throughout operations and the associated mitigation required for traffic-related and land-use-related effects, the reduction of one vehicular lane in the westbound direction of Commercial Street from Garey Street to Alameda Street and addition of a bicycle lane is also included in the traffic impact evaluation. For 2031 and 2040, this improvement is assumed to be in place because it affects the traffic impact evaluation.

In addition, the following highway modifications/safety improvements within the California Department of Transportation ROW would be implemented on the mainline, Alameda Street off-ramp, Commercial Street on-ramp, and the Vignes Street on-ramp in the 2031 and 2040 conditions for the Build Alternative:

US-101 Improvements

- Improved median and shoulder horizontal clearances
- Increased horizontal stopping sight distance to provide required design speed
- Increased shoulder widths for enhanced horizontal clearance and safe refuge area for disabled vehicles
- Increased lane widths for reduced sideswipe collisions
- Improved lane geometry to provide increased comfort speed for existing superelevation
- Increased tangent length between reversing curves for improved drivability (greater distance between curves allows the driver to see the upcoming horizontal curve, prepare for the curve ahead, and adjust driving/steering accordingly)

Alameda Street Off-Ramp (Northbound)

- Increased deceleration length
- Standard ramp exit diverge angle (provides standardized exit geometry matching driver expectations for safe exits)
- Increased shoulder width for enhanced horizontal clearance and safe refuge area for disabled vehicles
- Increased weaving length, which provides for safer exit from US-101

Commercial Street On-Ramp (Southbound)

- Increased shoulder widths for enhanced horizontal clearance and safe refuge area for disabled vehicles
- Increased inside lane width for improved truck drivability and reduced sideswipe collisions

Vignes Street On-Ramp (Northbound)

- Increased weaving length, which provides for safer merge onto US-101

Additionally, the Build Alternative includes safety improvements at the Main Street at-grade crossing to facilitate future implementation of a quiet zone by the City of Los Angeles. The implementation of a quiet zone is subject to review and approval by the California Public Utilities Commission. North of CP Chavez, the Build Alternative would include the following safety improvements:

- An 8-foot-wide median on Main Street extending up to 100 feet on either side of the tracks
- Restriping to accommodate the median
- New signals with advance flashing beacons
- Wire mesh fencing along the rail ROW
- Replacement of the existing single-gate system with pedestrian and vehicular gate systems
- Pedestrian crossing arms and swing gates
- Modification to the west bridge wingwalls to accommodate pedestrian access

Americans with Disabilities Act-compliant improvements would include bulb-outs with curb ramps and a striped crosswalk at a driveway on the north side of Main Street, and an approximately 25-foot sidewalk with curb and gutter east of the driveway.

Intersection peak hour LOS for 2031 Plus Project condition for the Build Alternative is presented in Table 8-4, and Appendix L presents the Synchro worksheets for each study intersection. When compared with the 2031 No Project condition, the following intersection is likely to be impacted due to implementation of the Build Alternative:

- Intersection #4: Center Street and Commercial Street (from LOS D to LOS F – PM peak hour) – The Build Alternative would result in an increased delay of 3.0 seconds during the PM peak hour.

Intersection peak hour LOS for 2040 Plus Project conditions for the Build Alternative is presented in Table 8-5, and Appendix L presents the Synchro worksheets for each study intersection. When compared with the 2040 No Project conditions, the following same intersection is likely to be impacted due to implementation of the Build Alternative:

- Intersection #4: Center Street and Commercial Street (from LOS D to LOS F – PM peak hour) – The Build Alternative would result in an increased delay of 3.1 seconds during the PM peak hour.

8.4.1 Construction-Related Traffic on US-101 Mainline

The Build Alternative would generate additional construction traffic on US-101, thereby increasing the traffic volumes for both the AM and PM peak hours. As discussed in Section 7.4.2, all existing traffic lanes along the El Monte Busway and US-101 would be maintained during the peak hour throughout construction of run-through track infrastructure, although reduced lanes and short-term overnight closures of the El Monte Busway, the US-101 mainline, and the southbound ramps at Commercial Street would be necessary to erect and dismantle falsework during construction of the US-101 Viaduct. The US-101 mainline would be closed temporarily during the night (10:00 PM to 6:00 AM) in one direction at a time during construction of the bridge superstructure. These lane width reductions and night closures are expected to last for 8 to 12 weeks and occur during weekends only. For the short segment of US-101 that would be affected during the closure timeframes, delay on adjacent local roads is not expected because existing traffic would be easily redistributed along nearby roads. The southbound ramps at Commercial Street may either be partially or fully restricted for extended periods (during daytime on weekends) during construction of the US-101 Viaduct over the existing on- and off-ramps.

For US-101, the threshold for determining an adverse effect is when a project increases the traffic demand by more than 2 percent of the capacity (D/C greater than or equal to 0.02). The volumes are affected on the northbound side during both AM and PM peak hours. During the 2031 Plus Project Construction condition, northbound US-101 operates at LOS F(3) during both AM and PM peak hours. Southbound US-101 operates at LOS F(0) and LOS F(3) during the AM and PM peak hours, respectively. Table 8-6 summarizes the freeway mainline D/C ratio and LOS during 2031 Plus Project Construction condition for the Build Alternative. As shown in Table 8-6, the freeway operates at deficient LOS during both peak hours in both directions; therefore, the Build Alternative would not generate traffic patterns that would increase traffic demand by more than 2 percent of the capacity. Therefore, the freeway would be impacted during construction, but the effects are not adverse and are considered to be short term. These effects would be minimized by closures during the off-peak hours and detours during the peak hours, as required by the transportation management plan.

8.4.2 Project-Related Traffic on US-101 Mainline

The existing US-101 has a 30- to 40-foot-wide center median that would accommodate the support piers for the new run-through track structure over US-101. The final run-through track structure pier location would be determined during the final design phase. Traffic handling would be determined in accordance with the final design. As discussed above, the US-101 on- and off-ramps are assumed to remain in place through 2040.

During 2031 No Project and Plus Project conditions, northbound US-101 operates at LOS F(3) during both AM and PM peak hours. Southbound US-101 operates at LOS F(0) and F(3) during the AM and PM peak hours, respectively. Table 8-7 summarizes the freeway mainline LOS during 2031 No Project and Plus Project conditions for the Build Alternative.

During 2040 No Project and Plus Project conditions, northbound US-101 operates at LOS F(3) during both AM and PM peak hours. Southbound US-101 operates at LOS F(0) and F(3) during the AM and PM peak hours, respectively. Table 8-8 summarizes the freeway mainline LOS during 2040 No Project and Plus Project conditions for the Build Alternative.

To analyze the traffic-related operational effects along US-101, in early 2019, a weaving analysis was prepared to determine the operational benefits of the proposed modifications/safety improvements along US-101. Since the proposed improvements are related to safety, sight distance, and driver comfort, the results of the weaving analysis suggest there would be no change in the operations along US-101 as compared with the existing operations.

8.5 Intersection Traffic Mitigation Measures

8.5.1 Construction

During construction of the Build Alternative, out of the 32 intersections, two intersections would exceed the 2.5-second delay significance criterion per LADOT Guidelines (LADOT 2016):

- Intersection #15: Vignes Street and Main Street (from LOS D to LOS F – PM peak).
- Intersection #27: Mission Road and Cesar Chavez Avenue (from LOS D to LOS E – AM peak).

According to LADOT Guidelines (LADOT 2016), these intersections would require mitigation. Mitigation measures are discussed in Section 11.0, although the optimizations and potential for reduced effects are discussed herein. Changes to signal phasing and timing would mitigate the temporary effects of traffic shifts caused by the construction detour. In addition to the signal phasing and timing, temporary closed-circuit television cameras would also mitigate temporary effects by allowing for real-time monitoring of traffic during construction. Proposed locations of the closed-circuit television would need to be coordinated with the City of Los Angeles. Proposed changes to signal phasing and timing are identified at the following intersections:

- Intersection #15: Vignes Street and Main Street.
    - Optimized intersection cycle lengths and splits to 75 seconds and 150 seconds during AM and PM peaks, respectively.
- Intersection #27: Mission Road and Cesar Chavez Avenue.
    - Optimized intersection cycle lengths and splits to 90 seconds during both AM and PM peaks.

A construction traffic management plan would also be required to further reduce the effects of construction-related traffic on local intersections. A comparison of the intersections for 2031 Plus Project Construction condition traffic with and without mitigation is presented in Table 8-9, and detailed Synchro analysis worksheets are presented in Appendix M.

8.5.2 Operations

As discussed in Section 8.4, one intersection would exceed the 2.5-second delay significance criterion per LADOT Guidelines (LADOT 2016) due to implementation of the Build Alternative in 2031 and 2040:

- Intersection #4: Center Street and Commercial Street (from LOS D to LOS F – PM peak hour) – The Build Alternative would result in an increased delay of 3.0 and 3.1 seconds during the PM peak hour in 2031 and 2040, respectively.

Per LADOT Guidelines (LADOT 2016), mitigation is proposed in the form of transportation demand management improvements that may be implemented south of LAUS. Based on the LADOT Guidelines (LADOT 2016), the City of Los Angeles encourages implementation of mitigation measures that would focus on minimizing the demand for trips by single-occupant vehicles through trip reduction strategies and encouraging other modes of transportation, such as public transit and bicycles. As mentioned previously, active transportation improvements, such as bicycle lanes along Commercial Street or a dedicated bridge over US-101 are proposed to reduce adverse effects related to operational traffic delays, enhance nonmotorized connectivity, facilitate a pedestrian and bicycle-friendly environment in the Project study area, and encourage the use of alternate modes of transportation, consistent with LADOT Guidelines (LADOT 2016) and Metro's Active Transportation Program.

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Table 8-4. 2031 Plus Project Intersection Level of Service

Intersection Number	Intersection Name	AM Peak						PM Peak					
		2031 No Project		2031 Plus Project		Delta in Delay		2031 No Project		2031 Plus Project		Delta in Delay	
		Delay (Second)	LOS	Delay (Second)	LOS	Delay (Second)	Adverse Effect?	Delay (Second)	LOS	Delay (Second)	LOS	Delay (Second)	Adverse Effect?
1	Alameda Street and Commercial Street	29.1	C	29.5	C	0.4	No	35.1	D	35.4	D	0.3	No
2	Garey Street and Commercial Street	31.3	C	33.7	C	2.4	No	34.1	C	30.3	C	-3.8	No
3	Vignes Street and Commercial Street [a]	9.8	A	9.8	A	0.0	No	10.1	B	10.1	B	0.0	No
4	Center Street and Commercial Street [a]	17.2	C	18.0	C	0.8	No	57.5	**F**	60.5	**F**	3.0	**Yes**
5	Alameda Street and Temple Street	14.6	B	14.7	B	0.1	No	16.7	B	15.8	B	-0.9	No
6	Vignes Street and Temple Street a	15.4	C	15.4	C	0.0	No	9.9	A	9.9	A	0	No
7	Alameda Street and 1st Street	18.3	B	18.3	B	0.0	No	17.3	B	17.9	B	0.6	No
8	Vignes Street and 1st Street	20.2	C	20.2	C	0.0	No	27.6	C	27.5	C	-0.1	No
9	Alameda Street and El Monte Busway/Arcadia Street	21.1	C	21.2	C	0.1	No	14.6	B	14.5	B	-0.1	No
10	Alameda Street and Los Angeles Street Eastbound	12.1	B	11.7	B	-0.4	No	12.4	B	12.6	B	0.2	No
110	Alameda Street and Los Angeles Street Westbound	4.3	A	4.4	A	0.1	No	5.7	A	7.0	A	1.3	No
11	Alameda Street and Cesar Chavez Avenue	20.7	C	20.9	C	0.2	No	17.1	B	16.9	B	-0.2	No
12	Alameda Street and Vignes Street/Alpine Street	11.6	B	13.7	B	2.1	No	13.8	B	18.1	B	4.3	No
13	Vignes Street and Cesar Chavez Avenue	18.5	B	19.9	B	1.4	No	25.1	C	25.9	C	0.8	No
14	Vignes Street and Ramirez Street	23.3	C	23.4	C	0.1	No	24.5	C	24.8	C	0.3	No
15	Vignes Street and Main Street	27.2	C	17.6	B	-9.6	No	74.6	**E**	50.7	D	-23.9	No
16	Alameda Street/Spring Street and College Street	16.5	B	16.5	B	0.0	No	17.7	B	17.9	B	0.2	No
17	Alameda Street and Main Street/Ord Street [a]	0.7	A	0.7	A	0.0	No	0.7	A	0.7	A	0	No
18	Alameda Street and Main Street/Bauchet Street	5.8	A	5.7	A	-0.1	No	9.6	A	9.8	A	0.2	No
19	Main Street and Cesar Chavez Avenue	7.7	A	7.7	A	0.0	No	19.8	B	19.8	B	0	No
20	Alameda Street and Northbound US-101 [b]	—	—	—	—	—	—	—	—	—	—	—	—

Table 8-4. 2031 Plus Project Intersection Level of Service

Intersection Number	Intersection Name	AM Peak						PM Peak					
		2031 No Project		2031 Plus Project		Delta in Delay	Adverse Effect?	2031 No Project		2031 Plus Project		Delta in Delay	Adverse Effect?
		Delay (Second)	LOS	Delay (Second)	LOS	Delay (Second)		Delay (Second)	LOS	Delay (Second)	LOS	Delay (Second)	
21	Los Angeles Street and Arcadia Street	7.7	A	7.8	A	0.1	No	4.8	A	5.1	A	0.3	No
22	Los Angeles Street and Aliso Street	9.4	A	9.5	A	0.1	No	11.8	B	11.7	B	-0.1	No
23	Los Angeles Street and Temple Street	15.2	B	15.2	B	0.0	No	17.6	B	17.6	B	0	No
24	Los Angeles Street and 1st Street	15.2	B	15.2	B	0.0	No	20.7	C	20.7	C	0	No
25	Judge John Aiso Street and Temple Street	8.3	A	8.2	A	-0.1	No	8.0	A	7.7	A	-0.3	No
26	Judge John Aiso Street/San Pedro Street and 1st Street	15.6	B	15.6	B	0.0	No	15.3	B	15.3	B	0	No
27	Mission Road and Cesar Chavez Avenue	58.0	E	58.1	E	0.1	No	25.6	C	25.7	C	0.1	No
28	Mission Road and 1st Street	25.8	C	25.8	C	0.0	No	33.2	C	33.2	C	0	No
29	Central Avenue and 1st Street	8.8	A	8.8	A	0.0	No	11.3	B	11.3	B	0	No
30	Vignes Street and Bauchet Street	11.4	B	11.1	B	-0.3	No	20.0	B	20.0	B	0	No
31	Ramirez Street and Center Street	1.7	A	1.7	A	0.0	No	0.6	A	0.6	A	0	No
32	Union Station North Driveway and Cesar Chavez Avenue	13.6	B	13.6	B	0.0	No	14.0	B	14.0	B	0	No

Notes:
[a] Non-signalized intersection
[b] Freeway on-ramp, neither signalized nor Stop-sign controlled
LOS=level of service
Bold indicates LOS of E or F (Adverse Effect)

Table 8-5. 2040 Plus Project Intersection Level of Service

Intersection Number	Intersection Name	AM Peak						PM Peak					
		2040 No Project		2040 Plus Project		Delta in Delay		2040 No Project		2040 Plus Project		Delta in Delay	
		Delay (Second)	LOS	Delay (Second)	LOS	Delay (Second)	Adverse Effect?	Delay (Second)	LOS	Delay (Second)	LOS	Delay (Second)	Adverse Effect?
1	Alameda Street and Commercial Street	31.6	C	32.0	C	0.4	No	47.8	D	49.2	D	1.4	No
2	Garey Street and Commercial Street	31.3	C	31.3	C	0.0	No	34.6	C	33.8	C	-0.8	No
3	Vignes Street and Commercial Street[a]	9.8	A	9.8	A	0.0	No	10.2	B	10.2	B	0.0	No
4	Center Street and Commercial Street[a]	18.0	C	18.9	C	0.9	No	62.5	**F**	65.6	**F**	3.1	**Yes**
5	Alameda Street and Temple Street	16.3	B	16.3	B	0	No	16.9	B	16.9	B	0	No
6	Vignes Street and Temple Street[a]	15.9	C	15.9	C	0	No	10	A	10	A	0	No
7	Alameda Street and 1st Street	18.5	B	18.5	B	0	No	16.2	B	16.2	B	0	No
8	Vignes Street and 1st Street	21.1	C	21.1	C	0	No	26.9	C	26.6	C	-0.3	No
9	Alameda Street and El Monte Busway/Arcadia Street	90.3	F	90.0	F	0	No	15.7	B	15.6	B	-0.1	No
10	Alameda Street and Los Angeles Street Eastbound	28.0	C	28.1	A	0.1	No	15.5	B	14.2	B	-1.3	No
110	Alameda Street and Los Angeles Street Westbound	0.1	A	0.1	A	0	No	0.2	A	0.0	A	-0.2	No
11	Alameda Street and Cesar Chavez Avenue	29.7	C	29.7	C	0	No	21.1	C	21.2	C	0.1	No
12	Alameda Street and Vignes Street/Alpine Street	12.5	B	14.8	B	2.3	No	14.4	B	19.2	B	4.8	No
13	Vignes Street and Cesar Chavez Avenue	18.1	B	19.7	B	1.6	No	21	C	26.7	C	5.7	No
14	Vignes Street and Ramirez Street	23.3	C	23.3	C	0	No	26	C	25.0	C	-1.0	No
15	Vignes Street and Main Street	18.8	B	17.8	B	-1.0	No	62.8	E	55.0	D	-7.8	No
16	Alameda Street/Spring Street and College Street	16.8	B	16.8	B	0	No	16.8	B	17.1	B	0.3	No
17	Alameda Street and Main Street/Ord Street[a]	0.7	A	0.7	A	0	No	0.7	A	0.7	A	0	No
18	Alameda Street and Main Street/Bauchet Street	5.3	A	5.3	A	0	No	14	B	14.5	B	0.5	No
19	Main Street and Cesar Chavez Avenue	7.1	A	7.1	A	0	No	19.6	B	19.4	B	-0.2	No
20	Alameda Street and Northbound US-101[b]	—	—	—	—	—	—	—	—	—	—	—	—
21	Los Angeles Street and Arcadia Street	8.9	A	9.0	A	0.1	No	5.9	A	6	A	0.1	No

Table 8-5. 2040 Plus Project Intersection Level of Service

Intersection Number	Intersection Name	AM Peak						PM Peak					
		2040 No Project		2040 Plus Project		Delta in Delay		2040 No Project		2040 Plus Project		Delta in Delay	
		Delay (Second)	LOS	Delay (Second)	LOS	Delay (Second)	Adverse Effect?	Delay (Second)	LOS	Delay (Second)	LOS	Delay (Second)	Adverse Effect?
22	Los Angeles Street and Aliso Street	10.1	B	10.2	B	0.1	No	12.1	B	12.2	B	0.1	No
23	Los Angeles Street and Temple Street	15.1	B	15.1	B	0	No	18	B	18	B	0	No
24	Los Angeles Street and 1st Street	14.1	B	14.1	B	0	No	21.9	C	21.9	C	0	No
25	Judge John Aiso Street and Temple Street	7.8	A	7.8	A	0	No	8.2	A	8.1	A	-0.1	No
26	Judge John Aiso Street/San Pedro Street and 1st Street	16.1	B	16.1	B	0	No	15.4	B	15.3	B	-0.1	No
27	Mission Road and Cesar Chavez Avenue	59.7	E	59.7	E	0	No	26.6	C	26.9	C	0.3	No
28	Mission Road and 1st Street	26.9	C	26.9	C	0	No	36.9	D	36.9	D	0	No
29	Central Avenue and 1st Street	9.1	A	9.1	A	0	No	11.4	B	11.3	B	-0.1	No
30	Vignes Street and Bauchet Street	11.8	B	11.9	B	0.1	No	20.9	C	20.4	C	-0.5	No
31	Ramirez Street and Center Street	1.8	A	1.7	A	0	No	0.7	A	0.7	A	0	No
32	Union Station North Driveway and Cesar Chavez Avenue	13.0	B	13.0	B	0	No	14.1	B	14.1	B	0	No

Notes:
[a] ***Non-signalized intersection***
[b] ***Freeway on-ramp, neither signalized nor Stop-sign controlled***
LOS=level of service
Bold indicates LOS of E or F (Adverse Effect)

Table 8-6. Freeway Mainline Level of Service – 2031 Plus Project Construction Condition

Freeway Analysis Location	Peak	Northbound				Southbound			
		Demand	Capacity	D/C	LOS	Demand	Capacity	D/C	LOS
US-101 North of Vignes Street (Post Mile 0.45)	AM	13,549	8,000	1.69	F(3)	9,152	8,000	1.14	F(0)
	PM	13,179	8,000	1.65	F(3)	13,506	8,000	1.69	F(3)

Notes:
D/C=demand to capacity; LOS=level of service

Table 8-7. Freeway Mainline Level of Service – 2031 Plus Project Condition

Freeway Analysis Location	Peak	Northbound				Southbound			
		Demand	Capacity	D/C	LOS	Demand	Capacity	D/C	LOS
2031 No Project Condition									
US-101 North of Vignes Street (Post Mile 0.45)	AM	13,298	8,000	1.66	F(3)	9,150	8,000	1.14	F(0)
	PM	13,176	8,000	1.65	F(3)	13,420	8,000	1.68	F(3)
2031 Plus Project Condition									
US-101 North of Vignes Street (Post Mile 0.45)	AM	13,300	8,000	1.66	F(3)	9,150	8,000	1.14	F(0)
	PM	13,188	8,000	1.65	F(3)	13,420	8,000	1.68	F(3)
Adverse Effect?	AM	No				No			
	PM	No				No			

Notes:
D/C=demand to capacity; LOS=level of service

Table 8-8. Freeway Mainline Level of Service – 2040 Plus Project Condition

Freeway Analysis Location	Peak	Northbound				Southbound			
		Demand	Capacity	D/C	LOS	Demand	Capacity	D/C	LOS
2040 No Project Condition									
US-101 North of Vignes Street (Post Mile 0.45)	AM	14,279	8,000	1.78	F(3)	9,825	8,000	1.23	F(0)
	PM	14,148	8,000	1.77	F(3)	14,410	8,000	1.80	F(3)
2040 Plus Project Condition									
US-101 North of Vignes Street (Post Mile 0.45)	AM	14,281	8,000	1.79	F(3)	9,825	8,000	1.23	F(0)
	PM	14,160	8,000	1.77	F(3)	14,410	8,000	1.80	F(3)
Adverse Effect?	AM	No				No			
	PM	No				No			

Notes:
D/C=demand to capacity; LOS=level of service

Table 8-9. Peak Hour Level of Service for Impacted Intersections – 2031 Plus Project Construction Condition (with and without Mitigation)

Intersection	Intersection	AM Peak					PM Peak				
		2031 Construction without Mitigation		2031 Construction with Mitigation		Delta in Delay	2031 Construction without Mitigation		2031 Construction with Mitigation		Delta in Dealy
		Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)
15	Vignes Street and Main Street	23.8	C	27.7	C	3.9	82.8	**F**	63.4	**E**	-19.4
27	Mission Road and Cesar Chavez Avenue	61.8	**E**	60.2	**E**	-1.6	26.4	C	26.5	C	0.1

Notes:
LOS=level of service; Sec=seconds; WB=westbound;
Bold indicates LOS of E or F

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9.0 Congestion Management Program Transportation Impact Analysis

9.1 Congestion Management Program Traffic Impact Analysis

Following are CMP monitoring locations closest to the traffic study area:

- Alameda Street and Washington Boulevard (a CMP arterial monitoring intersection).
- Alvarado Street and Sunset Boulevard (a CMP arterial monitoring intersection).
- Wilshire Boulevard and Alvarado Street (a CMP arterial monitoring intersection).
- US-101 north of Vignes Street (a CMP freeway monitoring location).

The traffic projections from Section 6.4, Future Traffic Predictions and Roadway Characteristics, were used to determine the locations where Project-related trips might exceed these thresholds.

Based on the Project trip assignments that were developed, the Build Alternative is not expected to add traffic to exceed the arterial intersection analysis criteria or the freeway analysis criteria at the nearest monitoring locations or at any location. Since traffic during either AM or PM peak hours is projected to be less than the minimum criteria of 50 vehicles per hour for arterial intersections and 150 vehicles per hour for freeway locations, no further analysis of CMP arterial monitoring intersections or freeway monitoring locations is required.

9.2 Congestion Management Program Transit Impact Analysis

Per the CMP, Project-related effects on public transit services would be considered adverse if the Build Alternative resulted in a substantial increase in ridership on the existing public transit system, creating capacity shortages on the system and thereby necessitating system improvements to accommodate additional transit service.

The Build Alternative would facilitate a substantial increase in rail operational capacity for the region, reduced train idling time at LAUS, and improved on-time performance for trains using LAUS. The Build Alternative would also contribute indirectly to other cumulative benefits for the region, including a regional reduction of vehicle miles traveled and associated greenhouse gases. While the Build Alternative would provide the largest possible operating envelope to increase capacity within the existing station footprint, future service scenarios would depend on ongoing negotiations between the railroad operators, available infrastructure (e.g., corridor, maintenance facility), and available operating funding. The Build Alternative, by itself, does not enable regional/intercity rail providers to meet their service goals, primarily because other infrastructure improvements on the entire system are required to meet the forecasted service levels by 2040;

however, the Build Alternative is a critical component to providing capacity enhancements to fulfill the statewide mandates and regional objectives. Therefore, no adverse effects on the transit system are anticipated.

10.0 On-Street Parking Impact Analysis

On-street parking availability and effects during construction and operation were considered as part of this traffic analysis. Locations where encroachment on public parking spaces may occur were identified and the number of on-street parking spaces that might be affected were estimated from field observations and aerial research.

Existing on-street parking in the Project study area was inventoried in September 2014. A total of 275 general spaces and 12 loading spaces were identified. Most parking within the traffic study area is metered (243 spaces). The meters and a 10-hour parking limit are effective weekdays between 6:00 AM and 4:00 PM.

During construction of the run-through track infrastructure, the Build Alternative would impact the two loading spaces on the north side of Commercial Street east of Center Street temporarily.

Table 10-1 summarizes the number of existing and impacted parking spaces on Commercial Street, Ducommun Street, Jackson Street, Temple Street, Hewitt Street, Garey Street, Vignes Street, and Center Street.

Table 10-1. Existing and Potentially Impacted On-Street Parking

Location	Existing Parking Spaces			Potential Affected Parking Spaces		
	Metered	Open	Loading	Metered	Open	Loading
Commercial Street (east of Center Street)	8	0	3	0	0	2
Ducommun Street (between Alameda Street and east of Center Street)	79	8	2	0	0	0
Jackson Street (between Alameda Street and east of Center Street)	32	0	0	0	0	0
Temple Street (between Alameda Street and east of Center Street)	19	0	5	0	0	0
Hewitt Street (between Commercial Street and Ducommun Street)	14	0	0	0	0	0
Garey Street (between Commercial Street and Temple Street)	27	0	0	0	0	0

Table 10-1. Existing and Potentially Impacted On-Street Parking

Location	Existing Parking Spaces			Potential Affected Parking Spaces		
	Metered	Open	Loading	Metered	Open	Loading
Vignes Street (between Commercial Street and 1st Street)	51	0	2	0	0	0
Center Street (between Commercial Street and Temple Street)	13	0	0	0	0	0
Bolero Lane (between Bloom Street and Leroy Street)	0	24	0	0	0	0
Total	243	32	12	0	0	2

11.0 Conclusion

11.1 Construction

During Project construction, street closures and detouring would be necessary, which would affect intersections in the Project study area. However, all effects can be mitigated as discussed in Section 8.5.

In the 2031 Plus Project Construction condition, the following intersections would be adversely affected by the Build Alternative:

- Intersection #15: Vignes Street and Main Street (from LOS D to LOS F – PM peak).
- Intersection #27: Mission Road and Cesar Chavez Avenue (from LOS D to LOS E – AM peak.

The Build Alternative would reduce the number of available parking spaces on Commercial Street east of Center Street during construction closures, as well as after completion of Project-related improvements.

11.2 Operations

11.2.1 Existing Year (2016) Conditions

All study intersections operate within LADOT-recommended acceptable LOS thresholds. Most intersections operate at LOS C or better during both peak hours, except the following intersections:

- Intersection #4: Center Street and Commercial Street (LOS D – PM peak).
- Intersection #15: Vignes Street and Main Street (LOS D – PM peak).
- Intersection #27: Mission Road and Cesar Chavez Avenue (LOS D – AM peak).

Northbound US-101 operates at LOS F(2) and F(1) during AM and PM peak hours, respectively. Southbound US-101 operates at LOS E and F(2) during AM and PM peak hours, respectively.

11.2.2 2031 Conditions

The LOS comparison summary for the Build Alternative is presented in Table 11-1. For the Build Alternative, one intersection would be adversely affected by Project-related traffic in the 2031 Plus Project condition due to operational traffic delay that would continue to exceed the 2.5-second delay significance criterion per LADOT Guidelines (LADOT 2016).

- Intersection #4: Center Street and Commercial Street (from LOS D to LOS F – PM peak hour) – The Build Alternative would result in an increased delay of 3.0 seconds during the PM peak hour.

During 2031, northbound US-101 operates at LOS F(3) during both AM and PM peak hours. Southbound US-101 operates at LOS F(0) and F(3) during AM and PM peak hours, respectively. These levels of service apply to both 2031 No Project and 2031 Plus Project conditions.

11.2.3 2040 Conditions

The LOS comparison summary for the Build Alternative is presented in Table 11-1. For the Build Alternative, one intersection is adversely affected by Project-related traffic in the 2040 Plus Project condition due to operational traffic delay that would continue to exceed the 2.5-second delay significance criterion per LADOT Guidelines (LADOT 2016).

- Intersection #4: Center Street and Commercial Street (from LOS D to LOS F – PM peak hour) – The Build Alternative would result in an increased delay of 3.1 seconds during the PM peak hour.

During 2040, northbound US-101 operates at LOS F(3) during both AM and PM peak hours. Southbound US-101 operates at LOS F(0) and F(3) during AM and PM peak hours, respectively. These levels of service apply to both 2040 No Project and 2040 Plus Project conditions.

The Build Alternative would not adversely affect the CMP arterial, freeway, or transit networks. A supplemental analysis was conducted by Gibson Transportation to determine the effects of construction to the internal driveways coming in and out of the Metropolitan Water District (Appendix N).

11.3 Mitigation

The adverse effects identified during construction shall be mitigated using temporary measures such as signing and maintenance of traffic strategies, adjusting the signal timing at the affected intersections, providing alternate routes for commuter traffic, and installing the closed-circuit television cameras. A detailed construction traffic management plan shall be prepared to address short-term construction effects during the final engineering phase and shall be approved by the City of Los Angeles and California Department of Transportation at least 30 days prior to construction. Implementation of construction traffic management plan including optimized signal phasing and timing would decrease the average delay at Intersections #15 and #27, thereby minimizing potential for adverse construction-related transportation effects at these intersections.

Also, prior to construction, a comprehensive construction transportation management plan should be prepared to include applicable diagrams, documents, drawings, and specifications that identify the steps that would be taken to demonstrate how local traffic mobility and circulation would be maintained to avoid or minimize traffic-related effects during construction.

Implementation of the following mitigation measure would avoid or minimize potential adverse effects at the intersection #4, Center Street and Commercial Street identified in 2031 and 2040 Plus Project conditions.

LU-1 **Enhance Neighborhood Connectivity:** Consistent with the Los Angeles River Revitalization Master Plan, RIO Overlay District guidelines, LAUS Sustainable Neighborhood Assessment, City of Los Angeles Mobility Plan, Metro's LA River Path Project, and Metro's Los Angeles Union Station Forecourt and Esplanade Improvements Project, to mitigate the identified adverse effect, Metro, in coordination with the City of Los Angeles, shall implement either Class II or IV type bike lanes that consist of only pavement striping and bollards (no additional ROW and no raised median will be required) along Commercial Street from Alameda Street to Center Street, enhancing neighborhood connectivity south of US-101. If additional funding is identified, a dedicated bicycle/pedestrian bridge over US-101 could be constructed in addition to the new bicycle lanes described above.

It should be noted that the *Final Traffic Impact Assessment with Vehicle Miles Traveled Analysis*, HDR, October 2021 concludes the Project is consistent with the SCAG RTP/SCS and would not change the existing land use of LAUS resulting in no cumulative VMT impacts or unmitigated significant VMT impacts.

Consistent with LADOT Guidelines (LADOT 2016), Mitigation Measure LU-1 includes provisions for new active transportation infrastructure south of LAUS to improve neighborhood connectivity, reduce vehicular travel, and encourage the use of non-motorized travel in the Project study area. These active transportation improvements would mitigate the adverse operational effects identified in 2031 and 2040 Plus Project conditions at the intersection of Center Street and Commercial Street pursuant to LADOT Guidelines (LADOT 2016).

11.3.1 Traffic Demand Management Program

A traffic demand management program should be implemented during construction to provide a variety of additional transportation access choices in order to promote non-auto travel for construction workers. The traffic demand management program should demonstrate that the number of construction worker vehicles traveling to the construction areas has been minimized. The traffic demand management program may consist of a project-sponsored vanpool, project shuttle, carpool program, transit fare subsidy, and other applicable programs.

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Table 11-1. Level of Service Summary for Build Alternative

	Intersection	2031 No Project				2031 Plus Project				2040 No Project				2040 Plus Project			
		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
		Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS
1	Alameda Street and Commercial Street	29.1	C	35.1	D	29.5	C	35.4	D	31.6	C	47.8	D	32	C	49.2	D
2	Garey Street and Commercial Street	31.3	C	34.1	C	33.7	C	30.3	C	31.3	C	34.6	C	31.3	C	33.8	C
3	Vignes Street and Commercial Street [a]	9.8	A	10.1	B	9.8	A	10.1	B	9.8	A	10.2	B	9.8	A	10.2	B
4	Center Street and Commercial Street [a]	17.2	C	57.5	F	18	C	60.5	F	18	C	62.5	F	18.9	C	65.6	F
5	Alameda Street and Temple Street	14.6	B	16.7	B	14.7	B	15.8	B	16.3	B	16.9	B	16.3	B	16.9	B
6	Vignes Street and Temple Street [a]	15.4	C	9.9	A	15.4	C	9.9	A	15.9	C	10	A	15.9	C	10	A
7	Alameda Street and 1st Street	18.3	B	17.3	B	18.3	B	17.9	B	18.5	B	16.2	B	18.5	B	16.2	B
8	Vignes Street and 1st Street	20.2	C	27.6	C	20.2	C	27.5	C	21.1	C	26.9	C	21.1	C	26.6	C
9	Alameda Street and El Monte Busway/Arcadia Street	21.1	C	14.6	B	21.2	C	14.5	B	90.3	F	15.7	B	90	F	15.6	B
10	Alameda Street and Los Angeles Street eastbound[a]	12.1	B	12.4	B	11.7	B	12.6	B	28	C	15.5	B	28.1	A	14.2	B
110	Alameda Street and Los Angeles Street westbound[a]	4.3	A	5.7	A	4.4	A	7	A	0.1	A	0.2	A	0.1	A	0	A
11	Alameda Street and Cesar Chavez Avenue	20.7	C	17.1	B	20.9	C	16.9	B	29.7	C	21.1	C	29.7	C	21.2	C
12	Alameda Street and Vignes Street/Alpine Street	11.6	B	13.8	B	13.7	B	18.1	B	12.5	B	14.4	B	14.8	B	19.2	B
13	Vignes Street and Cesar Chavez Avenue	18.5	B	25.1	C	19.9	B	25.9	C	18.1	B	21	C	19.7	B	26.7	C
14	Vignes Street and Ramirez Street	23.3	C	24.5	C	23.4	C	24.8	C	23.3	C	26	C	23.3	C	25	C
15	Vignes Street and Main Street	27.2	C	74.6	E	17.6	B	50.7	D	18.8	B	62.8	E	17.8	B	55	D
16	Alameda Street/Spring Street and College Street	16.5	B	17.7	B	16.5	B	17.9	B	16.8	B	16.8	B	16.8	B	17.1	B
17	Alameda Street and Main Street/Ord Street[a]	0.7	A	0.7	A	0.7	A	0.7	A	0.7	A	0.7	A	0.7	A	0.7	A
18	Alameda Street and Main Street/Bauchet Street	5.8	A	9.6	A	5.7	A	9.8	A	5.3	A	14	B	5.3	A	14.5	B
19	Main Street and Cesar Chavez Avenue	7.7	A	19.8	B	7.7	A	19.8	B	7.1	A	19.6	B	7.1	A	19.4	B
20	Alameda Street and Northbound US-101[b]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
21	Los Angeles Street and Arcadia Street	7.7	A	4.8	A	7.8	A	5.1	A	8.9	A	5.9	A	9	A	6	A
22	Los Angeles Street and Aliso Street	9.4	A	11.8	B	9.5	A	11.7	B	10.1	B	12.1	B	10.2	B	12.2	B
23	Los Angeles Street and Temple Street	15.2	B	17.6	B	15.2	B	17.6	B	15.1	B	18	B	15.1	B	18	B
24	Los Angeles Street and 1st Street	15.2	B	20.7	C	15.2	B	20.7	C	14.1	B	21.9	C	14.1	B	21.9	C
25	Judge John Aiso Street and Temple Street	8.3	A	8	A	8.2	A	7.7	A	7.8	A	8.2	A	7.8	A	8.1	A
26	Judge John Aiso Street/San Pedro Street and 1st Street	15.6	B	15.3	B	15.6	B	15.3	B	16.1	B	15.4	B	16.1	B	15.3	B
27	Mission Road and Cesar Chavez Avenue	58	E	25.6	C	58.1	E	25.7	C	59.7	E	26.6	C	59.7	E	26.9	C
28	Mission Road and 1st Street	25.8	C	33.2	C	25.8	C	33.2	C	26.9	C	36.9	D	26.9	C	36.9	D
29	Central Avenue and 1st Street	8.8	A	11.3	B	8.8	A	11.3	B	9.1	A	11.4	B	9.1	A	11.3	B
30	Vignes Street and Bauchet Street	11.4	B	20	B	11.1	B	20	B	11.8	B	20.9	C	11.9	B	20.4	C
31	Ramirez Street and Center Street	1.7	A	0.6	A	1.7	A	0.6	A	1.8	A	0.7	A	1.7	A	0.7	A
32	Union Station North Driveway and Cesar Chavez Avenue	13.6	B	14	B	13.6	B	14	B	13	B	14.1	B	13	B	14.1	B

Notes:
[a] Non-signalized intersection
[b] Freeway on-ramp, neither signalized nor Stop-sign controlled
LOS=level of service; Sec=Seconds; V/C=volume to capacity

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12.0 References

City of Los Angeles Department of Transportation (LADOT). 2016. *Transportation Impact Study Guidelines*. Bureau of Planning and Development Services.

The Concord Group. 2016. Strategic Retail Programming Analysis for the Union Station Property in Downtown Los Angeles, CA. July 8, 2016.

Institute of Transportation Engineers. 2012. *Trip Generation Manual, 9th Edition.* https://www.ite.org/pub/?id=B4BDD9EA-F0B8-6392-76A9-8323A415F2B3

Los Angeles County Metropolitan Transportation Authority (Metro). 2010. *2010 Congestion Management Program.* http://media.metro.net/projects_studies/cmp/images/CMP_Final_2010.pdf.

——— 2015. *Connect US Action Plan*. http://media.metro.net/projects_studies/union_station/images/LAUSMP_Action_Plan_Final_100515.pdf

——— 2021. *Final Traffic Impact Assessment with Vehicle Miles Traveled Analysis*. Prepared for the Link US Project Environmental Impact Statement. Prepared by HDR Engineering, Inc.

Southern California Association of Governments (SCAG). 2008. *Final 2008 Regional Comprehensive Plan*.

——— 2023. Federal Transportation Improvement Program.

——— 2020. 2020 *Regional Transportation Plan/Sustainable Communities Strategy: Connect So Cal.* https://scag.ca.gov/read-plan-adopted-final-connect-socal-2020.

——— 2016a. *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy*. https://scag.ca.gov/sites/main/files/file-attachments/f2016rtpscs.pdf?1606005557.

——— 2016b. *Regional Transportation Plan/ Sustainable Communities Strategy Program Environmental Impact Report*. http://scagrtpscs.net/Pages/FINAL2016RTPSCS.aspx

Transportation Research Board. 2010. *Highway Capacity Manual*, 5th edition. Washington, DC.

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Appendix A:
Memorandum of Understanding

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TRAFFIC STUDY – MEMORANDUM OF UNDERSTANDING (MOU)

This MOU acknowledges that the traffic study for the following project will be prepared in accordance with the latest version of LADOT's Traffic Study Policies and Procedures:

Project Name: Link Union Station (formerly Southern California Regional Intermodal Project) DEIR
Project Address: 800 N Alameda Street (Union Station), Los Angeles, CA 90012
Project Description: *See **Attachment A** for project description and site plans.*

Geographic Distribution: ***See Figure 1***
Attach graphic illustrating project trip distribution percentages at the studied intersections.

Trip Generation Rate(s): ITE 9th Edition / Other: ***See Table 1***
Attach trip generation table with a description of the proposed land uses, ITE rates, estimated morning and afternoon peak hour volumes (ins/outs/totals), proposed trip credits, etc. ITE trip generation rates were calibrated to site specific conditions. For Link US, the proposed transit-oriented retail and office uses associated with the new passenger concourse will generate new vehicular traffic and is addressed in Table 1.

Project Buildout Year: **2040**
Ambient Growth Rate: **0.20%** Per Yr.

Related Projects: HDR is recommending a growth rate based on the 2012/2035 SCAG RTP plus the traffic generated from a few specific projects nearby including LA County Men's Jail, College Station, and High Speed Rail shown in ***Table 2***. ***Table 3*** shows the comparison of the SCAG RTP land use growth and the LADOT's October 2015 related project's land use.

Subject to Freeway Impact Analysis in addition to CMP Analysis: **X** YES __NO
(Mainline Freeway Segment Analysis will be performed on US-101 and the Commercial Street Ramps for construction impacts in all scenarios)

Study Intersections: Intersections listed below will be studied using CMA methodology. ***Attachment B*** lists selection of intersections that provide analysis coverage for the study area and include intersections listed below. All study intersections are shown in ***Figure 1***.

Trip Credits: (Exact amount of credit subject to approval by LADOT)
Note: ITE trip generation rates were calibrated to site specific conditions using information available to provide transit related credits.

	Yes	No
Transit Usage	X	
Transportation Demand Management		X
Existing Active Land Use	X	
Previous Land Use		X
Internal Trip	X	
Pass-By Trip		X

Consultant

Name: Tom Kim, PE, HDR

Address: 801 S. Grand, Suite 500, Los Angeles, CA 90017

Phone Number: 213. 239. 5813

Approved By: _____

Date: _____

Developer

Jeanet Owens, PE, LA Metro

One Gateway Plaza, Los Angeles, CA 90012

213. 418. 3189

Approved By: _____

Date:_____

FIGURE 1 – GEOGRAPHIC DISTRIBUTION

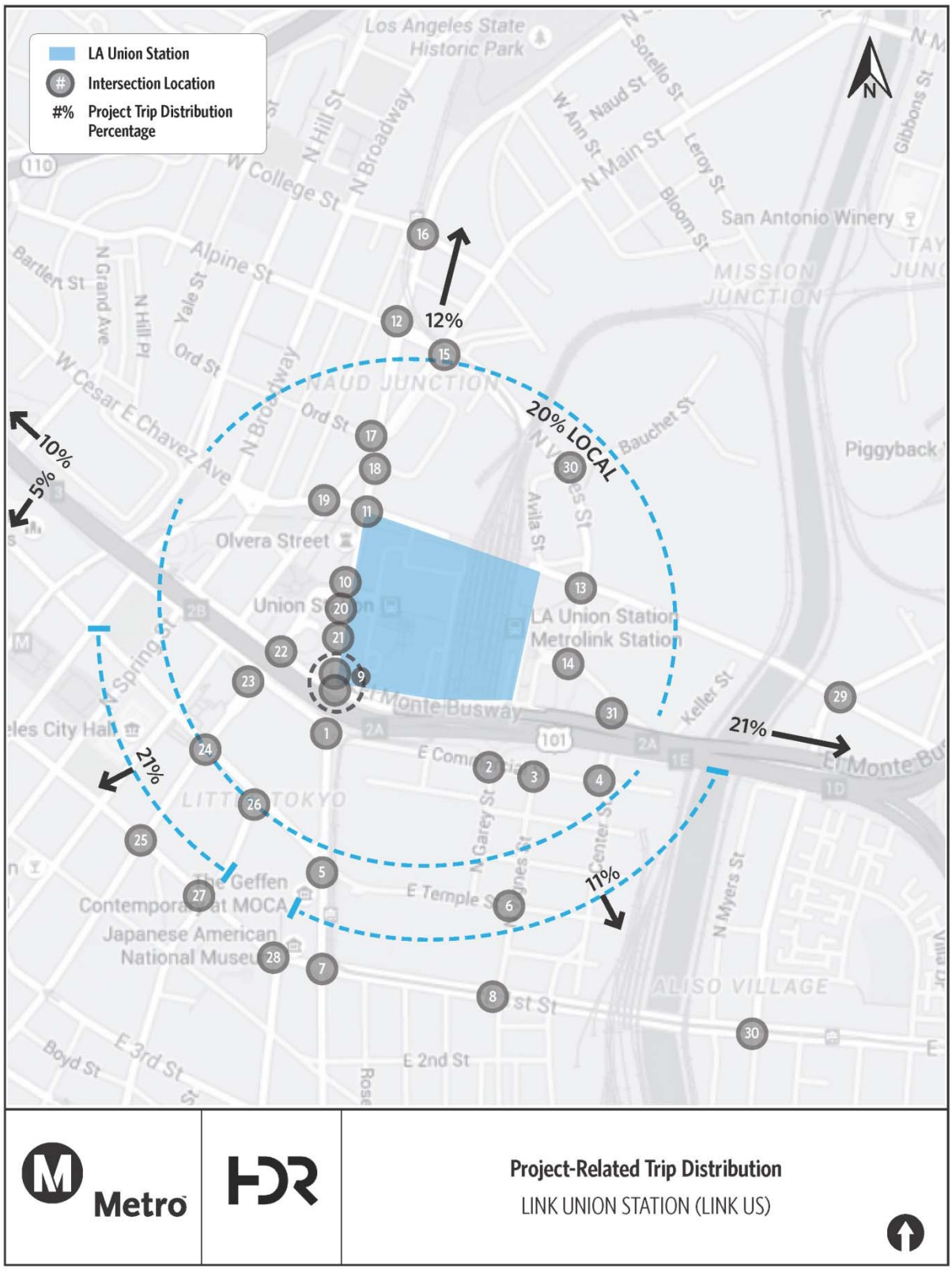


TABLE 1 - TRIP GENERATION ESTIMATES																		
Link Union Station (US) Draft EIR																		
Land Use*	**SIZE**	**UNITS**	**ITE Land Use Code**	**Trip Generation Rates**							**Daily Trips**	**Trip Generation**						
				Daily Rate	**AM Peak Hour**			**PM Peak Hour**				**AM Peak Hour**			**PM Peak Hour**			
					Rate	In	Out	Rate	In	Out		Total	In	Out	Total	In	Out	
East Plaza																		
New Transit Oriented Retail Space	69.22	KSF	820	42.70	0.96	62%	38%	3.71	48%	52%	2,956	66	41	25	257	123	134	
General Office Building	30.40	KSF	710	11.03	1.56	88%	12%	1.49	17%	83%	335	47	42	6	45	8	38	
Concourse																		
New Transit Oriented Retail Space	40.00	KSF	820	42.70	0.96	62%	38%	3.71	48%	52%	1,708	38	24	15	148	71	77	
West Plaza																		
New Transit Oriented Retail Space (Plaza)	17.7	KSF	820	42.70	0.96	62%	38%	3.71	48%	52%	756	17	11	6	66	32	34	
New Transit Oriented Retail Space (Terrace)	32.48	KSF	820	42.70	0.96	62%	38%	3.71	48%	52%	1,387	31	19	12	121	58	63	
Shared Transit Trip Reduction *80% Transit mode split reduction*											5713	*160*	*109*	*51*	*509*	*233*	*276*	
Subtotal New Trips due to Link US											1,428	40	27	13	127	58	69	
Existing Union Station Vehicular Trips											22,111	1,573	930	643	1,698	670	1,028	
TOTAL NEW TRIPS											**1,428**	**40**	**27**	**13**	**127**	**58**	**69**	
Percentage of existing traffic											6%	3%	3%	2%	7%	9%	7%	

*Proposed project land uses based on alternative descriptions as of 7/1/16

[a] Trip generation rates/ fitted curve equations from Trip Generation, 9th Edition, Institute of Transportation Engineers, 2012.

[b] Existing 2015 driveway counts collected by Fehr & Peers on Thursday, November 19, 2015

TABLE 2 – RELATED PROJECTS TRIP GENERATION ESTIMATES

Project	Location	Description	Estimated Trip Generation						
			Daily Vehicular Trips	AM Peak Hour Trips			PM Peak Hour Trips		
				In	Out	Total	In	Out	Total
1	441 Bauchet Street	LA County Men's Jail		64	75	139	69	208	277
2	129 West College Street	College Station		169	290	459	307	201	508
3	800 N Alameda Street	High Speed Rail [a]	32% of 40,960 = 13,107	1,305	--870	--2,175	870	1,305	2,175

Notes:

[a] Trip generation from the California High Speed Rail will be included in the cumulative baseline scenario when information is received. These estimates are based on the most recent data shared by HSRA.

Table 3 – Cumulative Project List

Status	LADOT Project ID	Project Title	Address	Related Project Land Uses [a]										SCAG Model Categories		
				Apartments (units)	Condos (units)	Retail SF	Restaurant SF	Office SF	Other SF	Hotel Rooms	Industrial SF	Hospital Beds	Medical Office Employees	Number of Residents [a]	Number of Households [b]	Number of Employees [c]
IC	30998	Blossom Plaza	900 N Broadway		223	25,000	15,000		7,000					446	223	94
IC	31507	DaVinci Apts	327 N Fremont Ave	1,200		25,000								2,400	1,200	50
C	31993	Ava Little Tokyo	200 S Los Angeles St	280	570	50,000								1,700	850	100
IC	32784	Bus Maintenance & Inspection Facility	454 E Commercial St								87,120			0	0	87
IC	32867	Eastern Columbia	215 W 9th St		210	9,000								420	210	18
IC	33110	Vibiana Lofts Mixed Use	225 S Los Angeles St		300	3,400								600	300	7
NS	33243	5th and Olive	427 W 5th St		600		13,872							1,200	600	28
NS	33305	1101 N Main Condos	1101 N Main St		300									600	300	0
IC	33546	Mixed-use project (Megatoys)	905 E 2nd St		320	18,712								640	320	37
NS	33596	Mixed Use	745 S Spring St		247	10,675								494	247	21
IC	33970	8th/Hope/Grand Project	609 W 8th St		225	30,000	320,000			200				450	225	825
IC	34450	MTA Bus Facility	920 Vignes St								534,655			0	0	535
NS	34779	Beverly + Lucas Project	1430 W Beverly Blvd	157										314	157	0
C	34803	Kawada Tower	250 S Hill St		330	12,000								660	330	24
IC	34975	Barlow Hospital Replacement & Master Plan	2000 Stadium Way		800	15,000						56		1,600	800	157
IC	35080	Wilshire Grand Project	900 W Wilshire Blvd			415,000		400,000		900				0	0	2,993
NS	35867	Mixed Use	710 S Grand Ave	700		27,000			5,000					1,400	700	64
C	40129	Grand Avenue	237 S Grand Ave	412	1,648	449,000		681,000						4,120	2,060	3,622
C	40175	ISAF retail/restaurant	201 S Broadway						27,765					0	0	56
NS	40338	LA Civic Center Office	150 N Los Angeles St			35,000		712,500	2,500					0	0	2,925
IC	40882	Mixed Use	534 S Main St	160		18,000	3,500		3,500					320	160	50
C	40927	Office	540 S Santa Fe Ave					65,812						0	0	263
IC	41068	Mixed Use	840 S Olive St		303	1,500	9,680							606	303	22
NS	41113	Camden Arts Mixed Use	1525 E Industrial St	240		7,165	4,110							480	240	23
NS	41228	Mixed Use	400 S Broadway	450		7,500	5,000							900	450	25
NS	41269	Apartments	1185 W Sunset Blvd	210										420	210	0
IC	41367	Mixed Use	801 S Olive St	331			10,000							662	331	20
NS	41460	Mixed Use	601 S Main St		45	25,000								90	45	50
NS	41492	Mixed Use	820 S Olive St	589		4,500								1,178	589	9
NS	41554	Mixed Use	700 W Cesar Chavez Ave	247		8,000								494	247	16
NS	41742	Mixed Use	1147 E Palmetto	120		20,000				141				240	120	128
C	41918	Mixed Use (Coca Cola)	963 E 4th St			25,000	20,000	78,600						0	0	404
NS	42089	Stadium Way & Chavez Ravine Apts	959 E Stadium Way	158										316	158	0
NS	42151	Metro Operations Control Center	410 N Center St					114,000						0	0	456
NS	42188	Kaiser Victor Heights	765 W College St					10,000						0	0	40
NS	42281	La Plaza Cultura Village Project	527 N Spring St	345		44,000	11,000							690	345	110
NS	42361	Mixed Use	1335 W 1st St	101		3,514								202	101	7
NS	42443	Residential	401 N Boylston St	101										202	101	0
NS	42499	Mixed Use	737 S Spring St	320					25,000					640	320	50
NS	42527	Mixed Use	340 S Hill St	428			6,700							856	428	13
IC	42563	Retail (Palmetto & Mateo)	555 S Mateo St		90	11,000	5,600							180	90	33
NS	42628	Mixed Use	1800 E 7th St	122				12,278						244	122	49
NS	42665	520 Mateo	520 S Mateo St	350		14,000	14,000							700	350	56
NS	42671	Sapphire Mixed Use	1111 W 6th St	362		18,959	4,980		1,866					724	362	52
NS	42698	Mixed Use	732 S Spring St	400					15,000					800	400	30
NS	42715	Apartments	118 S Astronaut E.S. Onizuka St	77										154	77	0
	42971	Alexan South Broadway	850 S Hill St	300		3,500	3,500							600	300	14
C	43026	Mixed Use	360 S Alameda St	55			2,500	6,300						110	55	30
	43247	Medallion Phase 2	300 S Main St	471		5,190	27,780							942	471	66
NS	43417	Restaurant	500 S Mateo St				12,682							0	0	25
NS	43554	Clinic at 7th and Wall	649 S Wall St									55	66	0	0	191
	34699	Office Building	1130 W Wilshire Blvd											0	0	0
	34779	Embassy Tower	848 S Grand Ave		420	38,500								840	420	77
	34802	Mixed Use (Formerly known as Glass Tower)	1050 S Grand Ave		151	3,472								302	151	7
	35556	1902 – 1901 Marengo Mixed-Use	1902 E Marengo St			4,415								0	0	9
	31989	2005-CEN-1989 (Apex Ph 1)	900 S Figueroa St		629	27,000								1258	629	54

Table 3 – Cumulative Project List

Status	LADOT Project ID	Project Title	Address	Related Project Land Uses [a]										SCAG Model Categories		
				Apartments (units)	Condos (units)	Retail SF	Restaurant SF	Office SF	Other SF	Hotel Rooms	Industrial SF	Hospital Beds	Medical Office Employees	Number of Residents [a]	Number of Households [b]	Number of Employees [c]
	32870	TenTen Wilshire Expansion (The Icon)	1027 W Wilshire Blvd		402	4,728								804	402	9
	33242	Amacon Project	1133 S Hope St	208	5,029									10474	5237	0
	33243	5th and Olive (formerly Park Fifth)	437 S Hill St	615			16,309							1230	615	33
	33969	11th and Hill Project	1115 S Hill St		172		6,850							344	172	14
	34168	Stanford Regency Plaza	810 E Pico Blvd			181,620								0	0	363
	34520	Bixel & Lucas	1102 W 6th St	648		39,996								1296	648	80
	34561	Warehouse/Office/Manufacturing	1115 S Boyle Ave					76,576						0	0	306
	34656	Condominiums	742 S Hartford Ave		58									116	58	0
	34659	Mixed-use	1924 W Temple St	46	205									502	251	0
	35849	Medical Office Expansion	1828 E Cesar Chavez St					49,542						0	0	198
	40002	Linda Vista Senior Housing and Medical Office	610 S St. Louis St		97			33,000						194	97	132
	40016	Mixed-use	1435 W 3rd St	122		5,000								244	122	10
	40311	2012 Olympic & Hill MU Project	301 W Olympic Blvd	300		14,500	8,500							600	300	46
	40371	Metropolis Mixed-use	899 S Francisco St		836	46,000		988,225						1672	836	4045
	40665	Apartments	1027 S Olive St	100										200	100	0
	40692	Mixed-use (Valencia Project)	1501 W Wilshire Blvd	217		2,400	4,450							434	217	14
	40712	G12 Mixed-use	1200 S Grand Ave	640		45,000								1280	640	90
	40746	Mixed-use	928 S Broadway	662		47,000		34,824	11,000					1324	662	255
	40903	The City Market (mixed-use)	1057 S San Pedro St	877	68	224,862		294,641						1890	945	1628
	40923	Mixed-use	1329 W 7th	94		2,000								188	94	4
	41004	Charter High School	1552 W Rockwood St											0	0	0
	41207	Mixed-use	1000 S Grand Ave	274					12,000					548	274	24
	41288	1001 Olive Street Project	1001 S Olive St	225					5,000					450	225	10
	41295	950 E 3rd St	950 E 3rd St	635		30,062								1270	635	60
	41320	Hill Street Mixed-Use	920 Hill St	239		5,400								478	239	11
	41321	Broadway Mixed-use	955 S Broadway	201		6,000								402	201	12
	41406	Flower (1212) Mixed-use	1212 W Flower St		730	10,500		70,465						1460	730	303
	41567	Olympic & Olive Mixed-use Project	960 S Olive St	263				14,500						526	263	58
	41568	Variety Arts (Mixed-use)	940 S Figueroa St				10,056	3,295						0	0	33
	41625	Mixed-use	2051 E 7th St	240		8,000	12,000							480	240	40
	41695	Mixed-use	1148 S Broadway	94		2,500								188	94	5
	41710	Mixed-use Project (Herald Examiner)	1111 S Broadway	391		49,000		39,725						782	391	257
	41713	Apartments	1247 S Grand Ave	118		5,125								236	118	10
	41742	Mixed-use	1147 E Palmetto	120			20,000			141				240	120	40
	41774	DTLA South Park Site 1	1120 S Grand Ave	666					20,690					1332	666	41
	41775	DTLA South Park Site 4	1230 S Olive St	362		4,000								724	362	8
	41864	Restaurant	1036 S Grand Ave						7,149					0	0	14
	42026	Mixed-use	2030 E 7th St			40,000		243,000						0	0	1052
	42208	Mixed-use	2407 E 1st St	50		3,400		8,500						100	50	41
	42273	Residential	459 S Hartford Ave	94										188	94	0
	42388	Hotel & Apartments	675 S Bixel St	425		4,874				126				850	425	10
	42406	Spring St Hotel	633 S Spring St						13,720					0	0	27
	42500	Mixed-use	826 S Mateo St		90	11,000	5,600							180	90	33
	42504	Mixed-use	1145 W 7th St	100	126	7,200								452	226	14
	42561	Mixed-use	1150 W Wilshire Blvd	80			4,589							160	80	9
	42718	Apartments	1218 W Ingraham St	90										180	90	0
	42816	Hotel	1030 N Soto St							81				0	0	0
	43060	Charter School	211 S Avenue 20											0	0	0
	43131	Grand Residence	1229 S Grand Ave		161		3,000							322	161	6
	43328	Apartments	340 N Patton St	43										86	43	0
	43378	400 S Alameda Hotel	400 S Alameda St			840	2,130			66				0	0	6
	43497	LUXE Hotel Mixed-Use Project	1020 S Figueroa St		650	40,000	40,000			300				1300	650	160
	43563	LA Hotel	1625 W Palo Alto St							89				0	0	0
	43608	Hotel + Retail	649 S Olive St							241				0	0	0
	43627	Mixed-use	2130 E Violet St			7,450		84,200						0	0	352
	43794	Apartments	740 S Hartford Ave	80										160	80	0

Table 3 – Cumulative Project List

Status	LADOT Project ID	Project Title	Address	Related Project Land Uses [a]										SCAG Model Categories		
				Apartments (units)	Condos (units)	Retail SF	Restaurant SF	Office SF	Other SF	Hotel Rooms	Industrial SF	Hospital Beds	Medical Office Employees	Number of Residents [a]	Number of Households [b]	Number of Employees [c]
	43861	1322 Linwood Apts	1322 W Linwood Ave	84										168	84	0
	43871	Mixed-use	719 E 5th St	160		10,057								320	160	20
	43880	Apex II Mixed-use	700 W 9th St		629	27,000								1258	629	54
	44072	Mixed-use Project	929 E 2nd St			41,019			7,843					0	0	98
	44145	Mixed-use (Lifan Tower)	1235 W 7th St		303	5,959								606	303	12
	44220	940 S Hill MU	940 S Hill St	232			14,000							464	232	28
													TOTAL	71,000	36,000	25,000

Note: Complete projects were included as the SCAG RTP base year is 2008
[a] Multiplier for residents was 2 residents per dwelling unit
[b] Multiplier for households was 1 household per dwelling unit
[c] Multiplier for retail, restaurant, office, other, and industrial land uses were 500sf, 500sf, 250sf, 500sf, and 1000sf per employee.

Land Use Growth Comparison

Source	Number of Residents	Number of Households	Number of Employees
SCAG 2016 RTP Growth [a]			
LADOT Related Project Land Use			

Notes: [a] Represents growth within the TAZ's encompassed by LADOTs related projects

Attachment A

Link US - Project Description Summary

Link Union Station (Link US or Project) is located at Los Angeles Union Station (LAUS), at 800 North Alameda Street in the City of Los Angeles, California. LAUS is generally bounded by U.S. 101 to the south, Alameda Street to the west, Cesar E. Chavez Avenue to the north, and North Vignes Street to the east. Figure A-1 depicts the regional location and general vicinity of the Project.

Figure A-2 depicts the Project Study Area which encompasses the anticipated extent of environmental study associated with the Project. The general limits of the Project Study Area are North Main Street and the at-grade crossing just north of Control Point (CP) Chavez located on the Southern California Regional Rail Authority (SCRRA or Metrolink) River Subdivision – West Bank Line, the west bank of the Los Angeles River extending from North Main Street to CP Olympic south of the Interstate 10/State Route 60/U.S. 101 interchange, and North Alameda Street, Temple Street, Santa Fe Avenue, and the western edge of the railroad ROW.
The Project Study Area has a very dense street network ranging from major highways to local city streets. The roadways within the Project Study Area that could potentially be impacted by the Project include: the El Monte Busway, U.S. 101, Cesar E. Chavez Avenue, Commercial Street, Ducommun Street, Jackson Street, East Temple Street, Banning Street, First Street, Alameda Street, Garey Street, North Vignes Street, Aliso Street, Avila Street, Bauchet Street, and Center Street.

LAUS is a stub-ended terminal station dating from 1939 and is approaching its operational capacity at peak transit periods. Currently, arriving and departing trains at LAUS are forced to use a one way in, one way out system of tracks that reduces functionality, and limits Metro's ability to expand operations to meet the growing demands. At LAUS, according to data collected by Metro, there are approximately 110,000 passenger trips that currently travel through LAUS each weekday. Metro anticipates continued increases in population and employment will nearly double the demand on existing and planned modes of transportation; resulting in over 200,000 passenger trips through LAUS each weekday by 2040 (Transforming LAUS Summary Report, Metro 2015). The Link US project does not generate the forecasted increase in passenger trips; it only provides the additional rail infrastructure to meet the forecasted passenger trip increases. It is unknown when the regional rail operators will need to start incremental increases in passenger trips.

The Los Angeles County Metropolitan Transportation Authority (Metro) is proposing Link US, formerly known as the Southern California Regional Interconnector Project (SCRIP) to transform LAUS from a "stub-end tracks station" into a "run-through tracks station". Link US would result in enhanced operational capacity from CP Chavez to the north (near North Main Street) to CP Olympic to the south (near the Interstate 10/State Route 60/U.S. 101 interchange) and increased capacity within the proposed passenger concourse. Major project components are described below:

- ***Throat and Elevated Rail Yard*** – Link US includes new track and subgrade improvements in the throat segment to increase the elevation of the tracks leading to the LAUS rail yard (throat reconstruction). The throat would be reconstructed in the interim condition with a shared or dedicated track alignment for regional/intercity trains and High-Speed Rail trains north of LAUS. Link US also includes new passenger platforms and canopies on the elevated rail yard; with an underlying assumption that multiple track and platform configuration options could be implemented in the full build-out condition.

- ***Proposed Passenger Concourse*** – To meet the requirements of a multi-modal modern station, Link US includes a new passenger concourse that would include space dedicated for passenger circulation and waiting areas with ancillary support functions ("back of house" uses, baggage handling, etc.), transit-serving retail, office/commercial uses, and civic/cultural open spaces and terraces. The new passenger concourse would create an opportunity for an outdoor, community-oriented space and enhance Americans with Disabilities Act (ADA) accessibility at LAUS with new vertical circulation elements such as stairs, escalators, and elevators. The new passenger concourse would be constructed at-grade or above-grade.

- ***Run-Through Tracks*** – Link US includes up to ten new run-through tracks (including a new loop track) that would be constructed on a common structure/deck over US-101. Regional/intercity rail (Metrolink/Amtrak) run-through tracks would be constructed in the interim condition, and multiple run-through track configuration options that accommodate the planned HSR system (with a maximum of ten run-through tracks) could be implemented in the full build-out condition.

Link US would also require modifications to two (2) existing bridges at North Vignes Street and Cesar E. Chavez Avenue to accommodate new elevated tracks; modifications to U.S. 101 and local streets (including potential street closures and vacations) to accommodate the run-through tracks overhead viaducts; railroad signal, positive train control (PTC), and communications-related improvements; modifications to the Gold Line light rail platform and tracks; modifications to the SCRRA West Bank main line tracks; modifications to the BNSF Railway West Bank Yard; modifications to the Amtrak lead track; new access roadways to the railroad right-of-way (ROW); additional ROW; new utilities; and utility relocations, replacements, and abandonments.

Figure A-1. Project Location and Regional Vicinity

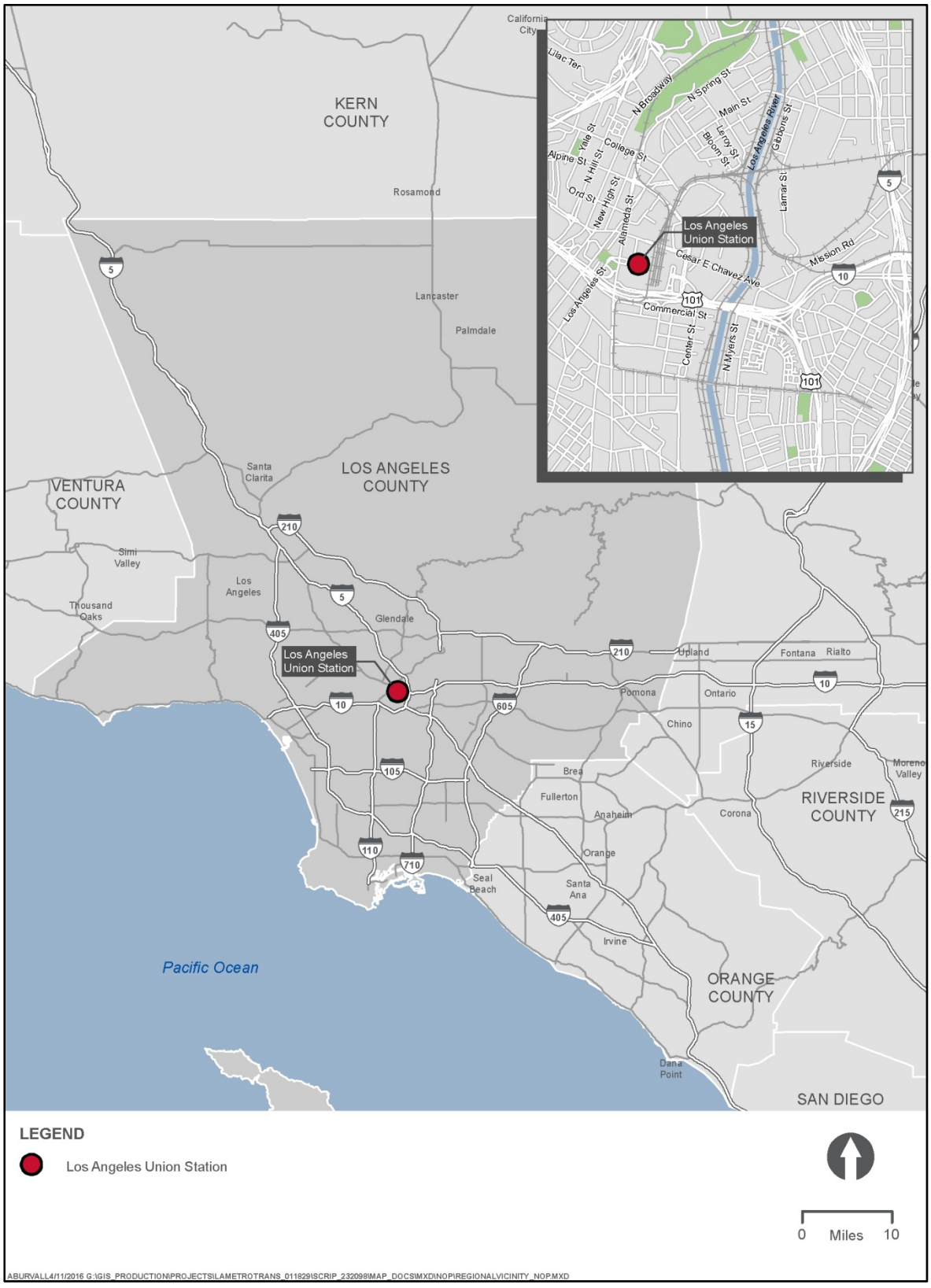
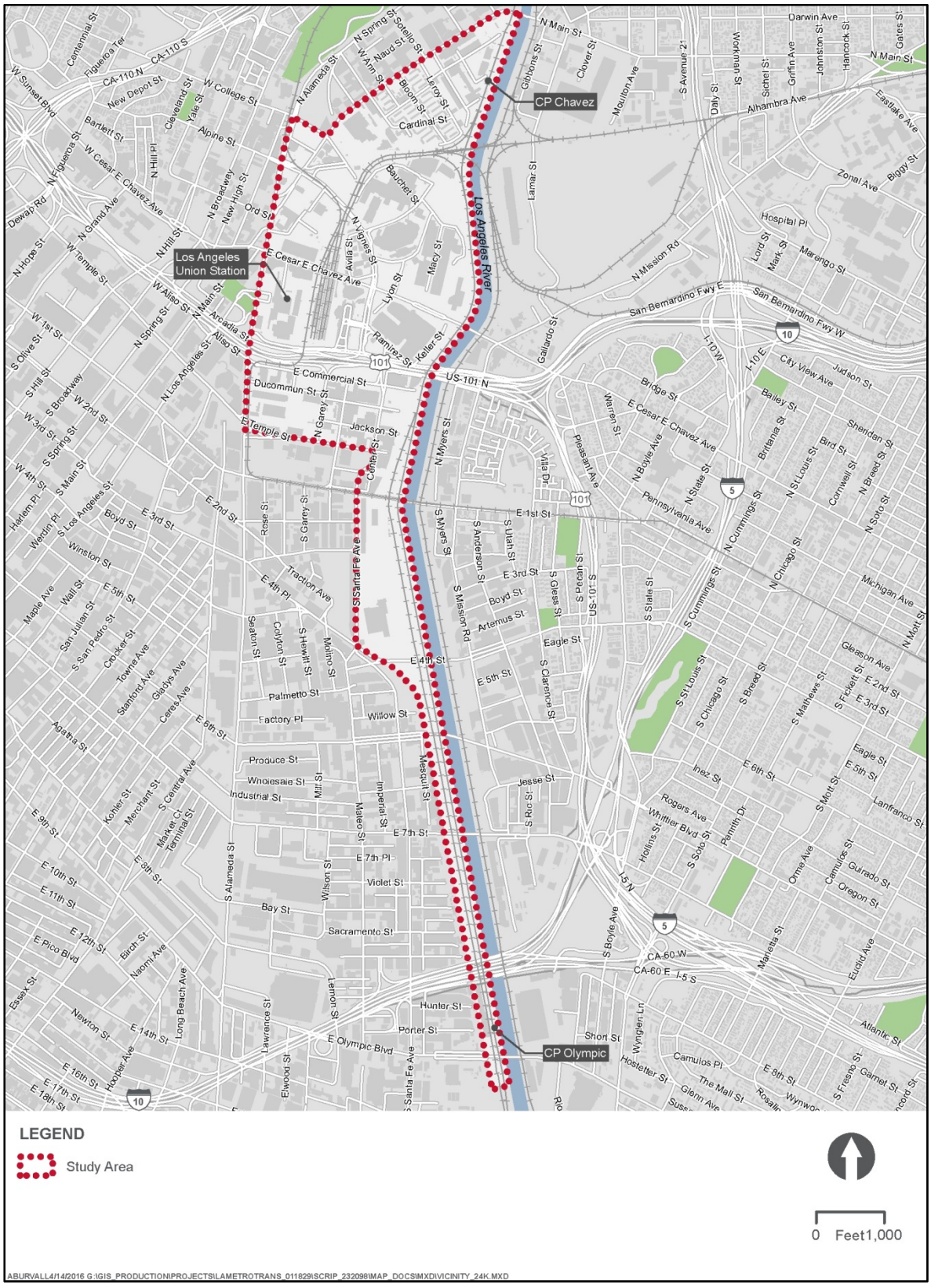


Figure A-2. Link US – Project Study Area



Attachment B

Link US Study Intersections – Impact Analysis Locations

Int #	North/South Street	East/West Street
Study Intersections		
1	N. Alameda Street	E. Commercial Street
2	N. Garey Street/US-101 SB Ramps	E. Commercial Street
3	N. Vignes Street	E. Commercial Street
4	Center Street	E. Commercial Street
5	N. Alameda Street	E. Temple Street
6	N. Vignes Street	E. Temple Street
7	N. Alameda Street	E. 1st Street
8	N. Vignes Street	E. 1st Street
9	N. Alameda Street	El Monte Busway (2)
10	N. Alameda Street	Los Angeles Street (2)
11	N. Alameda Street	Cesar E Chavez Avenue
12	N. Alameda Street	N. Vignes Street/Alpine Street
13	N. Vignes Street	Cesar E Chavez Avenue
14	N. Vignes Street	Ramirez Street
15	N. Vignes Street	N. Main Street
16	N. Alameda Street / N. Spring Street	W. College Street
17	N. Alameda Street	N. Main Street/Ord Street
18	N. Alameda Street	N. Main Street/Bauchet Street
19	N. Main Street	Cesar Chavez Avenue
20	N. Alameda Street	NB SR-101
21	N. Los Angeles Street	Arcadia Street
22	N. Los Angeles Street	E. Aliso Street
23	N. Los Angeles Street	Temple Street
24	N. Los Angeles Street	1st Street
25	Judge John Aiso Street/San Pedro	Temple Street
26	Judge John Aiso Street/San Pedro Street	1st Street
27	Mission Road	Cesar Chavez Avenue
28	Mission Road	1st Street
29	Central Avenue	1st Street
30	N. Vignes Street	Bauchet Street
31	Ramirez Street	Center Street

Appendix B:
Intersection Peak Hour Turning Movement Counts

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City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South N Garey St

East/West E Commercial St

Day: Thursday Date: November 5, 2015 Weather: SUNNY

Hours: 6-9 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	22	143	62	67
BIKES	1	0	0	2
BUSES	0	71	25	27

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	22	7.45	169	6.00	57	8.00	63	8.15
PM PK 15 MIN	142	17.15	95	15.00	135	15.00	108	16.00
AM PK HOUR	66	7.00	519	6.00	196	7.15	232	7.30
PM PK HOUR	477	16.30	329	15.00	477	15.45	350	16.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	3	32	0	35
7-8	11	47	8	66
8-9	13	32	3	48
15-16	5	224	11	240
16-17	12	332	16	360
17-18	22	418	24	464
TOTAL	66	1085	62	1213

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	240	65	214	519
7-8	181	47	182	410
8-9	214	60	197	471
15-16	127	23	179	329
16-17	103	13	146	262
17-18	115	22	149	286
TOTAL	980	230	1067	2277

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
554	4	0	0	1
476	2	0	0	0
519	1	0	0	0
569	5	0	0	0
622	4	0	0	0
750	6	0	0	0
3490	22	0	0	1

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	118	30	5	153
7-8	126	37	8	171
8-9	131	33	9	173
15-16	391	67	11	469
16-17	393	53	16	462
17-18	272	64	11	347
TOTAL	1431	284	60	1775

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	4	77	118	199
7-8	8	99	105	212
8-9	7	115	92	214
15-16	4	50	216	270
16-17	4	51	295	350
17-18	1	44	245	290
TOTAL	28	436	1071	1535

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
352	0	0	0	0
383	0	0	0	0
387	0	0	0	0
739	0	0	0	0
812	0	0	0	0
637	0	0	0	0
3310	0	0	0	0

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

N Garey St and E Commercial St , Los Angeles

Date: 11/5/2015
Day: Thursday

Project #: 15-5663-002
City: Los Angeles

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	430 PM

Total Peak Hour Summary

Southbound Approach (N Garey St)

Lanes	1	1	0		
AM	180	59	197	288	AM
NOON	0	0	0	0	NOON
PM	164	19	100	1080	PM

Eastbound Approach (E Commercial St)

Lanes	AM	NOON	PM
	311	0	227
2	147	0	350
1	37	0	66
0	8	0	16
Lanes	AM	NOON	PM

Westbound Approach

	AM	NOON	PM	Lanes
	104	0	290	0
	118	0	44	2
	10	0	1	1
	241	0	184	
	AM	NOON	PM	

CONTROL: Signalized

Northbound Approach

AM	77	13	37	7	AM
NOON	0	0	0	0	NOON
PM	36	19	440	18	PM
		0	2	0	Lanes

Count Periods	Start	End
AM	6:00 AM	9:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs

North Leg		
436	288	AM
0	0	NOON
283	1080	PM

West Leg			East Leg		
AM	NOON	PM			
311	0	227	232	0	335
192	0	432	241	0	184
			AM	NOON	PM

South Leg	
77	57
0	0
36	477

Total Volume Per Leg

North Leg	
724	AM
0	NOON
1363	PM

West Leg			East Leg		
AM	NOON	PM			
503	0	659	473	0	519
			AM	NOON	PM

South Leg
134
0
513

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-002

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	N Garey St			N Garey St			E Commercial St			E Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	1	1	2	1	0	1	2	0	
6:00 AM	0	6	0	76	20	73	34	9	1	1	21	34	275
6:15 AM	0	6	0	70	17	68	34	3	0	0	19	29	246
6:30 AM	0	13	0	50	20	37	23	9	1	2	18	36	209
6:45 AM	3	7	0	44	8	36	27	9	3	1	19	19	176
7:00 AM	2	13	1	48	14	49	18	9	5	2	20	21	202
7:15 AM	2	8	1	40	9	48	36	12	1	2	24	34	217
7:30 AM	6	9	2	48	11	49	34	4	1	1	29	27	221
7:45 AM	1	17	4	45	13	36	38	12	1	3	26	23	219
8:00 AM	4	8	0	54	20	45	39	12	6	1	33	26	248
8:15 AM	2	3	1	50	15	50	36	9	0	5	30	28	229
8:30 AM	6	10	1	46	12	49	32	6	1	1	33	17	214
8:45 AM	1	11	1	64	13	53	24	6	2	0	19	21	215
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	27	111	11	635	172	593	375	100	22	19	291	315	2671
APPROACH %'s :	18.12%	74.50%	7.38%	45.36%	12.29%	42.36%	75.45%	20.12%	4.43%	3.04%	46.56%	50.40%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	13	37	7	197	59	180	147	37	8	10	118	104	917
PEAK HR FACTOR :		0.648			0.916			0.842			0.921		0.924

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-002

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/5/2015

PM

NS/EW Streets:	N Garey St			N Garey St			E Commercial St			E Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	1	1	2	1	0	1	2	0	
3:00 PM	1	40	5	33	6	56	109	21	5	1	15	48	340
3:15 PM	2	64	1	34	7	39	89	15	1	0	9	41	302
3:30 PM	1	66	2	28	5	42	99	18	2	2	12	70	347
3:45 PM	1	54	3	32	5	42	94	13	3	1	14	57	319
4:00 PM	2	83	4	28	1	37	109	14	1	3	18	87	387
4:15 PM	2	63	6	32	3	33	92	16	4	1	10	57	319
4:30 PM	4	88	6	23	5	41	109	14	8	0	9	91	398
4:45 PM	4	98	0	20	4	35	83	9	3	0	14	60	330
5:00 PM	5	127	3	21	7	41	96	25	4	1	17	66	413
5:15 PM	6	127	9	36	3	47	62	18	1	0	4	73	386
5:30 PM	6	82	9	26	6	28	64	9	5	0	11	54	300
5:45 PM	5	82	3	32	6	33	50	12	1	0	12	52	288
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	39	974	51	345	58	474	1056	184	38	9	145	756	4129
APPROACH %'s :	3.67%	91.54%	4.79%	39.34%	6.61%	54.05%	82.63%	14.40%	2.97%	0.99%	15.93%	83.08%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	19	440	18	100	19	164	350	66	16	1	44	290	1527
PEAK HR FACTOR :		0.840			0.823			0.824			0.838		0.924

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-002 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Garey St			N Garey St			E Commercial St			E Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	1	1	2	1	0	1	2	0	
6:00 AM	0	6	0	72	19	68	33	9	1	1	21	33	263
6:15 AM	0	6	0	68	16	66	32	3	0	0	18	24	233
6:30 AM	0	13	0	42	20	35	18	7	1	2	17	35	190
6:45 AM	2	7	0	37	7	36	26	8	3	1	19	18	164
7:00 AM	1	12	0	41	13	49	18	7	5	2	18	19	185
7:15 AM	2	8	1	33	8	48	36	8	1	2	24	30	201
7:30 AM	5	8	1	42	10	48	28	2	1	1	28	24	198
7:45 AM	1	14	4	39	13	35	36	11	1	3	24	18	199
8:00 AM	3	8	0	45	19	40	35	9	6	1	31	22	219
8:15 AM	2	3	1	43	15	48	35	4	0	5	26	24	206
8:30 AM	5	10	1	36	12	40	30	5	1	1	31	16	188
8:45 AM	1	8	1	56	13	46	18	4	2	0	14	18	181
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	22	103	9	554	165	559	345	77	22	19	271	281	2427
APPROACH %'s :	16.42%	76.87%	6.72%	43.35%	12.91%	43.74%	77.70%	17.34%	4.95%	3.33%	47.46%	49.21%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	11	33	6	169	57	171	134	26	8	10	109	88	822
PEAK HR FACTOR :		0.658			0.936			0.840			0.941		0.938

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-002 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Garey St			N Garey St			E Commercial St			E Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	1	1	2	1	0	1	2	0	
3:00 PM	1	38	5	28	5	52	107	20	5	1	14	47	323
3:15 PM	2	63	1	29	5	37	86	13	1	0	7	40	284
3:30 PM	1	66	2	25	4	38	94	15	2	2	9	68	326
3:45 PM	1	54	3	29	5	41	94	13	3	1	13	55	312
4:00 PM	2	83	4	22	1	34	108	13	1	2	18	84	372
4:15 PM	2	63	6	26	3	31	91	16	3	1	10	52	304
4:30 PM	4	87	5	16	3	39	109	14	8	0	9	88	382
4:45 PM	4	98	0	17	4	33	82	9	3	0	14	57	321
5:00 PM	5	126	3	17	7	40	93	20	4	0	17	64	396
5:15 PM	6	127	9	30	3	46	60	18	1	0	4	70	374
5:30 PM	6	82	9	19	6	26	63	9	5	0	11	52	288
5:45 PM	5	81	3	25	6	33	50	10	1	0	11	49	274
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	39	968	50	283	52	450	1037	170	37	7	137	726	3956
APPROACH %'s :	3.69%	91.58%	4.73%	36.05%	6.62%	57.32%	83.36%	13.67%	2.97%	0.80%	15.75%	83.45%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	19	438	17	80	17	158	344	61	16	0	44	279	1473
PEAK HR FACTOR :		0.835			0.807			0.803			0.832		0.930

CONTROL : Signalized

City Of Los Angeles
Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:
North/South N Vignes St

East/West E Commercial St

Day: Thursday Date: November 5, 2015 Weather: SUNNY

Hours: 6-9 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	37	0	102	78
BIKES	5	0	1	5
BUSES	80	0	81	95

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	38	7.45	0	0.00	86	6.00	75	6.00
PM PK 15 MIN	76	17.30	0	0.00	60	17.15	102	16.00
AM PK HOUR	115	7.45	0	0.00	271	6.00	258	7.15
PM PK HOUR	267	17.00	0	0.00	204	15.00	325	15.30

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	25	0	51	76
7-8	51	0	51	102
8-9	51	0	58	109
15-16	41	0	77	118
16-17	79	0	105	184
17-18	96	0	171	267
TOTAL	343	0	513	856

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	0	0	0	0
7-8	0	0	0	0
8-9	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
76	5	0	0	0
102	4	0	1	0
109	1	0	0	0
118	5	0	0	0
184	5	0	1	0
267	7	0	0	0
856	27	0	2	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	0	245	26	271
7-8	0	193	26	219
8-9	0	223	26	249
15-16	0	171	33	204
16-17	1	157	13	171
17-18	0	183	18	201
TOTAL	1	1172	142	1315

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	69	177	0	246
7-8	86	161	0	247
8-9	75	165	0	240
15-16	47	231	0	278
16-17	41	273	0	314
17-18	45	195	0	240
TOTAL	363	1202	0	1565

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
517	0	0	1	0
466	0	0	2	0
489	0	0	2	0
482	0	0	1	0
485	0	0	4	0
441	0	0	2	0
2880	0	0	12	0

ITM Peak Hour Summary

Prepared by:

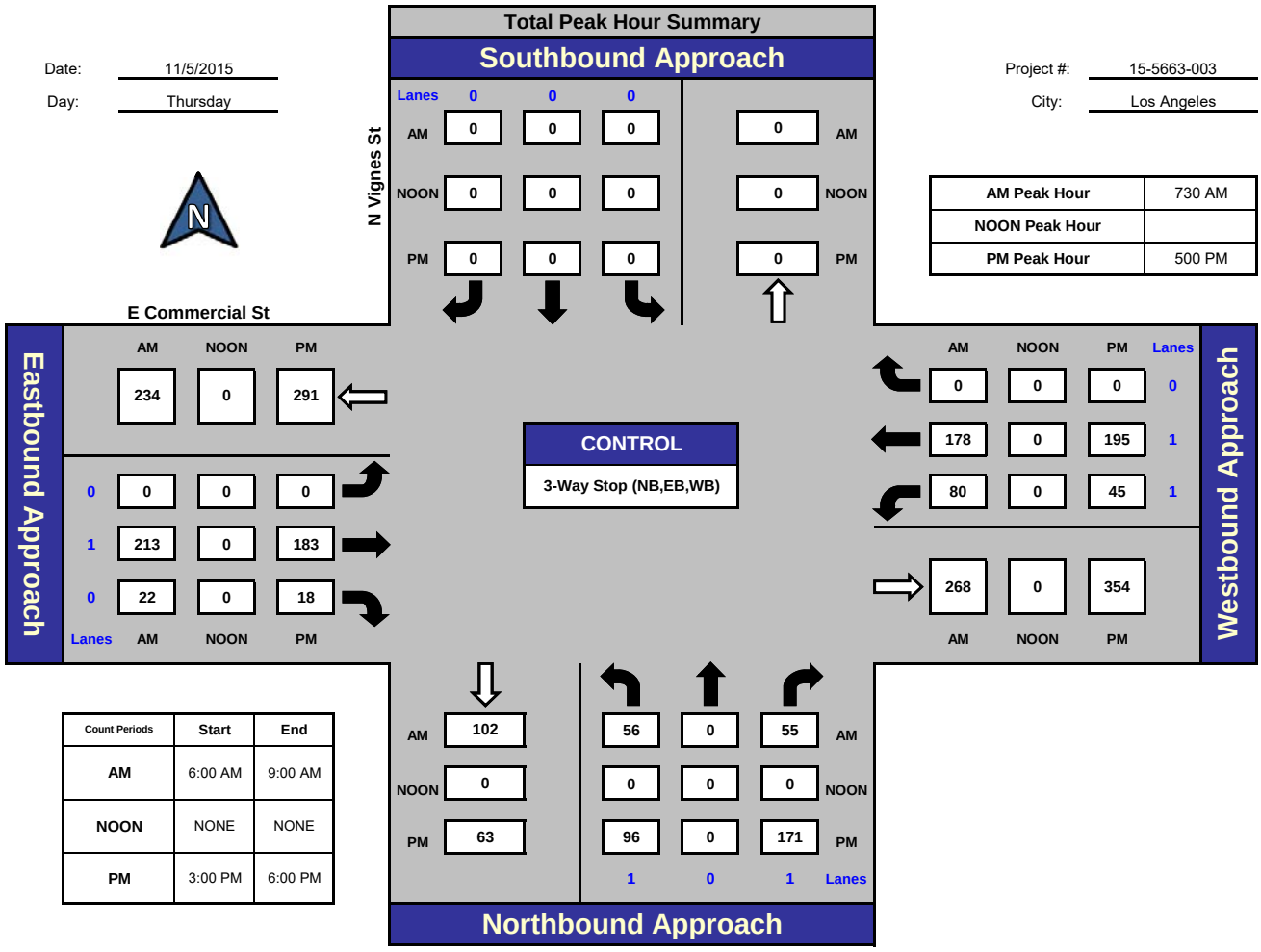
National Data & Surveying Services

N Vignes St and E Commercial St , Los Angeles

Date: 11/5/2015
Day: Thursday

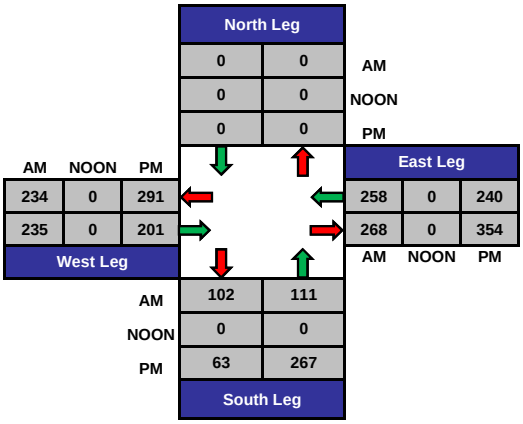
Project #: 15-5663-003
City: Los Angeles

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	500 PM

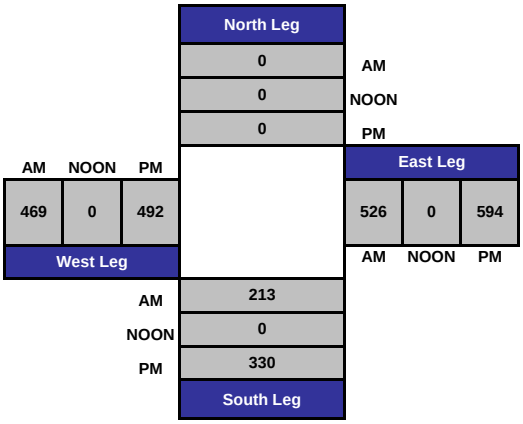


Count Periods	Start	End
AM	6:00 AM	9:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-003

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	N Vignes St			N Vignes St			E Commercial St			E Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	0	1	0	0	0	0	1	0	1	1	0	
6:00 AM	3	0	10	0	0	0	0	79	7	21	54	0	174
6:15 AM	6	0	15	0	0	0	0	67	5	14	45	0	152
6:30 AM	6	0	10	0	0	0	0	55	4	14	48	0	137
6:45 AM	10	0	16	0	0	0	0	44	10	20	30	0	130
7:00 AM	5	0	11	0	0	0	0	51	4	18	39	0	128
7:15 AM	12	0	12	0	0	0	0	46	8	24	47	0	149
7:30 AM	15	0	9	0	0	0	0	44	7	23	45	0	143
7:45 AM	19	0	19	0	0	0	0	52	7	21	30	0	148
8:00 AM	13	0	15	0	0	0	0	62	5	17	51	0	163
8:15 AM	9	0	12	0	0	0	0	55	3	19	52	0	150
8:30 AM	15	0	13	0	0	0	0	45	10	24	35	0	142
8:45 AM	14	0	18	0	0	0	0	61	8	15	27	0	143
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	127	0	160	0	0	0	0	661	78	230	503	0	1759
APPROACH %'s :	44.25%	0.00%	55.75%	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	89.45%	10.55%	31.38%	68.62%	0.00%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	56	0	55	0	0	0	0	213	22	80	178	0	604
PEAK HR FACTOR :		0.730			0.000			0.877			0.908		0.926

CONTROL : 3-Way Stop (NB,EB,WB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-003 **Day:** Thursday

City: Los Angeles **Date:** 11/5/2015

TOTALS

PM

NS/EW Streets:	N Vignes St			N Vignes St			E Commercial St			E Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	0	1	0	0	0	0	1	0	1	1	0	
3:00 PM	10	0	16	0	0	0	0	53	4	8	56	0	147
3:15 PM	6	0	15	0	0	0	0	40	9	13	47	0	130
3:30 PM	10	0	18	0	0	0	0	40	8	13	71	0	160
3:45 PM	15	0	28	0	0	0	0	38	12	13	57	0	163
4:00 PM	19	0	23	0	0	0	0	41	4	13	89	0	189
4:15 PM	12	0	23	0	0	0	0	49	3	11	58	0	156
4:30 PM	22	0	35	0	0	0	1	37	5	11	73	0	184
4:45 PM	26	0	24	0	0	0	0	30	1	6	53	0	140
5:00 PM	25	0	37	0	0	0	0	42	5	12	59	0	180
5:15 PM	22	0	32	0	0	0	0	54	6	21	53	0	188
5:30 PM	24	0	52	0	0	0	0	43	4	5	42	0	170
5:45 PM	25	0	50	0	0	0	0	44	3	7	41	0	170
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	216	0	353	0	0	0	1	511	64	133	699	0	1977
APPROACH %'s :	37.96%	0.00%	62.04%	#DIV/0!	#DIV/0!	#DIV/0!	0.17%	88.72%	11.11%	15.99%	84.01%	0.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	96	0	171	0	0	0	0	183	18	45	195	0	708
PEAK HR FACTOR :		0.878			0.000			0.838			0.811		0.941

CONTROL : 3-Way Stop (NB,EB,WB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-003 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Vignes St			N Vignes St			E Commercial St			E Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	0	1	0	0	0	0	1	0	1	1	0	
6:00 AM	3	0	6	0	0	0	0	72	7	19	52	0	159
6:15 AM	5	0	11	0	0	0	0	65	5	10	40	0	136
6:30 AM	5	0	8	0	0	0	0	46	4	12	47	0	122
6:45 AM	10	0	11	0	0	0	0	36	10	16	29	0	112
7:00 AM	5	0	6	0	0	0	0	44	2	16	34	0	107
7:15 AM	12	0	7	0	0	0	0	34	8	13	44	0	118
7:30 AM	14	0	7	0	0	0	0	38	5	18	42	0	124
7:45 AM	19	0	10	0	0	0	0	44	7	19	23	0	122
8:00 AM	13	0	10	0	0	0	0	51	5	12	43	0	134
8:15 AM	8	0	10	0	0	0	0	44	3	16	48	0	129
8:30 AM	15	0	7	0	0	0	0	35	9	18	32	0	116
8:45 AM	12	0	12	0	0	0	0	51	8	12	21	0	116
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	121	0	105	0	0	0	0	560	73	181	455	0	1495
APPROACH %'s :	53.54%	0.00%	46.46%				0.00%	88.47%	11.53%	28.46%	71.54%	0.00%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	54	0	37	0	0	0	0	177	20	65	156	0	509
PEAK HR FACTOR :	0.784			0.000			0.879			0.863			0.950

CONTROL : 3-Way Stop (NB,EB,WB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-003 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Vignes St			N Vignes St			E Commercial St			E Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	0	1	0	0	0	0	1	0	1	1	0	
3:00 PM	10	0	12	0	0	0	0	47	4	6	52	0	131
3:15 PM	6	0	13	0	0	0	0	33	9	9	45	0	115
3:30 PM	10	0	12	0	0	0	0	34	8	10	67	0	141
3:45 PM	15	0	21	0	0	0	0	36	11	8	53	0	144
4:00 PM	19	0	21	0	0	0	0	34	4	11	87	0	176
4:15 PM	12	0	17	0	0	0	0	43	3	5	53	0	133
4:30 PM	22	0	32	0	0	0	1	30	5	8	71	0	169
4:45 PM	26	0	16	0	0	0	0	26	1	3	49	0	121
5:00 PM	25	0	32	0	0	0	0	34	5	8	57	0	161
5:15 PM	22	0	31	0	0	0	0	47	6	19	50	0	175
5:30 PM	24	0	46	0	0	0	0	36	4	3	40	0	153
5:45 PM	24	0	45	0	0	0	0	35	3	6	36	0	149
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	215	0	298	0	0	0	1	435	63	96	660	0	1768
APPROACH %'s :	41.91%	0.00%	58.09%				0.20%	87.17%	12.63%	12.70%	87.30%	0.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	95	0	154	0	0	0	0	152	18	36	183	0	638
PEAK HR FACTOR :	0.889			0.000			0.802			0.793			0.911

CONTROL : 3-Way Stop (NB,EB,WB)

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Center St

East/West E Commercial St

Day: Thursday Date: November 5, 2015 Weather: SUNNY

Hours: 6-9 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	179	137	134	22
BIKES	33	29	7	0
BUSES	128	186	159	0

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	133	7.30	135	8.15	91	6.00	10	7.00
PM PK 15 MIN	172	17.15	147	16.30	102	17.45	20	15.30
AM PK HOUR	429	7.30	514	7.30	300	6.00	25	7.00
PM PK HOUR	654	17.00	508	16.00	368	17.00	46	15.15

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	43	209	9	261
7-8	52	351	9	412
8-9	69	338	8	415
15-16	55	388	7	450
16-17	50	513	8	571
17-18	39	610	5	654
TOTAL	308	2409	46	2763

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	16	178	196	390
7-8	13	279	186	478
8-9	6	302	181	489
15-16	8	180	211	399
16-17	8	250	250	508
17-18	4	229	188	421
TOTAL	55	1418	1212	2685

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
651	4	0	3	0
890	3	0	4	0
904	2	0	0	0
849	5	0	1	0
1079	7	0	2	0
1075	6	0	0	0
5448	27	0	10	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	232	12	56	300
7-8	191	5	53	249
8-9	178	5	81	264
15-16	181	13	48	242
16-17	209	5	56	270
17-18	307	5	56	368
TOTAL	1298	45	350	1693

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	2	5	5	12
7-8	4	10	11	25
8-9	2	4	5	11
15-16	12	14	12	38
16-17	7	8	23	38
17-18	5	4	4	13
TOTAL	32	45	60	137

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
312	2	0	5	0
274	1	0	6	0
275	2	0	7	0
280	4	0	15	0
308	2	0	13	0
381	2	0	5	0
1830	13	0	51	0

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Center St and E Commercial St , Los Angeles

Date: 11/5/2015
Day: Thursday

Project #: 15-5663-004
City: Los Angeles

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	430 PM

Count Periods	Start	End
AM	6:00 AM	9:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Peak Hour Summary

Southbound Approach (Center St)

	Lanes	1	1	1		
AM		189	316	9	543	AM
NOON		0	0	0	0	NOON
PM		228	246	7	850	PM

Eastbound Approach (E Commercial St)

	AM	NOON	PM	Lanes
	263	0	283	
	184	0	244	0
	4	0	5	1
	72	0	55	0
Lanes	AM	NOON	PM	

Westbound Approach

	AM	NOON	PM	Lanes
	7	0	13	0
	4	0	6	1
	3	0	6	0
	20	0	19	
	AM	NOON	PM	

CONTROL: 4-Way Stop

Northbound Approach

AM	391	70	352	7
NOON	0	0	0	0
PM	307	49	593	7
Lanes		1	2	0

Total Ins & Outs

	AM	NOON	PM
North Leg	514	0	481
	543	0	850
East Leg	14	0	25
	20	0	19
West Leg	263	0	283
	260	0	304
South Leg	391	0	307
	429	0	649

Total Volume Per Leg

	AM	NOON	PM
North Leg	1057	0	1331
East Leg	34	0	44
West Leg	523	0	587
South Leg	820	0	956

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-004 **Day:** Thursday

TOTALS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	Center St			Center St			E Commercial St			E Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	1	1	0	1	0	0	1	0	
6:00 AM	7	35	0	3	32	62	72	3	16	0	2	0	232
6:15 AM	6	51	2	4	34	49	68	5	11	0	2	0	232
6:30 AM	22	69	2	3	53	41	50	4	11	0	1	1	257
6:45 AM	8	54	5	6	59	44	42	0	18	2	0	4	242
7:00 AM	12	82	3	4	60	46	51	1	13	2	3	5	282
7:15 AM	12	89	1	3	64	49	51	2	9	0	5	1	286
7:30 AM	19	112	2	3	76	50	37	2	14	0	1	1	317
7:45 AM	9	68	3	3	79	41	52	0	17	2	1	4	279
8:00 AM	19	78	1	2	78	47	49	1	25	1	0	0	301
8:15 AM	23	94	1	1	83	51	46	1	16	0	2	2	320
8:30 AM	9	79	3	2	69	48	39	1	12	1	2	1	266
8:45 AM	18	87	3	1	72	35	44	2	28	0	0	2	292
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	164	898	26	35	759	563	601	22	190	8	19	21	3306
APPROACH %'s :	15.07%	82.54%	2.39%	2.58%	55.93%	41.49%	73.92%	2.71%	23.37%	16.67%	39.58%	43.75%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	70	352	7	9	316	189	184	4	72	3	4	7	1217
PEAK HR FACTOR :		0.806			0.952			0.867			0.500		0.951

CONTROL : 4-Way Stop

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-004 **Day:** Thursday

TOTALS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	Center St			Center St			E Commercial St			E Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	1	1	0	1	0	0	1	0	
3:00 PM	17	97	1	4	34	45	44	3	19	1	1	2	268
3:15 PM	11	77	3	1	45	44	43	1	11	1	2	4	243
3:30 PM	11	99	2	2	54	72	47	3	9	7	8	5	319
3:45 PM	16	115	1	1	47	50	47	6	9	3	3	1	299
4:00 PM	13	113	2	0	56	85	54	1	15	2	1	9	351
4:15 PM	14	118	3	2	63	48	51	1	20	1	2	4	327
4:30 PM	10	145	3	2	71	74	62	2	10	3	4	9	395
4:45 PM	13	137	0	4	60	43	42	1	11	1	1	1	314
5:00 PM	18	149	2	0	45	49	71	2	13	0	0	2	351
5:15 PM	8	162	2	1	70	62	69	0	21	2	1	1	399
5:30 PM	8	150	0	3	65	39	83	0	7	3	1	0	359
5:45 PM	5	149	1	0	49	38	84	3	15	0	2	1	347
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	144	1511	20	20	659	649	697	23	160	24	26	39	3972
APPROACH %'s :	8.60%	90.21%	1.19%	1.51%	49.62%	48.87%	79.20%	2.61%	18.18%	26.97%	29.21%	43.82%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	49	593	7	7	246	228	244	5	55	6	6	13	1459
PEAK HR FACTOR :		0.943			0.818			0.844			0.391		0.914

CONTROL : 4-Way Stop

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-004 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	Center St			Center St			E Commercial St			E Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	1	1	0	1	0	0	1	0	
6:00 AM	6	28	0	3	29	59	62	2	16	0	1	0	206
6:15 AM	6	45	2	4	27	41	63	5	10	0	1	0	204
6:30 AM	22	61	2	3	48	37	42	4	9	0	1	1	230
6:45 AM	8	46	5	5	52	40	32	0	16	0	0	4	208
7:00 AM	10	72	3	4	54	38	40	1	12	1	3	5	243
7:15 AM	10	78	1	3	55	43	33	1	8	0	1	1	234
7:30 AM	16	90	1	3	66	45	30	1	14	0	0	1	267
7:45 AM	7	59	2	3	74	35	36	0	15	1	0	4	236
8:00 AM	16	69	1	2	68	39	36	1	22	1	0	0	255
8:15 AM	21	81	0	1	73	44	34	0	15	0	1	2	272
8:30 AM	8	69	2	1	60	42	24	1	12	1	2	1	223
8:45 AM	17	74	3	0	57	27	28	2	27	0	0	2	237
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	147	772	22	32	663	490	460	18	176	4	10	21	2815
APPROACH %'s :	15.62%	82.04%	2.34%	2.70%	55.95%	41.35%	70.34%	2.75%	26.91%	11.43%	28.57%	60.00%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	60	299	4	9	281	163	136	2	66	2	1	7	1030
PEAK HR FACTOR :		0.848			0.960			0.864			0.500		0.947

CONTROL : 4-Way Stop

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-004 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	Center St			Center St			E Commercial St			E Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	1	1	0	1	0	0	1	0	
3:00 PM	17	91	1	4	29	43	38	3	16	1	0	2	245
3:15 PM	11	66	3	1	36	39	36	1	9	1	1	4	208
3:30 PM	10	84	0	2	48	63	36	1	9	6	8	5	272
3:45 PM	16	101	1	1	39	43	40	5	8	1	2	1	258
4:00 PM	13	100	2	0	48	81	45	1	14	1	1	8	314
4:15 PM	13	106	3	2	47	39	40	1	19	1	2	4	277
4:30 PM	9	133	0	2	62	69	53	1	9	3	4	9	354
4:45 PM	12	122	0	4	56	36	31	1	10	1	1	1	275
5:00 PM	18	137	2	0	43	43	60	1	13	0	0	2	319
5:15 PM	8	148	2	1	64	57	59	0	21	2	1	1	364
5:30 PM	8	135	0	3	59	34	74	0	7	2	1	0	323
5:45 PM	5	137	1	0	45	34	66	3	15	0	2	1	309
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	140	1360	15	20	576	581	578	18	150	19	23	38	3518
APPROACH %'s :	9.24%	89.77%	0.99%	1.70%	48.94%	49.36%	77.48%	2.41%	20.11%	23.75%	28.75%	47.50%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	47	540	4	7	225	205	203	3	53	6	6	13	1312
PEAK HR FACTOR :		0.935			0.821			0.809			0.391		0.901

CONTROL : 4-Way Stop

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South N Alameda St

East/West E Temple St

Day: Thursday Date: November 5, 2015 Weather: SUNNY

Hours: 6-9 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	272	213	81	35
BIKES	32	45	13	8
BUSES	32	66	161	129

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	281	7.00	327	8.30	129	8.30	147	7.15
PM PK 15 MIN	280	16.00	288	16.00	266	17.15	84	17.00
AM PK HOUR	951	6.45	1283	7.45	424	8.00	493	7.00
PM PK HOUR	1013	15.45	1087	16.00	988	16.45	300	16.30

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	155	542	0	697
7-8	256	686	1	943
8-9	220	665	2	887
15-16	65	855	0	920
16-17	91	915	0	1006
17-18	57	835	1	893
TOTAL	844	4498	4	5346

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	20	590	238	848
7-8	20	779	357	1156
8-9	30	816	422	1268
15-16	52	586	265	903
16-17	73	713	301	1087
17-18	46	601	266	913
TOTAL	241	4085	1849	6175

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
1545	60	0	15	0
2099	82	0	25	0
2155	79	0	22	0
1823	66	0	28	0
2093	99	1	30	0
1806	77	0	22	0
11521	463	1	142	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	55	103	59	217
7-8	72	160	107	339
8-9	108	160	156	424
15-16	309	288	172	769
16-17	244	436	190	870
17-18	213	536	198	947
TOTAL	1001	1683	882	3566

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	13	182	18	213
7-8	28	416	49	493
8-9	18	333	34	385
15-16	21	165	80	266
16-17	29	154	91	274
17-18	28	151	102	281
TOTAL	137	1401	374	1912

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
430	34	0	47	2
832	58	0	68	2
809	53	0	71	5
1035	46	0	36	0
1144	66	0	49	6
1228	73	0	41	0
5478	330	0	312	15

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

N Alameda St and E Temple St , Los Angeles

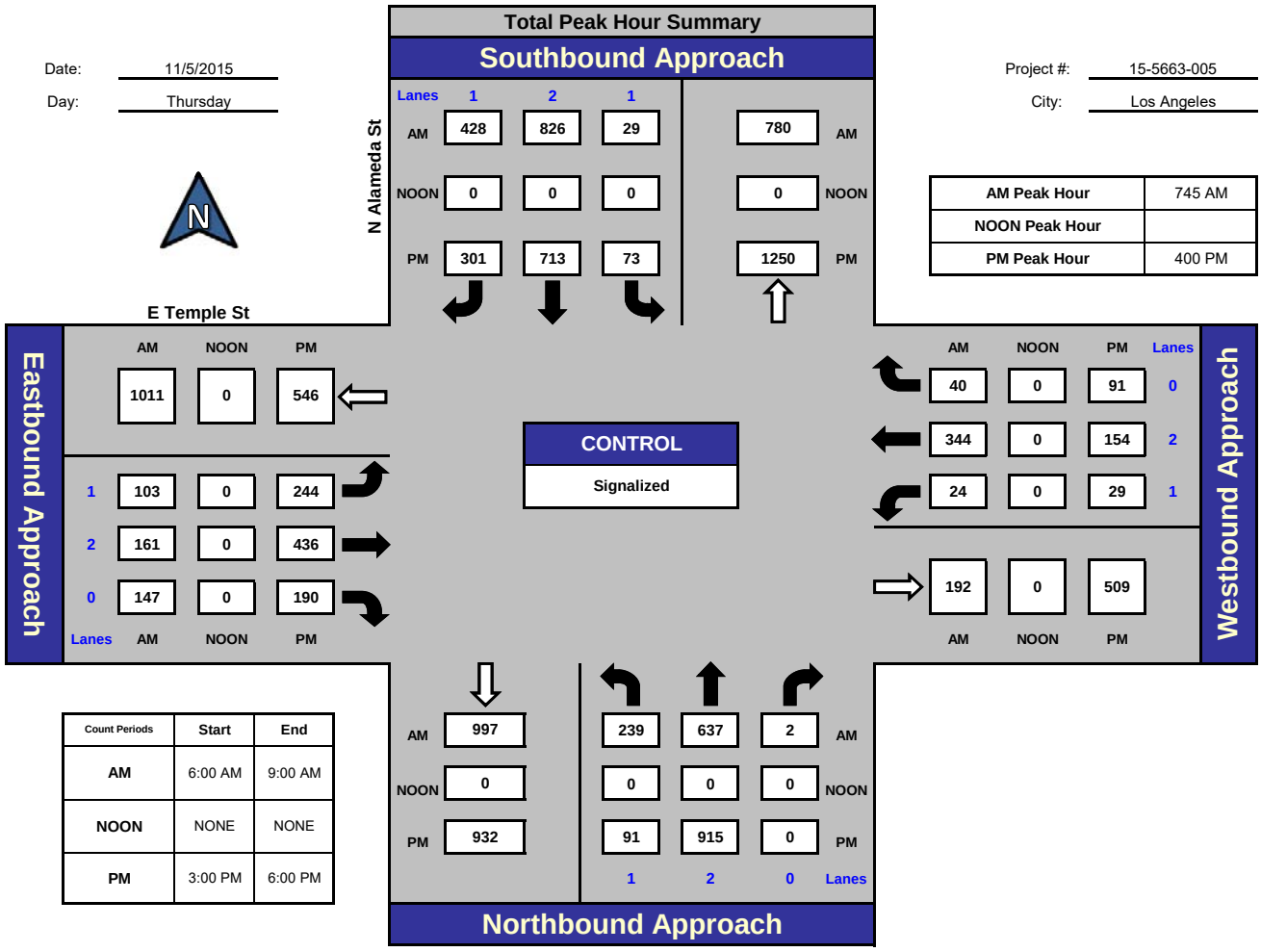
Date: 11/5/2015

Day: Thursday

Project #: 15-5663-005

City: Los Angeles

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	400 PM



Count Periods	Start	End
AM	6:00 AM	9:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs

North Leg		
1283	780	AM
0	0	NOON
1087	1250	PM

West Leg			East Leg		
AM	NOON	PM			
1011	0	546	408	0	274
411	0	870	192	0	509
			AM	NOON	PM

South Leg		
997	878	AM
0	0	NOON
932	1006	PM

Total Volume Per Leg

North Leg	
2063	AM
0	NOON
2337	PM

West Leg			East Leg		
AM	NOON	PM			
1422	0	1416	600	0	783
			AM	NOON	PM

South Leg	
AM	1875
NOON	0
PM	1938

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-005

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	N Alameda St			N Alameda St			E Temple St			E Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	1	1	2	0	1	2	0	
6:00 AM	14	88	0	8	130	50	4	16	15	0	20	3	348
6:15 AM	25	131	0	3	146	56	7	26	12	3	25	2	436
6:30 AM	52	165	0	5	148	59	24	28	13	4	54	8	560
6:45 AM	64	158	0	4	166	73	20	33	19	6	83	5	631
7:00 AM	85	196	0	4	188	83	19	34	25	3	118	13	768
7:15 AM	60	143	0	6	175	84	20	42	24	9	125	13	701
7:30 AM	54	191	0	5	209	90	15	36	28	5	92	12	737
7:45 AM	57	156	1	5	207	100	18	48	30	11	81	11	725
8:00 AM	76	155	0	2	215	106	19	34	36	6	87	10	746
8:15 AM	46	177	1	8	201	112	25	40	32	3	89	10	744
8:30 AM	60	149	0	14	203	110	41	39	49	4	87	9	765
8:45 AM	38	184	1	6	197	94	23	47	39	5	70	5	709
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	631	1893	3	70	2185	1017	235	423	322	59	931	101	7870
APPROACH %'s :	24.97%	74.91%	0.12%	2.14%	66.78%	31.08%	23.98%	43.16%	32.86%	5.41%	85.33%	9.26%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	239	637	2	29	826	428	103	161	147	24	344	40	2980
PEAK HR FACTOR :		0.950			0.981			0.797			0.990		0.974

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-005 **Day:** Thursday

TOTALS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Alameda St			N Alameda St			E Temple St			E Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	1	1	2	0	1	2	0	
3:00 PM	22	219	0	7	139	55	74	55	37	5	43	14	670
3:15 PM	18	208	0	10	147	67	70	78	38	2	44	15	697
3:30 PM	14	194	0	17	153	84	85	69	53	5	40	26	740
3:45 PM	11	234	0	18	147	59	80	86	44	9	38	25	751
4:00 PM	27	253	0	22	199	67	65	97	55	6	50	24	865
4:15 PM	29	207	0	21	173	78	62	90	54	6	30	18	768
4:30 PM	19	233	0	18	188	77	69	116	34	12	36	23	825
4:45 PM	16	222	0	12	153	79	48	133	47	5	38	26	779
5:00 PM	20	223	0	20	158	72	58	157	50	11	49	24	842
5:15 PM	11	198	1	6	146	78	61	158	47	7	37	32	782
5:30 PM	13	215	0	11	149	50	54	114	61	4	42	20	733
5:45 PM	13	199	0	9	148	66	40	107	40	6	23	26	677
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	213	2605	1	171	1900	832	766	1260	560	78	470	273	9129
APPROACH %'s :	7.56%	92.41%	0.04%	5.89%	65.45%	28.66%	29.62%	48.72%	21.66%	9.50%	57.25%	33.25%	
PEAK HR START TIME :	400 PM												TOTAL
PEAK HR VOL :	91	915	0	73	713	301	244	436	190	29	154	91	3237
PEAK HR FACTOR :		0.898			0.944			0.954			0.856		0.936

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-005 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Alameda St			N Alameda St			E Temple St			E Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	1	1	2	0	1	2	0	
6:00 AM	13	72	0	8	115	49	4	11	14	0	14	3	303
6:15 AM	25	115	0	3	139	53	6	21	11	3	21	2	399
6:30 AM	52	150	0	5	144	57	23	23	12	4	48	8	526
6:45 AM	63	147	0	4	159	69	18	26	17	5	76	5	589
7:00 AM	83	173	0	4	185	79	17	27	25	3	111	13	720
7:15 AM	60	128	0	6	160	83	19	32	23	8	118	11	648
7:30 AM	52	170	0	4	197	87	13	30	28	5	85	12	683
7:45 AM	55	143	1	5	198	98	14	37	30	11	74	11	677
8:00 AM	73	136	0	2	201	102	17	27	35	6	76	10	685
8:15 AM	45	153	1	8	189	108	19	31	32	2	85	9	682
8:30 AM	56	138	0	14	195	107	38	34	48	4	80	8	722
8:45 AM	36	164	1	5	187	90	19	37	38	5	63	5	650
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	613	1689	3	68	2069	982	207	336	313	56	851	97	7284
APPROACH %'s :	26.59%	73.28%	0.13%	2.18%	66.34%	31.48%	24.18%	39.25%	36.57%	5.58%	84.76%	9.66%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	229	570	2	29	783	415	88	129	145	23	315	38	2766
PEAK HR FACTOR :		0.958			0.971			0.754			0.979		0.958

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-005 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Alameda St			N Alameda St			E Temple St			E Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	1	1	2	0	1	2	0	
3:00 PM	21	213	0	7	130	47	73	50	33	5	37	14	630
3:15 PM	18	201	0	10	141	65	69	71	38	2	38	15	668
3:30 PM	14	187	0	17	137	81	84	64	48	4	36	26	698
3:45 PM	11	225	0	18	142	57	80	76	42	8	27	25	711
4:00 PM	27	246	0	21	190	67	65	92	53	6	45	24	836
4:15 PM	27	198	0	20	167	74	60	84	49	5	23	17	724
4:30 PM	18	227	0	18	179	72	69	110	34	12	30	23	792
4:45 PM	14	212	0	12	151	74	47	125	47	5	30	26	743
5:00 PM	20	219	0	20	154	69	57	147	48	11	43	24	812
5:15 PM	11	196	1	6	142	71	60	153	41	7	29	32	749
5:30 PM	13	211	0	11	144	48	53	110	57	4	39	20	710
5:45 PM	12	195	0	9	144	62	39	104	36	6	20	26	653
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	206	2530	1	169	1821	787	756	1186	526	75	397	272	8726
APPROACH %'s :	7.53%	92.44%	0.04%	6.09%	65.57%	28.34%	30.63%	48.06%	21.31%	10.08%	53.36%	36.56%	
PEAK HR START TIME :	400 PM												TOTAL
PEAK HR VOL :	86	883	0	71	687	287	241	411	183	28	128	90	3095
PEAK HR FACTOR :		0.887			0.940			0.953			0.820		0.926

CONTROL : Signalized

City Of Los Angeles
Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:
North/South N Vignes St

East/West E Temple St

Day: Thursday Date: November 5, 2015 Weather: SUNNY

Hours: 6-9 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	49	27	42	11
BIKES	13	7	12	1
BUSES	14	67	130	3

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	122	7.00	33	8.30	50	8.45	36	7.00
PM PK 15 MIN	81	17.45	28	17.15	66	17.00	33	17.30
AM PK HOUR	452	6.45	115	7.00	167	8.00	119	7.00
PM PK HOUR	284	17.00	91	15.00	232	16.30	103	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	204	67	7	278
7-8	315	82	16	413
8-9	306	84	21	411
15-16	63	55	4	122
16-17	63	94	7	164
17-18	92	173	19	284
TOTAL	1043	555	74	1672

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	2	27	38	67
7-8	8	44	63	115
8-9	7	50	41	98
15-16	6	45	40	91
16-17	2	28	29	59
17-18	12	42	25	79
TOTAL	37	236	236	509

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
345	34	0	29	2
528	65	1	30	1
509	87	0	11	0
213	36	0	2	0
223	62	1	12	0
363	51	2	11	0
2181	335	4	95	3

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	36	19	48	103
7-8	51	24	74	149
8-9	44	41	82	167
15-16	64	44	84	192
16-17	66	39	108	213
17-18	63	40	106	209
TOTAL	324	207	502	1033

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	6	39	2	47
7-8	3	113	3	119
8-9	11	58	6	75
15-16	3	40	1	44
16-17	9	51	9	69
17-18	13	63	27	103
TOTAL	45	364	48	457

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
150	10	1	46	2
268	14	0	46	2
242	16	2	36	1
236	7	1	38	1
282	9	0	59	0
312	4	1	37	0
1490	60	5	262	6

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

N Vignes St and E Temple St , Los Angeles

Date: 11/5/2015

Day: Thursday

Project #: 15-5663-006

City: Los Angeles

AM Peak Hour	645 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Total Peak Hour Summary

Southbound Approach

Lanes	0	1	0		
AM	60	46	6	140	AM
NOON	0	0	0	0	NOON
PM	25	42	12	263	PM

N Vignes St

E Temple St

Eastbound Approach

	AM	NOON	PM	
	513	0	180	
0	48	0	63	
1	24	0	40	
1	62	0	106	
Lanes	AM	NOON	PM	

CONTROL

4-Way Stop

Westbound Approach

	AM	NOON	PM	Lanes
	3	0	27	0
	101	0	63	1
	7	0	13	0
	41	0	71	
	AM	NOON	PM	

Count Periods	Start	End
AM	6:00 AM	9:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Northbound Approach

AM	115	352	89	11	AM
NOON	0	0	0	0	NOON
PM	161	92	173	19	PM
		0	1	0	Lanes

Total Ins & Outs

North Leg		
112	140	AM
0	0	NOON
79	263	PM

West Leg			East Leg		
AM	NOON	PM			
513	0	180	111	0	103
134	0	209	41	0	71
			AM	NOON	PM

South Leg		
AM	115	452
NOON	0	0
PM	161	284

Total Volume Per Leg

North Leg	
252	AM
0	NOON
342	PM

West Leg			East Leg		
AM	NOON	PM			
647	0	389	152	0	174
			AM	NOON	PM

South Leg	
AM	567
NOON	0
PM	445

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-006

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	N Vignes St			N Vignes St			E Temple St			E Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	1	0	1	0	
6:00 AM	32	10	2	1	5	11	8	3	12	0	4	1	89
6:15 AM	35	13	0	0	3	11	8	5	12	1	3	0	91
6:30 AM	48	17	3	0	6	6	6	4	13	0	19	1	123
6:45 AM	89	27	2	1	13	10	14	7	11	5	13	0	192
7:00 AM	97	21	4	1	11	16	10	5	16	2	32	2	217
7:15 AM	95	20	2	2	13	15	11	5	17	0	31	0	211
7:30 AM	71	21	3	2	9	19	13	7	18	0	25	1	189
7:45 AM	52	20	7	3	11	13	17	7	23	1	25	0	179
8:00 AM	75	24	4	1	9	9	9	9	20	2	14	2	178
8:15 AM	76	15	10	1	9	9	11	5	20	3	13	0	172
8:30 AM	89	24	3	3	21	9	5	19	19	3	14	2	211
8:45 AM	66	21	4	2	11	14	19	8	23	3	17	2	190
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	825	233	44	17	121	142	131	84	204	20	210	11	2042
APPROACH %'s :	74.86%	21.14%	3.99%	6.07%	43.21%	50.71%	31.26%	20.05%	48.69%	8.30%	87.14%	4.56%	
PEAK HR START TIME :	645 AM												TOTAL
PEAK HR VOL :	352	89	11	6	46	60	48	24	62	7	101	3	809
PEAK HR FACTOR :		0.926			0.933			0.882			0.771		0.932

CONTROL : 4-Way Stop

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-006 **Day:** Thursday

City: Los Angeles **Date:** 11/5/2015

TOTALS

PM

NS/EW Streets:	N Vignes St			N Vignes St			E Temple St			E Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	1	0	1	0	
3:00 PM	22	15	0	3	10	7	13	10	19	0	10	1	110
3:15 PM	15	8	1	0	14	10	13	9	22	0	10	0	102
3:30 PM	14	12	2	2	8	10	13	12	19	3	7	0	102
3:45 PM	12	20	1	1	13	13	25	13	24	0	13	0	135
4:00 PM	14	21	2	0	8	10	15	11	32	2	16	1	132
4:15 PM	17	15	3	0	4	8	16	9	21	0	9	0	102
4:30 PM	19	29	0	2	13	3	19	12	27	3	15	6	148
4:45 PM	13	29	2	0	3	8	16	7	28	4	11	2	123
5:00 PM	18	32	7	4	10	8	21	13	32	6	18	4	173
5:15 PM	30	34	4	2	17	9	16	9	32	3	11	3	170
5:30 PM	24	51	3	4	8	6	12	12	28	4	20	9	181
5:45 PM	20	56	5	2	7	2	14	6	14	0	14	11	151
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	218	322	30	20	115	94	193	123	298	25	154	37	1629
APPROACH %'s :	38.25%	56.49%	5.26%	8.73%	50.22%	41.05%	31.43%	20.03%	48.53%	11.57%	71.30%	17.13%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	92	173	19	12	42	25	63	40	106	13	63	27	675
PEAK HR FACTOR :		0.877			0.705			0.792			0.780		0.932

CONTROL : 4-Way Stop

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-006 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Vignes St			N Vignes St			E Temple St			E Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	1	0	1	0	
6:00 AM	32	10	2	1	5	9	3	3	12	0	4	1	82
6:15 AM	35	12	0	0	2	7	4	5	11	1	3	0	80
6:30 AM	47	16	3	0	5	4	3	4	13	0	17	1	113
6:45 AM	89	25	2	1	13	7	5	6	10	5	12	0	175
7:00 AM	95	21	4	1	9	13	3	5	15	2	32	2	202
7:15 AM	94	19	2	2	8	10	2	4	15	0	30	0	186
7:30 AM	69	20	3	2	8	14	9	6	16	0	25	1	173
7:45 AM	52	20	6	2	10	9	8	7	21	1	24	0	160
8:00 AM	72	23	4	1	9	5	4	9	18	2	14	2	163
8:15 AM	75	15	10	1	9	6	5	5	19	3	13	0	161
8:30 AM	83	24	3	3	20	6	0	19	16	3	12	2	191
8:45 AM	65	19	4	2	11	11	12	8	22	3	17	2	176
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	808	224	43	16	109	101	58	81	188	20	203	11	1862
APPROACH %'s :	75.16%	20.84%	4.00%	7.08%	48.23%	44.69%	17.74%	24.77%	57.49%	8.55%	86.75%	4.70%	
PEAK HR START TIME :	645 AM												TOTAL
PEAK HR VOL :	347	85	11	6	38	44	19	21	56	7	99	3	736
PEAK HR FACTOR :		0.923			0.917			0.774			0.757		0.911

CONTROL : 4-Way Stop

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-006 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Vignes St			N Vignes St			E Temple St			E Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	1	0	1	0	
3:00 PM	19	14	0	3	10	4	7	10	17	0	9	1	94
3:15 PM	10	8	1	0	14	6	8	8	21	0	9	0	85
3:30 PM	13	10	2	2	8	8	9	11	19	3	7	0	92
3:45 PM	12	19	1	1	12	8	13	13	24	0	12	0	115
4:00 PM	13	20	2	0	8	9	12	10	29	2	16	1	122
4:15 PM	16	14	3	0	4	3	11	9	20	0	8	0	88
4:30 PM	19	28	0	1	10	2	15	10	27	3	15	5	135
4:45 PM	12	24	2	0	3	5	10	6	28	4	9	2	105
5:00 PM	18	32	7	4	10	3	14	13	29	6	18	4	158
5:15 PM	27	34	4	2	17	6	12	9	31	3	11	3	159
5:30 PM	23	49	3	4	8	4	9	12	27	4	20	9	172
5:45 PM	19	51	5	2	7	1	12	6	13	0	14	11	141
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	201	303	30	19	111	59	132	117	285	25	148	36	1466
APPROACH %'s :	37.64%	56.74%	5.62%	10.05%	58.73%	31.22%	24.72%	21.91%	53.37%	11.96%	70.81%	17.22%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	87	166	19	12	42	14	47	40	100	13	63	27	630
PEAK HR FACTOR :		0.907			0.680			0.835			0.780		0.916

CONTROL : 4-Way Stop

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South N Alameda St

East/West E 1st St

Day: Thursday Date: November 5, 2015 Weather: SUNNY

Hours: 6-9 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	283	218	50	41
BIKES	50	47	68	83
BUSES	32	30	41	4

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	280	7.00	264	8.00	52	6.45	155	6.45
PM PK 15 MIN	235	16.00	262	16.00	259	16.45	94	17.30
AM PK HOUR	978	6.45	1007	7.45	155	6.00	563	6.45
PM PK HOUR	902	15.45	951	16.00	985	16.45	349	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	34	613	26	673
7-8	4	924	48	976
8-9	4	859	47	910
15-16	45	717	94	856
16-17	66	692	142	900
17-18	71	514	119	704
TOTAL	224	4319	476	5019

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	6	567	96	669
7-8	11	781	143	935
8-9	12	801	179	992
15-16	33	628	97	758
16-17	40	791	120	951
17-18	34	683	141	858
TOTAL	136	4251	776	5163

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
1342	37	0	54	0
1911	36	0	124	2
1902	68	2	116	3
1614	76	0	160	5
1851	77	1	217	8
1562	65	0	248	5
10182	359	3	919	23

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	55	70	30	155
7-8	1	5	6	12
8-9	2	1	1	4
15-16	195	324	75	594
16-17	304	469	112	885
17-18	385	471	107	963
TOTAL	942	1340	331	2613

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	4	497	38	539
7-8	4	513	30	547
8-9	0	495	24	519
15-16	2	219	21	242
16-17	1	265	14	280
17-18	1	334	14	349
TOTAL	12	2323	141	2476

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
694	19	0	51	0
559	18	0	66	0
523	5	0	111	0
836	40	0	74	0
1165	67	1	117	2
1312	77	1	92	0
5089	226	2	511	2

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

N Alameda St and E 1st St , Los Angeles

Date: 11/5/2015

Day: Thursday

Project #: 15-5663-007

City: Los Angeles

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	400 PM

Total Peak Hour Summary

Southbound Approach (N Alameda St)

Lanes	1	2	1		
AM	158	828	13	930	AM
NOON	0	0	0	0	NOON
PM	120	791	40	1010	PM

Eastbound Approach (E 1st St)

Lanes	AM	NOON	PM
	670	0	451
1	3	0	304
2	1	0	469
0	2	0	112
Lanes	AM	NOON	PM

Westbound Approach

AM	NOON	PM	Lanes
26	0	14	1
510	0	265	2
1	0	1	0
63	0	651	
AM	NOON	PM	

CONTROL: Signalized

Northbound Approach

AM	831	2	901	49	AM
NOON	0	0	0	0	NOON
PM	904	66	692	142	PM
		1	2	1	Lanes

Count Periods	Start	End
AM	6:00 AM	9:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs

North Leg		
999	930	AM
0	0	NOON
951	1010	PM

West Leg			East Leg		
AM	NOON	PM			
670	0	451	537	0	280
6	0	885	63	0	651
			AM	NOON	PM

South Leg		
AM	831	952
NOON	0	0
PM	904	900

Total Volume Per Leg

North Leg	
1929	AM
0	NOON
1961	PM

West Leg			East Leg		
AM	NOON	PM			
676	0	1336	600	0	931
			AM	NOON	PM

South Leg	
AM	1783
NOON	0
PM	1804

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-007

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	N Alameda St			N Alameda St			E 1st St			E 1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	1	1	2	0	0	2	1	
6:00 AM	4	83	5	0	124	17	8	11	3	0	93	5	353
6:15 AM	7	136	5	1	135	19	16	15	9	2	135	16	496
6:30 AM	18	192	5	2	150	29	15	18	8	1	125	7	570
6:45 AM	5	202	11	3	158	31	16	26	10	1	144	10	617
7:00 AM	1	270	9	2	188	35	0	2	3	0	115	3	628
7:15 AM	1	205	13	3	174	31	0	2	1	3	140	7	580
7:30 AM	1	243	17	2	207	37	1	0	0	1	128	11	648
7:45 AM	1	206	9	4	212	40	0	1	2	0	130	9	614
8:00 AM	0	225	11	2	214	48	0	0	0	0	124	2	626
8:15 AM	0	227	12	5	195	33	2	0	0	0	128	4	606
8:30 AM	0	193	8	3	198	53	0	0	1	0	121	10	587
8:45 AM	4	214	16	2	194	45	0	1	0	0	122	8	606
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	42	2396	121	29	2149	418	58	76	37	8	1505	92	6931
APPROACH %'s :	1.64%	93.63%	4.73%	1.12%	82.78%	16.10%	33.92%	44.44%	21.64%	0.50%	93.77%	5.73%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	2	901	49	13	828	158	3	1	2	1	510	26	2494
PEAK HR FACTOR :		0.912			0.946			0.500			0.959		0.962

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-007 **Day:** Thursday

City: Los Angeles **Date:** 11/5/2015

TOTALS

PM

NS/EW Streets:	N Alameda St			N Alameda St			E 1st St			E 1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	1	1	2	0	0	2	1	
3:00 PM	11	189	23	11	149	25	44	73	25	0	44	7	601
3:15 PM	11	190	21	7	156	25	36	47	14	1	44	5	557
3:30 PM	11	161	21	8	166	29	49	94	20	0	76	2	637
3:45 PM	12	177	29	7	157	18	66	110	16	1	55	7	655
4:00 PM	13	194	28	17	216	29	72	93	27	0	66	3	758
4:15 PM	9	179	32	13	206	24	56	117	22	0	66	2	726
4:30 PM	17	169	43	5	193	32	88	117	34	1	59	6	764
4:45 PM	27	150	39	5	176	35	88	142	29	0	74	3	768
5:00 PM	15	161	22	3	182	37	88	113	28	1	80	4	734
5:15 PM	13	103	23	10	165	30	106	122	29	0	82	4	687
5:30 PM	16	132	41	13	179	35	97	114	29	0	92	2	750
5:45 PM	27	118	33	8	157	39	94	122	21	0	80	4	703
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	182	1923	355	107	2102	358	884	1264	294	4	818	49	8340
APPROACH %'s :	7.40%	78.17%	14.43%	4.17%	81.89%	13.95%	36.20%	51.76%	12.04%	0.46%	93.92%	5.63%	
PEAK HR START TIME :	400 PM												TOTAL
PEAK HR VOL :	66	692	142	40	791	120	304	469	112	1	265	14	3016
PEAK HR FACTOR :		0.957			0.907			0.854			0.909		0.982

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-007 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Alameda St			N Alameda St			E 1st St			E 1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	1	1	2	0	0	2	1	
6:00 AM	4	67	5	0	108	14	7	9	3	0	93	5	315
6:15 AM	7	120	3	1	130	18	13	12	9	2	133	16	464
6:30 AM	17	178	2	2	144	27	15	14	7	1	124	7	538
6:45 AM	5	194	11	3	153	29	13	24	9	1	139	9	590
7:00 AM	1	245	8	2	183	35	0	2	3	0	112	3	594
7:15 AM	1	188	13	2	160	30	0	0	0	3	135	7	539
7:30 AM	1	222	11	2	194	37	0	0	0	0	123	11	601
7:45 AM	1	188	8	4	204	38	0	0	0	0	127	9	579
8:00 AM	0	206	9	2	199	48	0	0	0	0	123	2	589
8:15 AM	0	201	12	5	185	30	0	0	0	0	126	4	563
8:30 AM	0	178	8	3	188	53	0	0	0	0	118	10	558
8:45 AM	4	197	14	2	186	43	0	0	0	0	120	8	574
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	41	2184	104	28	2034	402	48	61	31	7	1473	91	6504
APPROACH %'s :	1.76%	93.77%	4.47%	1.14%	82.55%	16.31%	34.29%	43.57%	22.14%	0.45%	93.76%	5.79%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	2	817	40	13	782	153	0	0	0	0	499	26	2332
PEAK HR FACTOR :		0.918			0.952			0.000			0.965		0.970

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-007 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Alameda St			N Alameda St			E 1st St			E 1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	1	1	2	0	0	2	1	
3:00 PM	11	186	22	11	138	20	42	70	23	0	43	6	572
3:15 PM	9	185	19	7	151	25	35	42	13	1	44	5	536
3:30 PM	11	152	21	6	154	24	48	91	20	0	75	2	604
3:45 PM	12	172	28	7	152	18	65	107	16	1	52	7	637
4:00 PM	11	186	27	17	212	23	70	90	26	0	65	3	730
4:15 PM	7	173	32	13	195	22	56	113	22	0	64	2	699
4:30 PM	16	161	42	5	186	30	86	116	33	1	59	6	741
4:45 PM	27	145	36	5	174	33	83	140	28	0	74	3	748
5:00 PM	14	159	20	3	177	35	87	110	28	1	79	4	717
5:15 PM	12	99	23	10	157	30	106	117	29	0	82	4	669
5:30 PM	16	131	41	13	170	34	96	112	28	0	92	2	735
5:45 PM	27	110	32	8	147	39	93	120	21	0	79	4	680
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	173	1859	343	105	2013	333	867	1228	287	4	808	48	8068
APPROACH %'s :	7.28%	78.27%	14.44%	4.28%	82.13%	13.59%	36.40%	51.55%	12.05%	0.47%	93.95%	5.58%	
PEAK HR START TIME :	400 PM												TOTAL
PEAK HR VOL :	61	665	137	40	767	108	295	459	109	1	262	14	2918
PEAK HR FACTOR :		0.963			0.908			0.860			0.899		0.975

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South N Vignes St

East/West E 1st St

Day: Thursday Date: November 5, 2015 Weather: SUNNY

Hours: 6-9 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	26	21	56	77
BIKES	21	15	39	66
BUSES	0	10	8	19

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	22	7.45	30	8.30	48	8.15	310	6.45
PM PK 15 MIN	92	17.45	40	17.30	194	17.15	120	17.15
AM PK HOUR	78	7.45	91	7.45	153	6.45	1105	6.45
PM PK HOUR	306	17.00	144	16.45	665	17.00	449	16.45

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	2	15	16	33
7-8	5	17	39	61
8-9	6	29	43	78
15-16	10	26	66	102
16-17	5	33	116	154
17-18	6	76	224	306
TOTAL	34	196	504	734

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	11	19	12	42
7-8	30	28	24	82
8-9	32	34	23	89
15-16	63	27	22	112
16-17	79	21	34	134
17-18	79	27	29	135
TOTAL	294	156	144	594

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
75	4	0	11	1
143	3	0	5	1
167	5	0	13	0
214	10	0	11	0
288	14	2	4	0
441	6	0	18	2
1328	42	2	62	4

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	23	77	11	111
7-8	25	117	11	153
8-9	29	100	8	137
15-16	38	385	36	459
16-17	58	539	46	643
17-18	69	574	22	665
TOTAL	242	1792	134	2168

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	93	544	253	890
7-8	184	505	349	1038
8-9	222	481	352	1055
15-16	58	211	41	310
16-17	67	248	49	364
17-18	77	302	69	448
TOTAL	701	2291	1113	4105

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
1001	9	0	0	0
1191	11	0	0	0
1192	11	2	0	0
769	19	0	1	0
1007	12	4	0	0
1113	23	3	0	0
6273	85	9	1	0

ITM Peak Hour Summary

Prepared by:

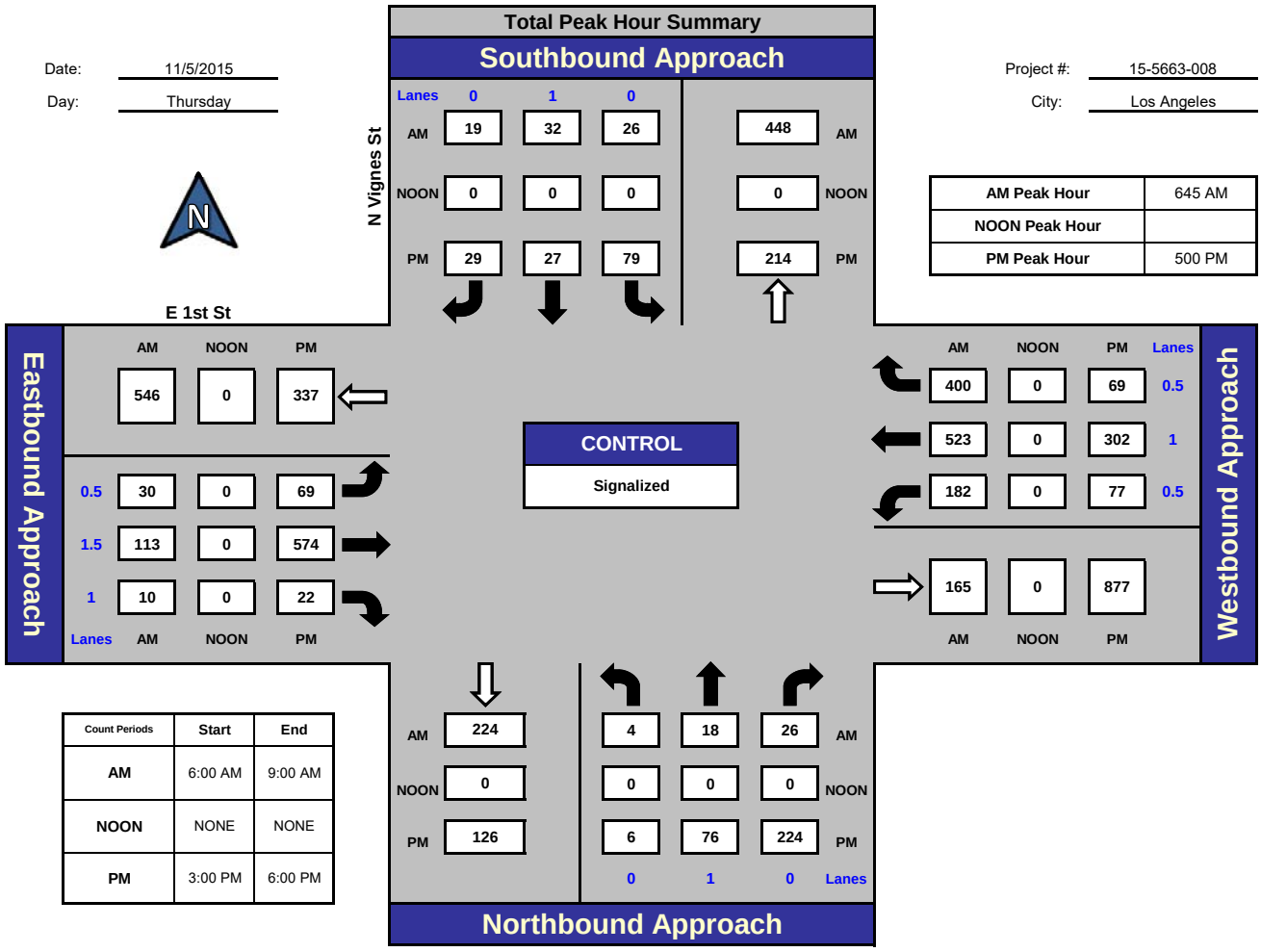
National Data & Surveying Services

N Vignes St and E 1st St , Los Angeles

Date: 11/5/2015
Day: Thursday

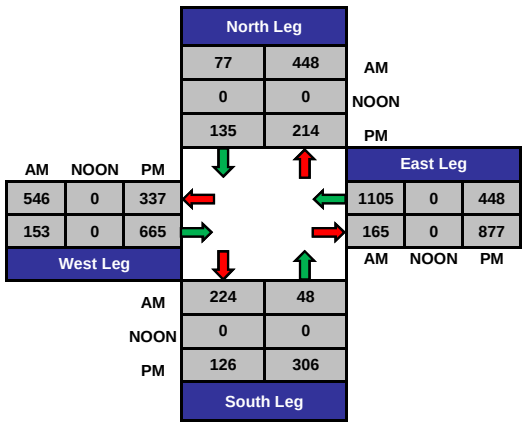
Project #: 15-5663-008
City: Los Angeles

AM Peak Hour	645 AM
NOON Peak Hour	
PM Peak Hour	500 PM

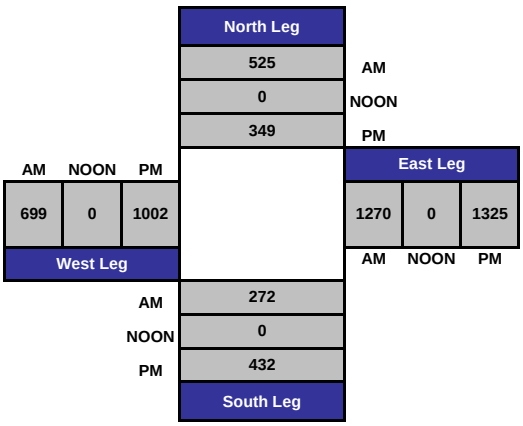


Count Periods	Start	End
AM	6:00 AM	9:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-008 **Day:** Thursday

TOTALS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Vignes St			N Vignes St			E 1st St			E 1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0.5	1.5	1	0.5	1	0.5	
6:00 AM	0	1	4	1	4	1	4	13	2	11	104	36	181
6:15 AM	0	2	6	2	3	2	3	12	3	16	153	41	243
6:30 AM	2	6	3	3	2	5	3	25	5	25	134	60	273
6:45 AM	0	6	3	5	10	4	13	27	1	41	153	116	379
7:00 AM	1	2	9	3	11	6	3	24	2	54	115	114	344
7:15 AM	2	5	7	11	5	6	8	26	4	44	130	89	337
7:30 AM	1	5	7	7	6	3	6	36	3	43	125	81	323
7:45 AM	1	5	16	9	6	9	8	31	2	43	135	65	330
8:00 AM	2	8	10	12	11	4	3	9	0	55	117	93	324
8:15 AM	2	4	12	4	3	3	11	36	1	44	118	81	319
8:30 AM	1	7	10	11	10	9	8	25	4	54	127	97	363
8:45 AM	1	10	11	5	10	7	7	30	3	69	119	81	353
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	13	61	98	73	81	59	77	294	30	499	1530	954	3769
APPROACH %'s :	7.56%	35.47%	56.98%	34.27%	38.03%	27.70%	19.20%	73.32%	7.48%	16.73%	51.29%	31.98%	
PEAK HR START TIME :	645 AM												TOTAL
PEAK HR VOL :	4	18	26	26	32	19	30	113	10	182	523	400	1383
PEAK HR FACTOR :		0.857			0.875			0.850			0.891		0.912

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-008 **Day:** Thursday

City: Los Angeles **Date:** 11/5/2015

TOTALS

PM

NS/EW Streets:	N Vignes St			N Vignes St			E 1st St			E 1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0.5	1.5	1	0.5	1	0.5	
3:00 PM	1	5	20	8	9	8	8	92	10	16	48	14	239
3:15 PM	5	7	10	24	6	4	11	59	10	14	53	7	210
3:30 PM	3	7	21	14	4	6	8	103	7	9	48	10	240
3:45 PM	1	7	15	17	8	4	11	131	9	19	62	10	294
4:00 PM	0	9	32	18	7	11	14	115	8	12	58	11	295
4:15 PM	0	4	32	22	3	4	13	145	16	14	63	10	326
4:30 PM	3	10	27	24	6	9	17	137	16	22	56	10	337
4:45 PM	2	10	25	15	5	10	14	142	6	19	71	18	337
5:00 PM	1	11	51	26	8	5	16	116	3	23	68	14	342
5:15 PM	2	23	53	17	8	10	17	171	6	21	75	24	427
5:30 PM	2	19	52	26	7	7	19	140	4	14	83	19	392
5:45 PM	1	23	68	10	4	7	17	147	9	19	76	12	393
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	21	135	406	221	75	85	165	1498	104	202	761	159	3832
APPROACH %'s :	3.74%	24.02%	72.24%	58.01%	19.69%	22.31%	9.34%	84.78%	5.89%	18.00%	67.83%	14.17%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	6	76	224	79	27	29	69	574	22	77	302	69	1554
PEAK HR FACTOR :		0.832			0.844			0.857			0.933		0.910

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-008 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Vignes St			N Vignes St			E 1st St			E 1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0.5	1.5	1	0.5	1	0.5	
6:00 AM	0	1	4	1	4	1	4	12	2	11	102	36	178
6:15 AM	0	2	6	1	2	2	3	10	3	16	151	40	236
6:30 AM	2	6	3	3	2	4	3	22	5	25	131	58	264
6:45 AM	0	6	3	5	10	4	12	25	1	41	148	113	368
7:00 AM	1	2	9	3	8	6	3	23	1	52	114	111	333
7:15 AM	1	4	6	8	5	5	8	25	3	43	124	89	321
7:30 AM	1	5	7	5	4	2	6	31	2	43	122	79	307
7:45 AM	1	5	16	7	6	9	8	28	2	43	132	63	320
8:00 AM	2	8	8	10	11	3	3	7	0	52	117	88	309
8:15 AM	1	3	11	3	3	3	10	35	1	42	117	81	310
8:30 AM	1	7	10	11	9	9	8	25	2	52	122	93	349
8:45 AM	1	9	10	5	9	7	6	29	3	68	117	79	343
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	11	58	93	62	73	55	74	272	25	488	1497	930	3638
APPROACH %'s :	6.79%	35.80%	57.41%	32.63%	38.42%	28.95%	19.95%	73.32%	6.74%	16.74%	51.36%	31.90%	
PEAK HR START TIME :	645 AM												TOTAL
PEAK HR VOL :	3	17	25	21	27	17	29	104	7	179	508	392	1329
PEAK HR FACTOR :		0.865			0.855			0.897			0.893		0.903

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-008 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Vignes St			N Vignes St			E 1st St			E 1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0.5	1.5	1	0.5	1	0.5	
3:00 PM	1	4	20	8	8	8	7	90	10	16	46	12	230
3:15 PM	4	7	9	23	6	4	8	56	9	14	53	5	198
3:30 PM	3	7	21	14	4	6	7	103	5	9	48	8	235
3:45 PM	1	7	15	17	8	4	10	130	9	19	59	10	289
4:00 PM	0	9	32	17	7	11	13	114	8	12	56	9	288
4:15 PM	0	3	32	22	3	4	13	144	15	14	61	9	320
4:30 PM	3	10	27	24	5	9	16	136	16	21	56	9	332
4:45 PM	2	7	24	15	5	10	12	141	5	19	71	16	327
5:00 PM	1	11	50	24	8	5	16	115	2	23	67	14	336
5:15 PM	2	21	52	17	8	10	15	169	6	20	75	23	418
5:30 PM	2	18	52	26	6	7	18	140	4	14	83	18	388
5:45 PM	1	20	68	9	4	7	16	146	9	19	75	11	385
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	20	124	402	216	72	85	151	1484	98	200	750	144	3746
APPROACH %'s :	3.66%	22.71%	73.63%	57.91%	19.30%	22.79%	8.71%	85.63%	5.65%	18.28%	68.56%	13.16%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	6	70	222	76	26	29	65	570	21	76	300	66	1527
PEAK HR FACTOR :		0.837			0.840			0.863			0.936		0.913

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South N Alameda St

East/West N Vignes St_Alpine St

Day: Thursday Date: November 5, 2015 Weather: SUNNY

Hours: 6-9 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	163	185	49	95
BIKES	19	16	24	33
BUSES	66	105	37	28

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	96	7.15	345	8.45	64	8.45	240	7.30
PM PK 15 MIN	308	17.45	147	17.00	135	17.00	215	17.30
AM PK HOUR	341	7.15	1295	7.15	227	7.30	928	8.00
PM PK HOUR	1169	17.00	532	17.00	487	16.45	805	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	18	159	5	182
7-8	46	256	4	306
8-9	53	249	17	319
15-16	79	606	20	705
16-17	119	871	37	1027
17-18	171	950	48	1169
TOTAL	486	3091	131	3708

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	68	640	66	774
7-8	113	932	213	1258
8-9	125	823	273	1221
15-16	63	349	40	452
16-17	76	360	47	483
17-18	93	384	55	532
TOTAL	538	3488	694	4720

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
956	8	0	8	0
1564	14	0	7	0
1540	16	0	24	0
1157	25	0	16	0
1510	18	0	29	0
1701	19	0	7	0
8428	100	0	91	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	18	74	40	132
7-8	35	114	54	203
8-9	52	107	63	222
15-16	53	169	63	285
16-17	103	228	70	401
17-18	100	312	68	480
TOTAL	361	1004	358	1723

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	41	266	60	367
7-8	45	711	126	882
8-9	62	733	133	928
15-16	44	335	241	620
16-17	42	359	330	731
17-18	54	406	345	805
TOTAL	288	2810	1235	4333

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
499	10	0	6	0
1085	13	0	8	0
1150	22	0	10	1
905	18	0	14	0
1132	15	0	16	0
1285	9	0	6	0
6056	87	0	60	1

ITM Peak Hour Summary

Prepared by:

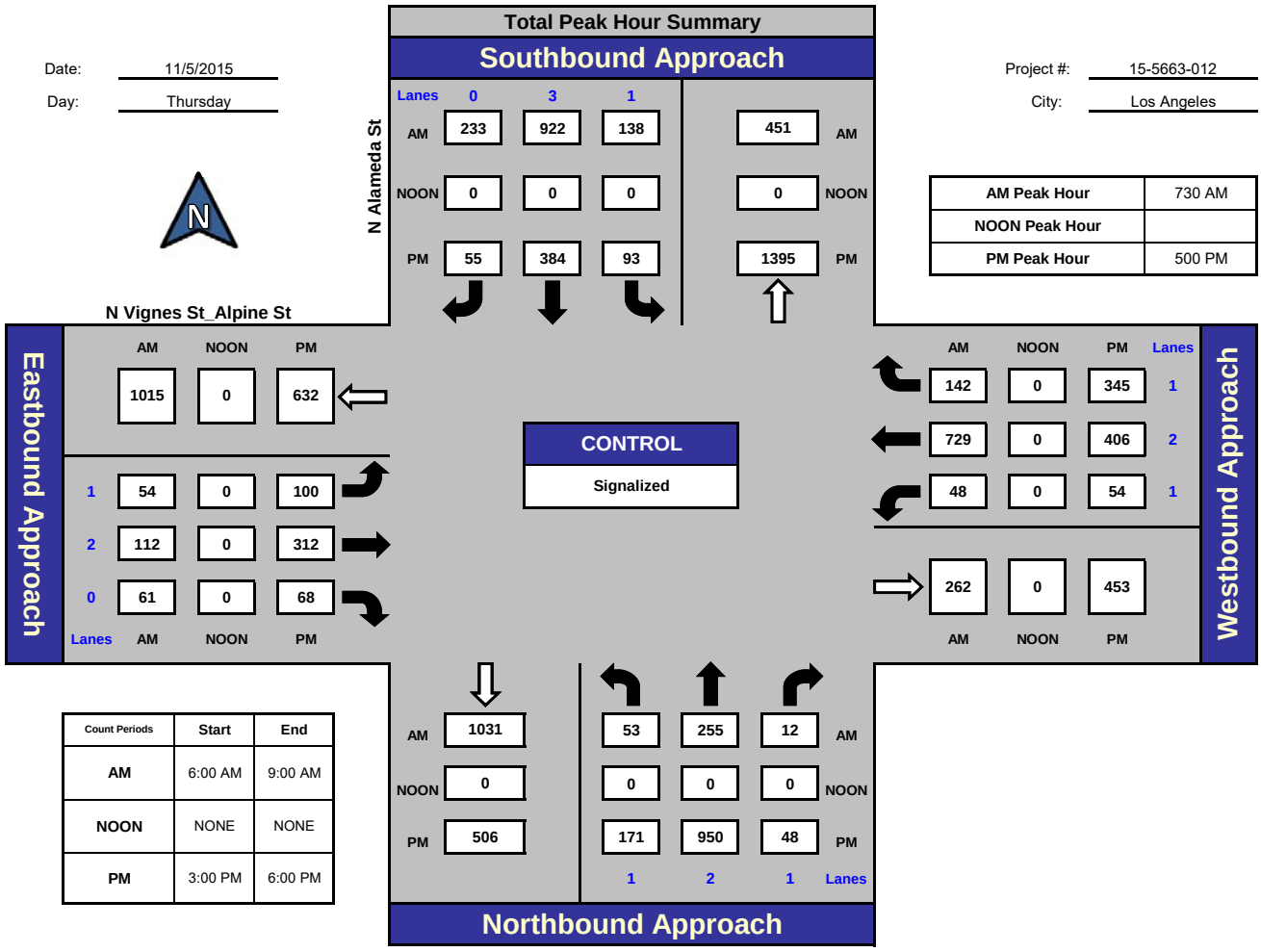
National Data & Surveying Services

N Alameda St and N Vignes St_Alpine St , Los Angeles

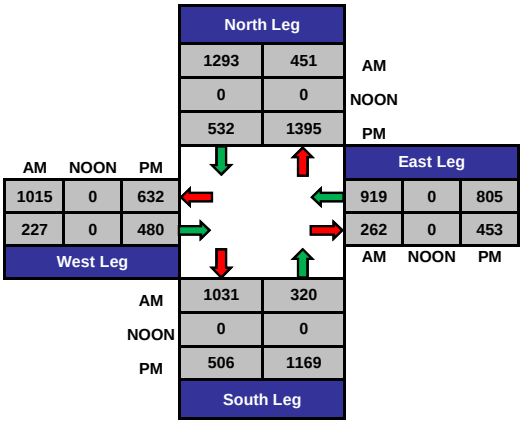
Date: 11/5/2015
Day: Thursday

Project #: 15-5663-012
City: Los Angeles

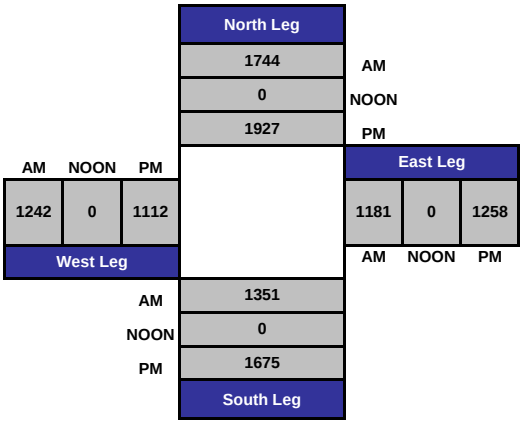
AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	500 PM



Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-012

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	N Alameda St			N Alameda St			N Vignes St_Alpine St			N Vignes St_Alpine St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	3	0	1	2	0	1	2	1	
6:00 AM	5	23	0	9	115	9	2	20	7	8	21	10	229
6:15 AM	3	39	1	13	159	11	3	16	9	13	48	19	334
6:30 AM	4	44	2	24	187	19	4	23	10	11	68	16	412
6:45 AM	6	53	2	22	179	27	9	15	14	9	129	15	480
7:00 AM	5	28	1	24	212	48	4	32	7	7	174	20	562
7:15 AM	12	83	1	21	246	62	7	22	17	9	186	25	691
7:30 AM	18	75	2	35	229	46	10	27	16	17	176	47	698
7:45 AM	11	70	0	33	245	57	14	33	14	12	175	34	698
8:00 AM	15	48	6	33	212	76	13	28	16	7	184	28	666
8:15 AM	9	62	4	37	236	54	17	24	15	12	194	33	697
8:30 AM	14	63	4	31	135	62	8	20	17	20	181	30	585
8:45 AM	15	76	3	24	240	81	14	35	15	23	174	42	742
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	117	664	26	306	2395	552	105	295	157	148	1710	319	6794
APPROACH %'s :	14.50%	82.28%	3.22%	9.41%	73.62%	16.97%	18.85%	52.96%	28.19%	6.80%	78.55%	14.65%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	53	255	12	138	922	233	54	112	61	48	729	142	2759
PEAK HR FACTOR :		0.842			0.965			0.930			0.957		0.988

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-012

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/5/2015

PM

NS/EW Streets:	N Alameda St			N Alameda St			N Vignes St_Alpine St			N Vignes St_Alpine St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	3	0	1	2	0	1	2	1	
3:00 PM	17	109	2	18	86	7	10	37	17	10	87	49	449
3:15 PM	17	148	5	15	89	11	17	38	15	10	76	54	495
3:30 PM	18	165	8	12	76	15	15	49	13	10	79	61	521
3:45 PM	27	184	5	18	98	7	11	45	18	14	93	77	597
4:00 PM	22	183	6	13	98	11	26	57	18	11	87	77	609
4:15 PM	30	219	6	19	97	8	20	53	19	8	85	72	636
4:30 PM	39	242	9	24	79	9	20	66	18	11	103	90	710
4:45 PM	28	227	16	20	86	19	37	52	15	12	84	91	687
5:00 PM	39	255	11	22	114	11	40	78	17	15	91	88	781
5:15 PM	36	233	7	26	95	18	24	89	18	15	86	83	730
5:30 PM	47	221	12	19	85	16	16	82	19	9	118	88	732
5:45 PM	49	241	18	26	90	10	20	63	14	15	111	86	743
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	369	2427	105	232	1093	142	256	709	201	140	1100	916	7690
APPROACH %'s :	12.72%	83.66%	3.62%	15.81%	74.51%	9.68%	21.96%	60.81%	17.24%	6.49%	51.02%	42.49%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	171	950	48	93	384	55	100	312	68	54	406	345	2986
PEAK HR FACTOR :		0.949			0.905			0.889			0.936		0.956

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-012 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Alameda St			N Alameda St			N Vignes St_Alpine St			N Vignes St_Alpine St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	3	0	1	2	0	1	2	1	
6:00 AM	4	15	0	9	75	5	1	20	7	8	21	10	175
6:15 AM	3	34	0	10	124	9	1	16	9	12	48	17	283
6:30 AM	4	41	2	22	172	15	1	21	9	11	66	15	379
6:45 AM	5	44	2	20	168	25	8	15	14	7	125	9	442
7:00 AM	4	22	1	23	208	44	2	30	7	7	169	19	536
7:15 AM	12	75	1	21	237	59	5	21	16	8	184	23	662
7:30 AM	17	67	2	35	223	43	7	26	16	17	171	43	667
7:45 AM	11	63	0	32	240	55	12	32	14	12	170	33	674
8:00 AM	14	44	5	33	204	75	11	27	16	7	179	25	640
8:15 AM	8	54	3	36	229	50	14	23	15	10	190	31	663
8:30 AM	14	48	4	30	126	59	5	18	17	20	176	30	547
8:45 AM	14	58	3	24	234	78	12	33	15	22	168	42	703
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	110	565	23	295	2240	517	79	282	155	141	1667	297	6371
APPROACH %'s :	15.76%	80.95%	3.30%	9.67%	73.39%	16.94%	15.31%	54.65%	30.04%	6.70%	79.19%	14.11%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	50	228	10	136	896	223	44	108	61	46	710	132	2644
PEAK HR FACTOR :		0.837			0.959			0.918			0.961		0.981

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-012

Day: Thursday

CARS

City: Los Angeles

Date: 11/5/2015

PM

NS/EW Streets:	N Alameda St			N Alameda St			N Vignes St_Alpine St			N Vignes St_Alpine St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	3	0	1	2	0	1	2	1	
3:00 PM	16	101	2	18	75	6	7	36	17	10	87	48	423
3:15 PM	16	143	5	14	81	9	16	37	14	8	73	50	466
3:30 PM	18	155	8	11	73	14	13	47	13	9	79	60	500
3:45 PM	27	175	5	18	96	4	8	45	18	14	89	74	573
4:00 PM	22	176	6	10	89	9	23	54	18	11	81	75	574
4:15 PM	30	206	5	17	91	7	18	51	19	8	84	69	605
4:30 PM	39	228	9	23	76	6	17	65	18	11	101	87	680
4:45 PM	28	219	16	20	83	18	35	52	15	12	83	88	669
5:00 PM	39	245	11	22	109	9	35	77	17	15	90	88	757
5:15 PM	36	227	7	26	92	15	23	86	18	13	85	81	709
5:30 PM	47	208	12	17	82	14	15	80	18	9	118	86	706
5:45 PM	48	230	16	26	89	9	20	63	13	14	111	84	723
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	366	2313	102	222	1036	120	230	693	198	134	1081	890	7385
APPROACH %'s :	13.16%	83.17%	3.67%	16.11%	75.18%	8.71%	20.52%	61.82%	17.66%	6.37%	51.35%	42.28%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	170	910	46	91	372	47	93	306	66	51	404	339	2895
PEAK HR FACTOR :		0.954			0.911			0.901			0.932		0.956

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South N Vignes St

East/West N Main St

Day: Thursday Date: November 5, 2015 Weather: SUNNY

Hours: 6-9 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	155	228	39	229
BIKES	7	9	50	26
BUSES	26	3	12	30

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	62	7.45	334	8.00	68	7.45	168	7.30
PM PK 15 MIN	191	17.00	179	17.00	120	17.15	266	17.45
AM PK HOUR	210	7.45	1249	7.15	258	7.30	567	7.30
PM PK HOUR	678	17.00	641	16.30	455	17.00	978	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	3	140	17	160
7-8	4	161	38	203
8-9	1	162	45	208
15-16	6	260	32	298
16-17	6	432	30	468
17-18	5	639	34	678
TOTAL	25	1794	196	2015

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	130	329	234	693
7-8	223	439	515	1177
8-9	195	470	570	1235
15-16	154	251	122	527
16-17	210	240	125	575
17-18	183	267	181	631
TOTAL	1095	1996	1747	4838

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
853	5	0	4	0
1380	6	0	8	0
1443	13	0	13	1
825	15	0	13	0
1043	10	0	3	0
1309	9	0	10	0
6853	58	0	51	1

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	13	126	7	146
7-8	52	178	1	231
8-9	71	164	7	242
15-16	96	149	8	253
16-17	129	202	4	335
17-18	222	232	1	455
TOTAL	583	1051	28	1662

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	0	146	111	257
7-8	0	355	176	531
8-9	0	353	158	511
15-16	0	494	182	676
16-17	0	594	267	861
17-18	0	626	352	978
TOTAL	0	2568	1246	3814

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
403	3	0	9	0
762	3	0	7	0
753	4	0	16	1
929	9	0	15	0
1196	6	0	8	0
1433	3	0	12	0
5476	28	0	67	1

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

N Vignes St and N Main St , Los Angeles

Date: 11/5/2015

Day: Thursday

Project #: 15-5663-015

City: Los Angeles

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Total Peak Hour Summary

Southbound Approach (N Vignes St)

Lanes	0	2	1		
AM	529	479	219	402	AM
NOON	0	0	0	0	NOON
PM	181	267	183	1213	PM

Eastbound Approach (N Main St)

Lanes	AM	NOON	PM
	920	0	812
1	59	0	222
2	194	0	232
0	5	0	1
Lanes	AM	NOON	PM

Westbound Approach

Lanes	AM	NOON	PM
0	177	0	352
2	390	0	626
1	0	0	0
	454	0	449
	AM	NOON	PM

CONTROL: Signalized

Northbound Approach

AM	484	1	166	41	AM
NOON	0	0	0	0	NOON
PM	268	5	639	34	PM
		0	2	0	Lanes

Count Periods	Start	End
AM	6:00 AM	9:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs

	North Leg		
AM	1227	402	AM
NOON	0	0	NOON
PM	631	1213	PM

West Leg				East Leg		
AM	NOON	PM		AM	NOON	PM
920	0	812		567	0	978
258	0	455		454	0	449

	South Leg	
AM	484	208
NOON	0	0
PM	268	678

Total Volume Per Leg

North Leg	
1629	AM
0	NOON
1844	PM

West Leg			East Leg		
AM	NOON	PM	AM	NOON	PM
1178	0	1267	1021	0	1427

South Leg	
AM	692
NOON	0
PM	946

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-015 **Day:** Thursday

City: Los Angeles **Date:** 11/5/2015

TOTALS

AM

NS/EW Streets:	N Vignes St			N Vignes St			N Main St			N Main St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	1	2	0	1	2	0	1	2	0	
6:00 AM	0	23	4	29	52	12	4	24	1	0	28	37	214
6:15 AM	0	41	5	41	80	38	0	25	2	0	48	25	305
6:30 AM	0	34	2	25	84	65	5	40	2	0	26	20	303
6:45 AM	3	42	6	35	113	119	4	37	2	0	44	29	434
7:00 AM	4	31	7	50	90	122	19	40	0	0	64	24	451
7:15 AM	0	30	9	48	133	151	8	32	0	0	71	49	531
7:30 AM	0	48	12	62	116	118	14	49	1	0	116	52	588
7:45 AM	0	52	10	63	100	124	11	57	0	0	104	51	572
8:00 AM	0	31	9	51	139	144	24	41	1	0	72	34	546
8:15 AM	1	35	10	43	124	143	10	47	3	0	98	40	554
8:30 AM	0	53	9	43	110	143	16	42	1	0	83	42	542
8:45 AM	0	43	17	58	97	140	21	34	2	0	100	42	554
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	8	463	100	548	1238	1319	136	468	15	0	854	445	5594
APPROACH %'s :	1.40%	81.09%	17.51%	17.65%	39.87%	42.48%	21.97%	75.61%	2.42%	0.00%	65.74%	34.26%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	1	166	41	219	479	529	59	194	5	0	390	177	2260
PEAK HR FACTOR :		0.839			0.918			0.949			0.844		0.961

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-015

Day: Thursday

City: Los Angeles

TOTALS

Date: 11/5/2015

PM

NS/EW Streets:	N Vignes St			N Vignes St			N Main St			N Main St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	1	2	0	1	2	0	1	2	0	
3:00 PM	2	52	8	34	52	28	22	32	1	0	116	28	375
3:15 PM	1	58	6	28	69	28	23	38	1	0	109	60	421
3:30 PM	0	68	8	60	64	25	27	40	4	0	123	49	468
3:45 PM	3	82	10	32	66	41	24	39	2	0	146	45	490
4:00 PM	3	85	5	62	64	25	27	45	3	0	147	63	529
4:15 PM	0	90	11	48	48	29	27	50	0	0	139	55	497
4:30 PM	1	128	8	69	69	38	37	60	1	0	156	62	629
4:45 PM	2	129	6	31	59	33	38	47	0	0	152	87	584
5:00 PM	0	182	9	47	78	54	61	54	0	0	144	79	708
5:15 PM	0	152	9	57	65	41	55	64	1	0	146	88	678
5:30 PM	3	152	5	42	58	42	49	65	0	0	167	88	671
5:45 PM	2	153	11	37	66	44	57	49	0	0	169	97	685
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	17	1331	96	547	758	428	447	583	13	0	1714	801	6735
APPROACH %'s :	1.18%	92.17%	6.65%	31.56%	43.74%	24.70%	42.86%	55.90%	1.25%	0.00%	68.15%	31.85%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	5	639	34	183	267	181	222	232	1	0	626	352	2742
PEAK HR FACTOR :		0.887			0.881			0.948			0.919		0.968

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-015

Day: Thursday

CARS

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	N Vignes St			N Vignes St			N Main St			N Main St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	1	2	0	1	2	0	1	2	0	
6:00 AM	0	20	3	24	48	12	4	24	1	0	28	36	200
6:15 AM	0	38	4	32	75	37	0	23	1	0	46	23	279
6:30 AM	0	30	2	24	80	62	3	38	2	0	25	19	285
6:45 AM	3	33	6	28	110	115	4	34	2	0	35	26	396
7:00 AM	4	27	6	47	86	121	18	36	0	0	60	22	427
7:15 AM	0	27	9	44	129	150	8	31	0	0	68	48	514
7:30 AM	0	40	11	61	112	116	14	49	1	0	110	48	562
7:45 AM	0	45	10	59	97	122	11	55	0	0	100	48	547
8:00 AM	0	26	9	50	131	140	22	41	1	0	67	28	515
8:15 AM	1	30	9	41	118	140	10	47	3	0	94	32	525
8:30 AM	0	38	9	38	100	139	14	40	1	0	80	27	486
8:45 AM	0	33	15	46	92	134	21	34	2	0	100	36	513
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	8	387	93	494	1178	1288	129	452	14	0	813	393	5249
APPROACH %'s :	1.64%	79.30%	19.06%	16.69%	39.80%	43.51%	21.68%	75.97%	2.35%	0.00%	67.41%	32.59%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	1	141	39	211	458	518	57	192	5	0	371	156	2149
PEAK HR FACTOR :		0.823			0.924			0.962			0.834		0.956

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-015 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Vigues St			N Vigues St			N Main St			N Main St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	1	2	0	1	2	0	1	2	0	
3:00 PM	2	47	8	32	48	28	22	29	1	0	115	24	356
3:15 PM	1	53	6	26	62	26	20	36	1	0	103	50	384
3:30 PM	0	62	8	56	63	24	27	38	4	0	122	38	442
3:45 PM	3	75	9	25	62	38	24	39	2	0	141	37	455
4:00 PM	3	76	5	57	58	24	27	42	3	0	140	53	488
4:15 PM	0	81	11	40	44	29	24	50	0	0	136	50	465
4:30 PM	1	121	8	66	68	38	35	59	1	0	152	54	603
4:45 PM	2	122	6	30	59	33	38	47	0	0	148	75	560
5:00 PM	0	168	9	44	75	54	61	54	0	0	142	72	679
5:15 PM	0	143	9	56	65	38	53	64	1	0	144	70	643
5:30 PM	3	144	5	39	57	42	49	63	0	0	165	71	638
5:45 PM	2	142	11	33	65	43	55	47	0	0	167	80	645
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	17	1234	95	504	726	417	435	568	13	0	1675	674	6358
APPROACH %'s :	1.26%	91.68%	7.06%	30.60%	44.08%	25.32%	42.81%	55.91%	1.28%	0.00%	71.31%	28.69%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	5	597	34	172	262	177	218	228	1	0	618	293	2605
PEAK HR FACTOR :		0.898			0.883			0.947			0.922		0.959

CONTROL : Signalized

City Of Los Angeles
Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:
North/South N Alameda St_N Spring St

East/West W College St

Day: Thursday Date: November 5, 2015 Weather: SUNNY

Hours: 6-9 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	184	165	33	78
BIKES	27	23	15	9
BUSES	124	69	40	35

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	117	7.30	358	8.45	95	8.45	51	8.15
PM PK 15 MIN	386	17.00	125	17.15	114	17.00	74	17.30
AM PK HOUR	441	7.15	1283	8.00	311	7.30	186	8.00
PM PK HOUR	1397	16.30	426	16.45	376	16.15	247	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	85	155	4	244
7-8	159	223	5	387
8-9	170	235	11	416
15-16	292	588	12	892
16-17	477	767	14	1258
17-18	516	852	27	1395
TOTAL	1699	2820	73	4592

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	12	578	51	641
7-8	5	1016	96	1117
8-9	11	1123	149	1283
15-16	7	284	45	336
16-17	14	274	60	348
17-18	9	317	98	424
TOTAL	58	3592	499	4149

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
885	27	1	12	0
1504	59	5	25	3
1699	66	2	22	0
1228	77	5	24	0
1606	58	1	15	0
1819	50	0	18	0
8741	337	14	116	3

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	44	40	146	230
7-8	77	42	165	284
8-9	78	67	162	307
15-16	76	75	138	289
16-17	101	78	160	339
17-18	105	92	168	365
TOTAL	481	394	939	1814

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	37	43	30	110
7-8	25	118	5	148
8-9	28	148	10	186
15-16	11	68	12	91
16-17	21	104	18	143
17-18	31	190	26	247
TOTAL	153	671	101	925

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
340	17	0	2	0
432	12	1	10	1
493	24	0	15	0
380	53	0	20	1
482	25	0	13	2
612	16	0	9	1
2739	147	1	69	5

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

N Alameda St N Spring St and W College St , Los Angeles

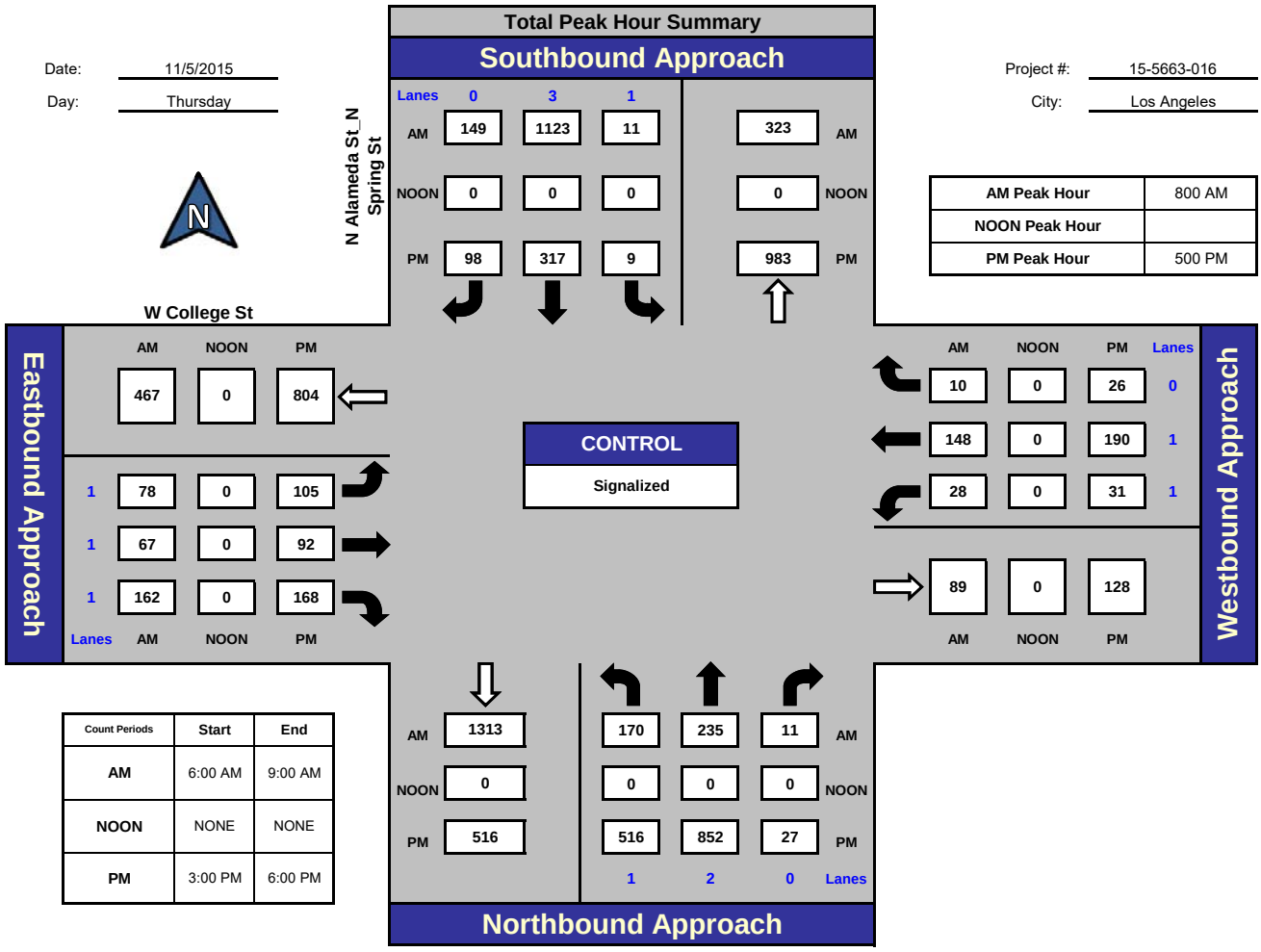
Date: 11/5/2015

Day: Thursday

Project #: 15-5663-016

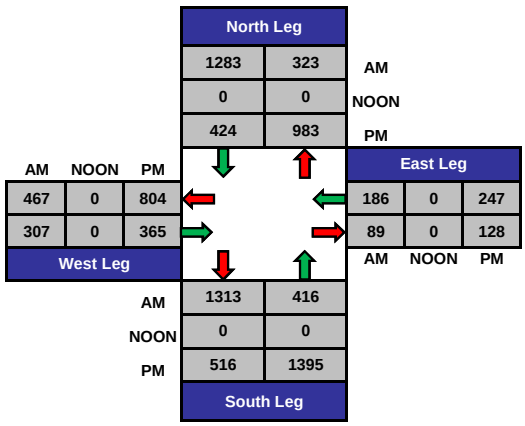
City: Los Angeles

AM Peak Hour	800 AM
NOON Peak Hour	
PM Peak Hour	500 PM

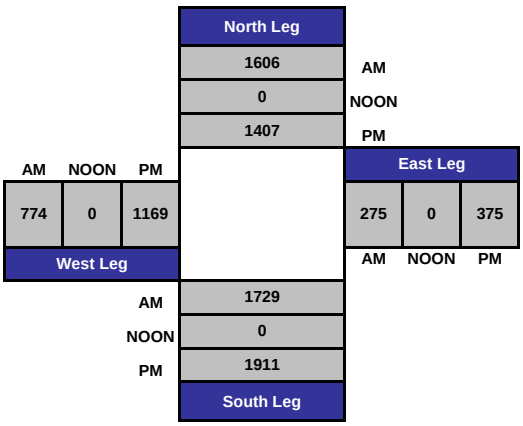


Count Periods	Start	End
AM	6:00 AM	9:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-016

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	N Alameda St_N Spring St			N Alameda St_N Spring St			W College St			W College St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	3	0	1	1	1	1	1	0	
6:00 AM	20	20	1	3	90	7	10	4	28	12	9	13	217
6:15 AM	20	44	1	1	130	12	15	10	36	16	9	7	301
6:30 AM	22	43	1	5	165	15	10	13	44	6	10	6	340
6:45 AM	23	48	1	3	193	17	9	13	38	3	15	4	367
7:00 AM	22	27	0	1	232	19	12	5	36	3	34	1	392
7:15 AM	30	80	1	1	276	19	22	5	37	4	27	1	503
7:30 AM	59	55	3	0	240	24	19	16	47	8	24	3	498
7:45 AM	48	61	1	3	268	34	24	16	45	10	33	0	543
8:00 AM	40	62	1	3	265	30	22	13	41	8	28	2	515
8:15 AM	48	55	4	3	293	27	15	17	36	6	43	2	549
8:30 AM	41	50	2	1	264	39	20	13	35	8	41	2	516
8:45 AM	41	68	4	4	301	53	21	24	50	6	36	4	612
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	414	613	20	28	2717	296	199	149	473	90	309	45	5353
APPROACH %'s :	39.54%	58.55%	1.91%	0.92%	89.35%	9.73%	24.24%	18.15%	57.61%	20.27%	69.59%	10.14%	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	170	235	11	11	1123	149	78	67	162	28	148	10	2192
PEAK HR FACTOR :		0.920			0.896			0.808			0.912		0.895

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-016 **Day:** Thursday

City: Los Angeles **Date:** 11/5/2015

TOTALS

PM

NS/EW Streets:	N Alameda St_N Spring St			N Alameda St_N Spring St			W College St			W College St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	3	0	1	1	1	1	1	0	
3:00 PM	56	117	3	1	64	11	19	27	38	4	11	2	353
3:15 PM	68	140	4	0	75	13	19	16	33	3	14	2	387
3:30 PM	82	159	3	3	62	13	24	14	34	1	23	3	421
3:45 PM	86	172	2	3	83	8	14	18	33	3	20	5	447
4:00 PM	101	175	1	3	77	11	25	14	38	3	20	5	473
4:15 PM	118	175	4	2	71	11	27	23	42	7	25	2	507
4:30 PM	139	192	3	2	54	19	17	15	51	5	31	2	530
4:45 PM	119	225	6	7	72	19	32	26	29	6	28	9	578
5:00 PM	142	239	5	3	82	19	30	29	55	9	36	7	656
5:15 PM	116	206	5	2	91	32	24	24	35	8	55	5	603
5:30 PM	120	206	7	2	76	21	27	16	44	6	58	10	593
5:45 PM	138	201	10	2	68	26	24	23	34	8	41	4	579
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1285	2207	53	30	875	203	282	245	466	63	362	56	6127
APPROACH %'s :	36.25%	62.26%	1.50%	2.71%	78.97%	18.32%	28.40%	24.67%	46.93%	13.10%	75.26%	11.64%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	516	852	27	9	317	98	105	92	168	31	190	26	2431
PEAK HR FACTOR :		0.903			0.848			0.800			0.834		0.926

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-016 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Alameda St_N Spring St			N Alameda St_N Spring St			W College St			W College St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	3	0	1	1	1	1	1	0	
6:00 AM	15	16	1	3	58	7	10	4	28	0	5	1	148
6:15 AM	18	37	1	1	105	11	13	9	35	3	6	2	241
6:30 AM	19	38	1	4	147	14	8	13	44	0	10	2	300
6:45 AM	19	38	1	2	184	17	6	13	36	1	14	2	333
7:00 AM	19	21	0	1	222	19	10	5	36	1	33	1	368
7:15 AM	27	72	1	1	268	19	20	5	34	2	27	1	477
7:30 AM	55	45	3	0	235	23	17	16	45	7	23	1	470
7:45 AM	44	53	1	3	265	32	23	16	43	9	32	0	521
8:00 AM	38	54	1	3	258	30	21	13	40	6	28	1	493
8:15 AM	45	45	2	1	286	27	10	17	36	3	43	2	517
8:30 AM	39	39	1	1	254	37	19	13	35	7	40	2	487
8:45 AM	38	57	0	1	293	50	19	23	49	5	36	4	575
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	376	515	13	21	2575	286	176	147	461	44	297	19	4930
APPROACH %'s :	41.59%	56.97%	1.44%	0.73%	89.35%	9.92%	22.45%	18.75%	58.80%	12.22%	82.50%	5.28%	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	160	195	4	6	1091	144	69	66	160	21	147	9	2072
PEAK HR FACTOR :		0.945			0.902			0.810			0.903		0.901

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-016 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Alameda St_N Spring St			N Alameda St_N Spring St			W College St			W College St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	3	0	1	1	1	1	1	0	
3:00 PM	53	105	3	1	55	11	17	27	38	2	11	2	325
3:15 PM	66	134	4	0	69	13	18	14	31	1	14	2	366
3:30 PM	80	149	2	2	58	12	24	14	33	0	23	3	400
3:45 PM	85	159	1	1	80	8	12	17	33	1	19	5	421
4:00 PM	98	163	1	3	68	11	21	14	35	2	20	2	438
4:15 PM	114	167	2	1	67	11	27	21	41	5	25	2	483
4:30 PM	135	182	0	0	50	19	16	13	50	4	31	2	502
4:45 PM	115	216	5	0	69	18	31	25	29	5	27	8	548
5:00 PM	139	229	2	1	78	19	28	29	55	7	36	6	629
5:15 PM	113	201	4	1	88	32	22	24	34	7	54	4	584
5:30 PM	115	199	5	2	71	21	27	15	42	4	57	10	568
5:45 PM	135	192	7	1	66	26	24	23	33	8	39	4	558
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1248	2096	36	13	819	201	267	236	454	46	356	50	5822
APPROACH %'s :	36.92%	62.01%	1.07%	1.26%	79.28%	19.46%	27.90%	24.66%	47.44%	10.18%	78.76%	11.06%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	502	821	18	5	303	98	101	91	164	26	186	24	2339
PEAK HR FACTOR :		0.906			0.839			0.795			0.831		0.930

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South N Los Angeles St

East/West Arcadia St

Day: Thursday Date: November 5, 2015 Weather: SUNNY

Hours: 6-9 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	49	39	0	107
BIKES	28	45	3	8
BUSES	65	70	0	353

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	95	7.45	96	7.45	0	0.00	475	7.30
PM PK 15 MIN	338	17.45	58	17.45	0	0.00	188	17.45
AM PK HOUR	339	7.45	367	7.45	0	0.00	1860	7.15
PM PK HOUR	1226	17.00	187	17.00	0	0.00	639	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	19	132	0	151
7-8	66	211	0	277
8-9	74	260	0	334
15-16	57	597	0	654
16-17	107	834	0	941
17-18	183	1043	0	1226
TOTAL	506	3077	0	3583

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	0	166	13	179
7-8	0	325	25	350
8-9	0	320	40	360
15-16	0	109	36	145
16-17	0	113	29	142
17-18	0	149	38	187
TOTAL	0	1182	181	1363

TOTAL

N-S
330
627
694
799
1083
1413
4946

XING S/L

Ped	Sch
3	0
0	0
0	0
0	0
0	0
0	0
3	0

XING N/L

Ped	Sch
17	1
32	0
22	0
32	0
29	2
33	1
165	4

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	0	0	0	0
7-8	0	0	0	0
8-9	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	268	1281	41	1590
7-8	288	1519	43	1850
8-9	274	1508	55	1837
15-16	87	421	22	530
16-17	102	373	20	495
17-18	101	516	22	639
TOTAL	1120	5618	203	6941

TOTAL

E-W
1590
1850
1837
530
495
639
6941

XING W/L

Ped	Sch
26	0
41	0
32	0
39	2
49	0
50	0
237	2

XING E/L

Ped	Sch
74	0
93	1
77	0
70	0
62	1
47	0
423	2

ITM Peak Hour Summary

Prepared by:

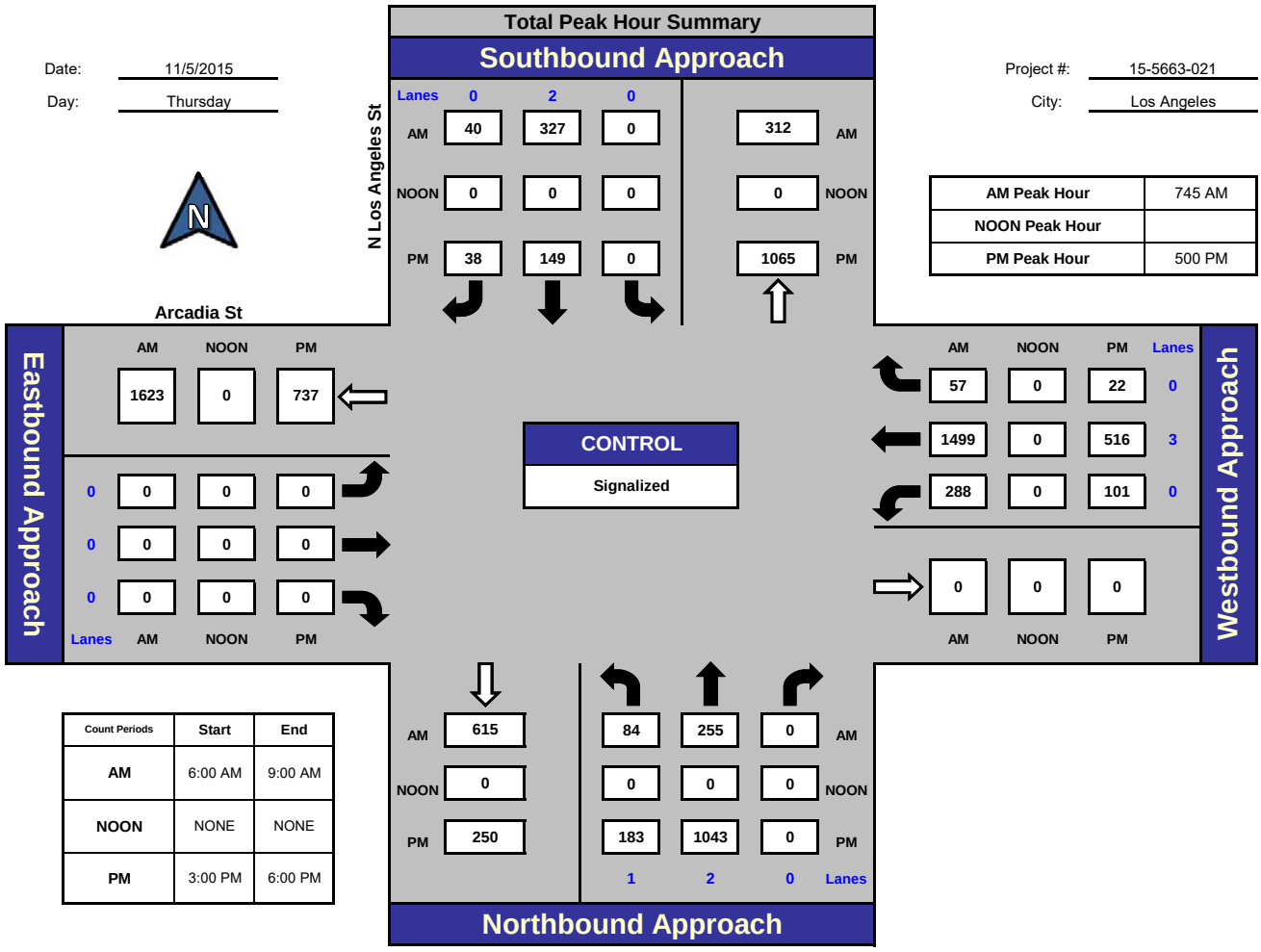
National Data & Surveying Services

N Los Angeles St and Arcadia St , Los Angeles

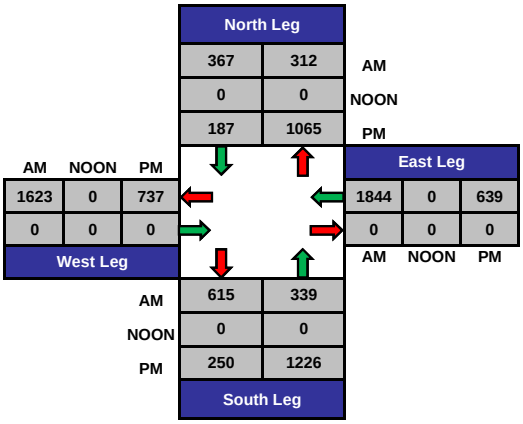
Date: 11/5/2015
Day: Thursday

Project #: 15-5663-021
City: Los Angeles

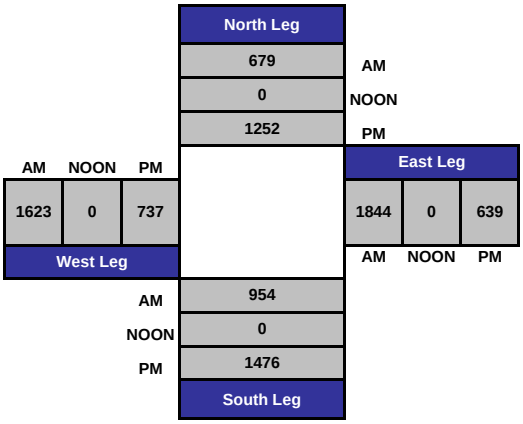
AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	500 PM



Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-021 **Day:** Thursday

TOTALS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			Arcadia St			Arcadia St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	2	0	0	0	0	0	3	0	
6:00 AM	3	24	0	0	17	4	0	0	0	73	283	5	409
6:15 AM	2	34	0	0	29	4	0	0	0	59	314	10	452
6:30 AM	8	40	0	0	49	2	0	0	0	65	319	13	496
6:45 AM	6	34	0	0	71	3	0	0	0	71	365	13	563
7:00 AM	6	40	0	0	76	3	0	0	0	72	364	14	575
7:15 AM	16	45	0	0	80	7	0	0	0	68	386	7	609
7:30 AM	19	56	0	0	80	8	0	0	0	62	405	8	638
7:45 AM	25	70	0	0	89	7	0	0	0	86	364	14	655
8:00 AM	14	56	0	0	79	10	0	0	0	75	371	14	619
8:15 AM	24	59	0	0	76	12	0	0	0	62	373	11	617
8:30 AM	21	70	0	0	83	11	0	0	0	65	391	18	659
8:45 AM	15	75	0	0	82	7	0	0	0	72	373	12	636
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	159	603	0	0	811	78	0	0	0	830	4308	139	6928
APPROACH %'s :	20.87%	79.13%	0.00%	0.00%	91.23%	8.77%	#DIV/0!	#DIV/0!	#DIV/0!	15.73%	81.64%	2.63%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	84	255	0	0	327	40	0	0	0	288	1499	57	2550
PEAK HR FACTOR :		0.892			0.956			0.000			0.973		0.967

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-021

Day: Thursday

City: Los Angeles

TOTALS

Date: 11/5/2015

PM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			Arcadia St			Arcadia St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	2	0	0	0	0	0	3	0	
3:00 PM	12	130	0	0	28	9	0	0	0	21	101	6	307
3:15 PM	18	135	0	0	28	9	0	0	0	24	118	3	335
3:30 PM	11	167	0	0	23	12	0	0	0	19	127	8	367
3:45 PM	16	165	0	0	30	6	0	0	0	23	75	5	320
4:00 PM	23	194	0	0	27	10	0	0	0	27	79	6	366
4:15 PM	34	213	0	0	25	3	0	0	0	20	75	5	375
4:30 PM	28	190	0	0	31	7	0	0	0	21	104	5	386
4:45 PM	22	237	0	0	30	9	0	0	0	34	115	4	451
5:00 PM	40	219	0	0	40	5	0	0	0	22	133	5	464
5:15 PM	37	265	0	0	29	6	0	0	0	25	96	7	465
5:30 PM	42	285	0	0	33	16	0	0	0	31	127	5	539
5:45 PM	64	274	0	0	47	11	0	0	0	23	160	5	584
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	347	2474	0	0	371	103	0	0	0	290	1310	64	4959
APPROACH %'s :	12.30%	87.70%	0.00%	0.00%	78.27%	21.73%	#DIV/0!	#DIV/0!	#DIV/0!	17.43%	78.73%	3.85%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	183	1043	0	0	149	38	0	0	0	101	516	22	2052
PEAK HR FACTOR :		0.907			0.806			0.000			0.850		0.878

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-021 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			Arcadia St			Arcadia St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	2	0	0	0	0	0	3	0	
6:00 AM	3	22	0	0	14	4	0	0	0	69	269	5	386
6:15 AM	2	31	0	0	25	4	0	0	0	57	295	10	424
6:30 AM	8	36	0	0	44	2	0	0	0	64	301	13	468
6:45 AM	6	30	0	0	66	3	0	0	0	70	339	13	527
7:00 AM	6	35	0	0	70	3	0	0	0	70	339	14	537
7:15 AM	15	40	0	0	76	7	0	0	0	65	358	6	567
7:30 AM	19	51	0	0	75	7	0	0	0	62	384	8	606
7:45 AM	25	65	0	0	85	6	0	0	0	82	341	14	618
8:00 AM	14	49	0	0	75	9	0	0	0	75	346	14	582
8:15 AM	24	57	0	0	74	10	0	0	0	59	356	11	591
8:30 AM	19	66	0	0	80	10	0	0	0	64	368	15	622
8:45 AM	15	69	0	0	78	6	0	0	0	71	354	12	605
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	156	551	0	0	762	71	0	0	0	808	4050	135	6533
APPROACH %'s :	22.07%	77.93%	0.00%	0.00%	91.48%	8.52%				16.18%	81.11%	2.70%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	82	237	0	0	314	35	0	0	0	280	1411	54	2413
PEAK HR FACTOR :		0.886			0.959			0.000			0.976		0.970

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-021 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			Arcadia St			Arcadia St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	2	0	0	0	0	0	3	0	
3:00 PM	12	125	0	0	23	6	0	0	0	21	94	6	287
3:15 PM	18	132	0	0	24	9	0	0	0	24	106	3	316
3:30 PM	11	162	0	0	21	11	0	0	0	18	112	8	343
3:45 PM	16	157	0	0	26	6	0	0	0	23	61	5	294
4:00 PM	23	189	0	0	23	8	0	0	0	27	68	6	344
4:15 PM	34	210	0	0	20	3	0	0	0	19	61	4	351
4:30 PM	28	188	0	0	28	6	0	0	0	20	89	5	364
4:45 PM	21	232	0	0	27	9	0	0	0	34	100	4	427
5:00 PM	40	211	0	0	37	4	0	0	0	21	115	3	431
5:15 PM	37	261	0	0	27	6	0	0	0	22	84	6	443
5:30 PM	42	280	0	0	28	16	0	0	0	29	114	5	514
5:45 PM	64	269	0	0	42	11	0	0	0	23	143	5	557
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	346	2416	0	0	326	95	0	0	0	281	1147	60	4671
APPROACH %'s :	12.53%	87.47%	0.00%	0.00%	77.43%	22.57%				18.88%	77.08%	4.03%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	183	1021	0	0	134	37	0	0	0	95	456	19	1945
PEAK HR FACTOR :		0.904			0.807			0.000			0.833		0.873

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South N Los Angeles St

East/West E Aliso St

Day: Thursday Date: November 5, 2015 Weather: SUNNY

Hours: 6-9 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	53	31	31	0
BIKES	23	52	7	3
BUSES	71	89	229	0

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	100	8.45	172	7.45	89	8.15	0	0.00
PM PK 15 MIN	366	17.45	68	17.00	120	15.15	0	0.00
AM PK HOUR	369	8.00	623	7.15	315	8.00	0	0.00
PM PK HOUR	1311	17.00	252	17.00	452	15.00	0	0.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	0	127	27	154
7-8	0	268	38	306
8-9	1	298	70	369
15-16	0	572	130	702
16-17	0	875	165	1040
17-18	0	1153	158	1311
TOTAL	1	3293	588	3882

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	0	428	0	428
7-8	0	615	0	615
8-9	0	599	0	599
15-16	0	189	0	189
16-17	1	210	0	211
17-18	0	252	0	252
TOTAL	1	2293	0	2294

TOTAL

N-S
582
921
968
891
1251
1563
6176

XING S/L

Ped	Sch
44	0
42	0
35	0
33	2
87	0
61	0
302	2

XING N/L

Ped	Sch
0	0
0	0
1	0
0	0
0	0
1	0
2	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	28	86	61	175
7-8	4	117	122	243
8-9	41	118	156	315
15-16	81	320	51	452
16-17	61	286	32	379
17-18	79	246	20	345
TOTAL	294	1173	442	1909

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	0	0	0	0
7-8	0	0	0	0
8-9	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

TOTAL

E-W
175
243
315
452
379
345
1909

XING W/L

Ped	Sch
31	0
37	0
36	0
36	1
29	0
33	0
202	1

XING E/L

Ped	Sch
80	0
115	0
84	0
78	1
87	0
65	0
509	1

ITM Peak Hour Summary

Prepared by:

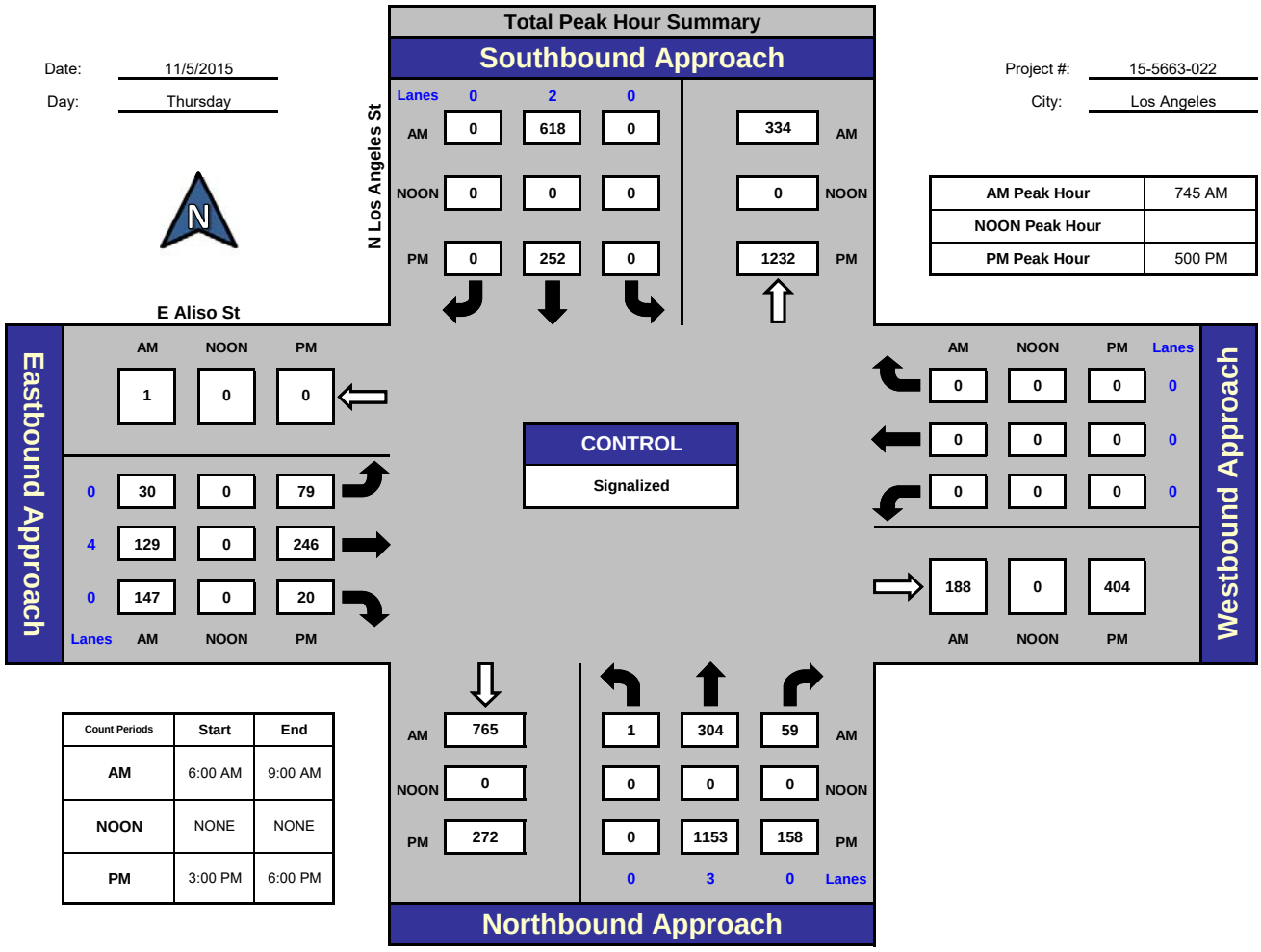
National Data & Surveying Services

N Los Angeles St and E Aliso St , Los Angeles

Date: 11/5/2015
Day: Thursday

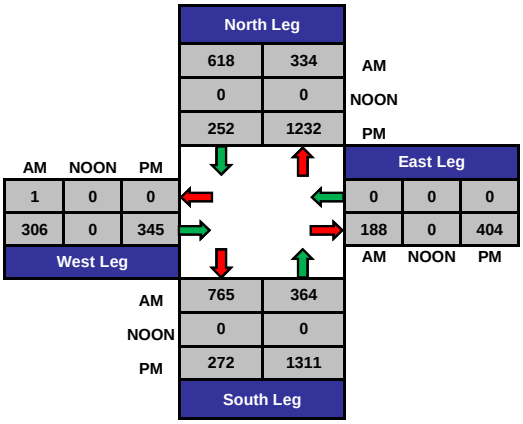
Project #: 15-5663-022
City: Los Angeles

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	500 PM

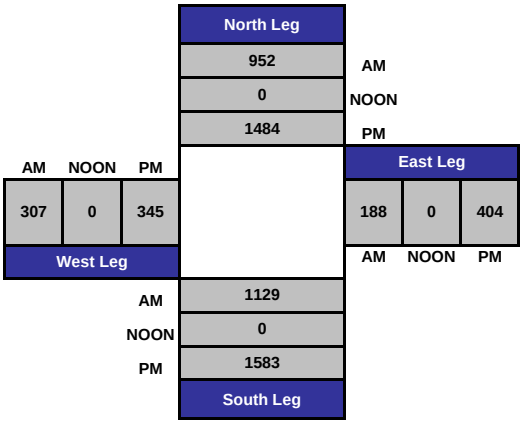


Count Periods	Start	End
AM	6:00 AM	9:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-022

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			E Aliso St			E Aliso St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	0	2	0	0	4	0	0	0	0	
6:00 AM	0	14	7	0	86	0	9	22	10	0	0	0	148
6:15 AM	0	35	6	0	85	0	2	21	12	0	0	0	161
6:30 AM	0	37	7	0	118	0	10	24	19	0	0	0	215
6:45 AM	0	41	7	0	139	0	7	19	20	0	0	0	233
7:00 AM	0	42	17	0	146	0	1	26	29	0	0	0	261
7:15 AM	0	56	6	0	153	0	0	31	28	0	0	0	274
7:30 AM	0	82	8	0	144	0	0	30	34	0	0	0	298
7:45 AM	0	88	7	0	172	0	3	30	31	0	0	0	331
8:00 AM	0	62	20	0	154	0	10	29	40	0	0	0	315
8:15 AM	0	77	15	0	142	0	5	39	45	0	0	0	323
8:30 AM	1	77	17	0	150	0	12	31	31	0	0	0	319
8:45 AM	0	82	18	0	153	0	14	19	40	0	0	0	326
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	693	135	0	1642	0	73	321	339	0	0	0	3204
APPROACH %'s :	0.12%	83.59%	16.28%	0.00%	100.00%	0.00%	9.96%	43.79%	46.25%	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	1	304	59	0	618	0	30	129	147	0	0	0	1288
PEAK HR FACTOR :		0.958			0.898			0.860			0.000		0.973

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-022

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/5/2015

PM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			E Aliso St			E Aliso St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	0	2	0	0	4	0	0	0	0	
3:00 PM	0	121	21	0	41	0	18	87	12	0	0	0	300
3:15 PM	0	133	36	0	53	0	20	85	15	0	0	0	342
3:30 PM	0	151	35	0	45	0	26	80	13	0	0	0	350
3:45 PM	0	167	38	0	50	0	17	68	11	0	0	0	351
4:00 PM	0	205	30	0	56	0	15	71	10	0	0	0	387
4:15 PM	0	227	46	0	44	0	14	81	9	0	0	0	421
4:30 PM	0	212	48	0	49	0	8	75	7	0	0	0	399
4:45 PM	0	231	41	1	61	0	24	59	6	0	0	0	423
5:00 PM	0	244	47	0	68	0	17	59	6	0	0	0	441
5:15 PM	0	284	38	0	51	0	17	54	4	0	0	0	448
5:30 PM	0	299	33	0	67	0	27	70	4	0	0	0	500
5:45 PM	0	326	40	0	66	0	18	63	6	0	0	0	519
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	2600	453	1	651	0	221	852	103	0	0	0	4881
APPROACH %'s :	0.00%	85.16%	14.84%	0.15%	99.85%	0.00%	18.79%	72.45%	8.76%	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	1153	158	0	252	0	79	246	20	0	0	0	1908
PEAK HR FACTOR :		0.895			0.926			0.854			0.000		0.919

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-022

Day: Thursday

CARS

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			E Aliso St			E Aliso St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	0	2	0	0	4	0	0	0	0	
6:00 AM	0	12	7	0	79	0	9	17	10	0	0	0	134
6:15 AM	0	32	6	0	79	0	2	18	12	0	0	0	149
6:30 AM	0	33	7	0	112	0	10	17	19	0	0	0	198
6:45 AM	0	37	7	0	134	0	7	14	20	0	0	0	219
7:00 AM	0	37	15	0	139	0	1	22	28	0	0	0	242
7:15 AM	0	50	6	0	146	0	0	24	28	0	0	0	254
7:30 AM	0	77	7	0	139	0	0	19	34	0	0	0	276
7:45 AM	0	83	7	0	165	0	3	20	31	0	0	0	309
8:00 AM	0	55	19	0	149	0	10	22	40	0	0	0	295
8:15 AM	0	75	15	0	138	0	5	30	45	0	0	0	308
8:30 AM	1	71	17	0	146	0	12	23	29	0	0	0	299
8:45 AM	0	75	18	0	147	0	14	13	40	0	0	0	307
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	637	131	0	1573	0	73	239	336	0	0	0	2990
APPROACH %'s :	0.13%	82.83%	17.04%	0.00%	100.00%	0.00%	11.27%	36.88%	51.85%				
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	1	284	58	0	598	0	30	95	145	0	0	0	1211
PEAK HR FACTOR :		0.953			0.906			0.844			0.000		0.980

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-022 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			E Aliso St			E Aliso St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	0	2	0	0	4	0	0	0	0	
3:00 PM	0	116	21	0	37	0	18	80	12	0	0	0	284
3:15 PM	0	131	36	0	51	0	20	79	15	0	0	0	332
3:30 PM	0	146	33	0	42	0	26	64	12	0	0	0	323
3:45 PM	0	160	36	0	46	0	15	59	11	0	0	0	327
4:00 PM	0	202	30	0	52	0	14	60	10	0	0	0	368
4:15 PM	0	224	44	0	39	0	14	66	9	0	0	0	396
4:30 PM	0	211	48	0	44	0	8	58	7	0	0	0	376
4:45 PM	0	225	40	1	58	0	24	42	6	0	0	0	396
5:00 PM	0	236	45	0	64	0	17	43	6	0	0	0	411
5:15 PM	0	280	38	0	47	0	17	44	4	0	0	0	430
5:30 PM	0	294	33	0	60	0	27	45	4	0	0	0	463
5:45 PM	0	321	39	0	60	0	18	41	6	0	0	0	485
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	2546	443	1	600	0	218	681	102	0	0	0	4591
APPROACH %'s :	0.00%	85.18%	14.82%	0.17%	99.83%	0.00%	21.78%	68.03%	10.19%				
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	1131	155	0	231	0	79	173	20	0	0	0	1789
PEAK HR FACTOR :		0.893			0.902			0.895			0.000		0.922

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South N Los Angeles St

East/West Temple St

Day: Thursday Date: November 5, 2015 Weather: SUNNY

Hours: 6-9 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	57	55	58	73
BIKES	20	46	18	4
BUSES	17	93	143	116

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	118	8.30	302	8.45	158	8.15	270	7.15
PM PK 15 MIN	372	17.45	187	16.30	255	17.00	220	16.00
AM PK HOUR	446	8.00	1158	8.00	572	7.45	983	7.00
PM PK HOUR	1345	17.00	694	16.30	903	16.45	775	16.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	27	144	15	186
7-8	69	255	42	366
8-9	63	324	59	446
15-16	91	694	62	847
16-17	93	935	59	1087
17-18	167	1116	62	1345
TOTAL	510	3468	299	4277

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	96	585	59	740
7-8	136	761	75	972
8-9	170	881	107	1158
15-16	99	343	168	610
16-17	97	357	219	673
17-18	76	374	129	579
TOTAL	674	3301	757	4732

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
926	61	0	49	0
1338	119	0	80	0
1604	171	0	105	0
1457	118	0	65	0
1760	125	0	84	0
1924	131	0	43	0
9009	725	0	426	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	28	150	115	293
7-8	37	271	175	483
8-9	39	370	163	572
15-16	54	463	141	658
16-17	103	581	114	798
17-18	107	622	113	842
TOTAL	368	2457	821	3646

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	66	417	37	520
7-8	111	779	93	983
8-9	88	704	115	907
15-16	59	457	176	692
16-17	52	513	210	775
17-18	69	375	264	708
TOTAL	445	3245	895	4585

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
813	42	0	92	0
1466	71	0	133	2
1479	60	0	128	1
1350	66	0	114	0
1573	68	0	103	1
1550	44	0	90	0
8231	351	0	660	4

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

N Los Angeles St and Temple St , Los Angeles

Date: 11/5/2015
Day: Thursday

Project #: 15-5663-023
City: Los Angeles

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Total Peak Hour Summary

Southbound Approach (N Los Angeles St)

Lanes	1	2	1		
AM	91	888	164	467	AM
NOON	0	0	0	0	NOON
PM	158	387	84	1437	PM

Eastbound Approach (Temple St)

Lanes	AM	NOON	PM
	879	0	704
1	32	0	120
2	373	0	673
0	167	0	110
Lanes	AM	NOON	PM

Westbound Approach

Lanes	AM	NOON	PM
1	118	0	237
2	720	0	401
1	97	0	70
	587	0	828
	AM	NOON	PM

CONTROL: Signalized

Northbound Approach

AM	1152	68	317	50	AM
NOON	0	0	0	0	NOON
PM	567	145	1080	71	PM
		1	3	0	Lanes

Count Periods	Start	End
AM	6:00 AM	9:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs

North Leg		
1143	467	AM
0	0	NOON
629	1437	PM

West Leg			East Leg		
AM	NOON	PM			
879	0	704	935	0	708
572	0	903	587	0	828
			AM	NOON	PM

South Leg		
1152	435	AM
0	0	NOON
567	1296	PM

Total Volume Per Leg

North Leg	
1610	AM
0	NOON
2066	PM

West Leg			East Leg		
AM	NOON	PM			
1451	0	1607	1522	0	1536
			AM	NOON	PM

South Leg	
1587	AM
0	NOON
1863	PM

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-023 **Day:** Thursday

TOTALS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			Temple St			Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	1	2	1	1	2	0	1	2	1	
6:00 AM	4	28	2	26	142	7	6	34	16	13	48	4	330
6:15 AM	7	33	6	29	130	15	7	27	27	16	73	13	383
6:30 AM	4	49	5	21	151	20	8	36	38	21	120	9	482
6:45 AM	12	34	2	20	162	17	7	53	34	16	176	11	544
7:00 AM	13	48	7	28	180	11	9	61	36	22	218	17	650
7:15 AM	21	55	14	32	166	24	8	62	50	24	221	25	702
7:30 AM	17	77	12	41	184	19	11	66	45	34	178	22	706
7:45 AM	18	75	9	35	231	21	9	82	44	31	162	29	746
8:00 AM	22	68	12	40	227	24	8	91	38	22	181	34	767
8:15 AM	16	81	16	44	203	20	2	106	50	19	195	29	781
8:30 AM	12	93	13	45	227	26	13	94	35	25	182	26	791
8:45 AM	13	82	18	41	224	37	16	79	40	22	146	26	744
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	159	723	116	402	2227	241	104	791	453	265	1900	245	7626
APPROACH %'s :	15.93%	72.44%	11.62%	14.01%	77.60%	8.40%	7.72%	58.68%	33.61%	11.00%	78.84%	10.17%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	68	317	50	164	888	91	32	373	167	97	720	118	3085
PEAK HR FACTOR :		0.922			0.959			0.905			0.962		0.975

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-023 | **Day:** Thursday

City: Los Angeles | **Date:** 11/5/2015

TOTALS

PM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			Temple St			Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	1	2	1	1	2	0	1	2	1	
3:00 PM	22	146	12	29	81	40	16	100	44	15	112	45	662
3:15 PM	17	168	22	29	89	34	11	112	39	13	123	43	700
3:30 PM	29	183	13	22	89	53	14	114	34	15	128	47	741
3:45 PM	23	197	15	19	84	41	13	137	24	16	94	41	704
4:00 PM	12	207	9	33	87	53	23	134	30	15	146	59	808
4:15 PM	16	231	16	18	71	49	27	137	32	5	119	56	777
4:30 PM	37	226	10	24	97	66	26	150	25	19	119	46	845
4:45 PM	28	271	24	22	102	51	27	160	27	13	129	49	903
5:00 PM	32	254	18	24	103	48	23	199	33	19	112	65	930
5:15 PM	31	278	19	22	89	46	29	160	29	22	69	58	852
5:30 PM	54	277	10	16	93	13	41	154	21	16	91	65	851
5:45 PM	50	307	15	14	89	22	14	109	30	12	103	76	841
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	351	2745	183	272	1074	516	264	1666	368	180	1345	650	9614
APPROACH %'s :	10.70%	83.71%	5.58%	14.61%	57.68%	27.71%	11.49%	72.50%	16.01%	8.28%	61.84%	29.89%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	145	1080	71	84	387	158	120	673	110	70	401	237	3536
PEAK HR FACTOR :		0.950			0.899			0.885			0.903		0.951

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-023

Day: Thursday

CARS

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			Temple St			Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	1	2	1	1	2	0	1	2	1	
6:00 AM	4	28	2	24	136	4	4	30	16	13	43	4	308
6:15 AM	7	33	6	29	123	15	4	22	27	14	66	13	359
6:30 AM	4	47	5	21	148	17	5	34	38	20	118	9	466
6:45 AM	12	31	2	18	158	15	6	47	34	15	168	11	517
7:00 AM	13	45	6	28	178	8	7	57	35	20	210	16	623
7:15 AM	21	53	12	31	163	21	5	55	50	23	217	23	674
7:30 AM	17	73	12	41	182	14	8	63	45	34	172	22	683
7:45 AM	17	71	7	34	227	19	8	73	44	31	155	28	714
8:00 AM	22	67	12	40	225	21	4	81	38	21	172	32	735
8:15 AM	16	80	15	44	200	17	1	98	49	19	189	29	757
8:30 AM	12	90	13	43	224	24	10	85	34	25	172	26	758
8:45 AM	13	75	17	41	223	31	12	73	40	22	138	26	711
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	158	693	109	394	2187	206	74	718	450	257	1820	239	7305
APPROACH %'s :	16.46%	72.19%	11.35%	14.14%	78.47%	7.39%	5.96%	57.81%	36.23%	11.10%	78.58%	10.32%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	67	308	47	161	876	81	23	337	165	96	688	115	2964
PEAK HR FACTOR :		0.917			0.960			0.887			0.948		0.978

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-023 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			Temple St			Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	1	2	1	1	2	0	1	2	1	
3:00 PM	22	143	11	28	80	37	14	96	44	15	100	45	635
3:15 PM	17	167	22	29	89	31	9	108	38	13	117	43	683
3:30 PM	28	179	11	21	87	49	11	109	33	15	121	45	709
3:45 PM	23	195	14	18	82	38	8	129	23	16	87	41	674
4:00 PM	12	206	8	32	87	50	21	132	30	13	140	59	790
4:15 PM	16	230	16	18	70	45	24	128	32	4	112	55	750
4:30 PM	37	226	10	24	94	64	25	146	25	19	107	46	823
4:45 PM	28	267	24	22	101	48	22	156	27	12	122	48	877
5:00 PM	32	249	18	23	100	47	21	191	33	19	103	64	900
5:15 PM	31	276	19	20	86	44	27	154	28	22	64	58	829
5:30 PM	54	275	10	16	88	10	39	151	21	16	87	64	831
5:45 PM	50	302	15	13	88	18	13	105	30	12	101	75	822
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	350	2715	178	264	1052	481	234	1605	364	176	1261	643	9323
APPROACH %'s :	10.79%	83.72%	5.49%	14.69%	58.54%	26.77%	10.62%	72.86%	16.52%	8.46%	60.63%	30.91%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	145	1067	71	81	375	149	109	652	109	69	376	234	3437
PEAK HR FACTOR :		0.946			0.885			0.888			0.913		0.955

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South N Los Angeles St

East/West 1st St

Day: Thursday Date: November 5, 2015 Weather: SUNNY

Hours: 6-9 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	59	46	70	69
BIKES	24	52	59	66
BUSES	10	34	142	131

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	134	8.45	274	7.45	154	8.45	216	7.15
PM PK 15 MIN	328	17.45	191	17.30	281	17.15	209	17.15
AM PK HOUR	490	8.00	1052	7.45	572	8.00	807	6.45
PM PK HOUR	1219	17.00	700	17.00	1051	16.30	789	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	51	126	12	189
7-8	129	266	28	423
8-9	104	346	40	490
15-16	74	674	76	824
16-17	87	911	128	1126
17-18	133	1004	82	1219
TOTAL	578	3327	366	4271

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	63	493	93	649
7-8	84	690	133	907
8-9	111	796	133	1040
15-16	81	372	129	582
16-17	73	375	144	592
17-18	83	447	170	700
TOTAL	495	3173	802	4470

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
838	200	0	52	0
1330	293	0	98	0
1530	325	0	148	0
1406	328	8	161	0
1718	274	0	124	1
1919	242	2	76	0
8741	1662	10	659	1

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	16	177	52	245
7-8	30	340	87	457
8-9	31	414	127	572
15-16	111	619	90	820
16-17	91	775	101	967
17-18	108	802	123	1033
TOTAL	387	3127	580	4094

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	39	577	36	652
7-8	60	653	55	768
8-9	47	616	78	741
15-16	35	351	65	451
16-17	38	454	90	582
17-18	91	469	229	789
TOTAL	310	3120	553	3983

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
897	58	0	91	0
1225	96	0	106	0
1313	108	0	129	0
1271	124	0	153	1
1549	65	1	132	0
1822	65	0	117	0
8077	516	1	728	1

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

N Los Angeles St and 1st St , Los Angeles

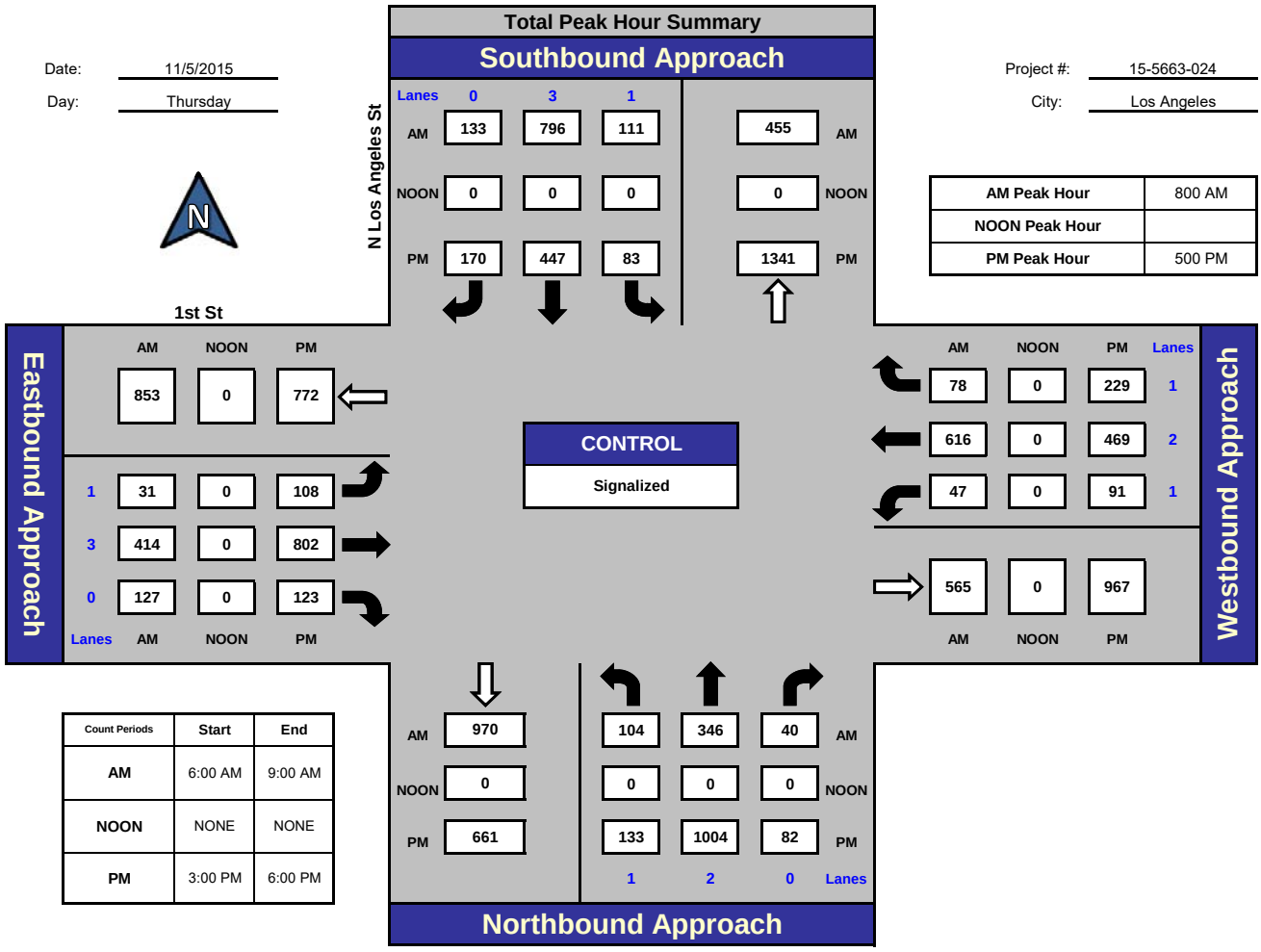
Date: 11/5/2015

Day: Thursday

Project #: 15-5663-024

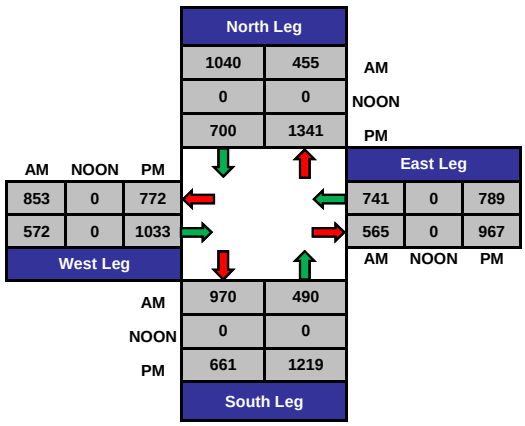
City: Los Angeles

AM Peak Hour	800 AM
NOON Peak Hour	
PM Peak Hour	500 PM

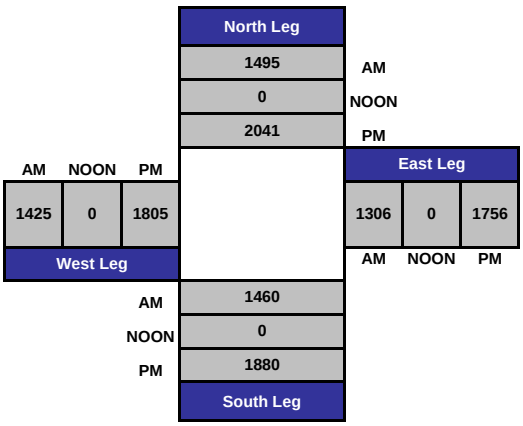


Count Periods	Start	End
AM	6:00 AM	9:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-024 **Day:** Thursday

TOTALS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	3	0	1	3	0	1	2	1	
6:00 AM	3	21	5	13	116	15	5	18	10	7	92	10	315
6:15 AM	17	30	3	15	109	17	2	43	12	8	147	10	413
6:30 AM	11	38	1	19	128	32	4	52	19	12	151	7	474
6:45 AM	20	37	3	16	140	29	5	64	11	12	187	9	533
7:00 AM	25	47	9	17	165	24	6	66	28	14	164	8	573
7:15 AM	29	59	7	15	149	34	11	75	20	21	180	15	615
7:30 AM	38	80	4	20	177	32	7	100	16	12	173	12	671
7:45 AM	37	80	8	32	199	43	6	99	23	13	136	20	696
8:00 AM	31	77	8	24	211	27	8	104	27	10	151	19	697
8:15 AM	21	88	6	27	195	21	9	104	29	15	173	19	707
8:30 AM	28	90	7	33	200	40	6	95	36	10	158	22	725
8:45 AM	24	91	19	27	190	45	8	111	35	12	134	18	714
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	284	738	80	258	1979	359	77	931	266	146	1846	169	7133
APPROACH %'s :	25.77%	66.97%	7.26%	9.94%	76.23%	13.83%	6.04%	73.08%	20.88%	6.76%	85.42%	7.82%	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	104	346	40	111	796	133	31	414	127	47	616	78	2843
PEAK HR FACTOR :		0.914			0.952			0.929			0.895		0.980

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-024 **Day:** Thursday

City: Los Angeles **Date:** 11/5/2015

TOTALS

PM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	3	0	1	3	0	1	2	1	
3:00 PM	17	160	17	22	85	33	19	131	32	6	92	17	631
3:15 PM	19	165	18	13	104	38	27	125	11	10	70	9	609
3:30 PM	18	178	14	27	82	24	29	175	21	7	96	18	689
3:45 PM	20	171	27	19	101	34	36	188	26	12	93	21	748
4:00 PM	23	199	32	16	101	43	17	180	28	11	112	21	783
4:15 PM	25	220	29	13	75	28	18	185	20	6	92	21	732
4:30 PM	21	220	35	22	100	44	25	208	29	11	116	19	850
4:45 PM	18	272	32	22	99	29	31	202	24	10	134	29	902
5:00 PM	34	250	25	19	134	36	25	196	30	16	126	40	931
5:15 PM	34	225	17	24	99	40	32	216	33	27	113	69	929
5:30 PM	32	254	20	22	117	52	30	194	28	22	125	60	956
5:45 PM	33	275	20	18	97	42	21	196	32	26	105	60	925
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	294	2589	286	237	1194	443	310	2196	314	164	1274	384	9685
APPROACH %'s :	9.28%	81.70%	9.02%	12.65%	63.71%	23.64%	10.99%	77.87%	11.13%	9.00%	69.92%	21.08%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	133	1004	82	83	447	170	108	802	123	91	469	229	3741
PEAK HR FACTOR :		0.929			0.916			0.919			0.944		0.978

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-024 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	3	0	1	3	0	1	2	1	
6:00 AM	3	21	5	13	111	13	5	16	10	7	87	10	301
6:15 AM	17	30	3	15	103	15	2	34	12	8	140	10	389
6:30 AM	11	38	1	18	128	28	3	44	19	12	141	7	450
6:45 AM	20	34	3	15	138	27	5	56	11	12	178	9	508
7:00 AM	25	45	9	17	163	22	5	57	28	14	155	8	548
7:15 AM	29	58	7	15	147	31	10	69	20	20	172	15	593
7:30 AM	37	77	4	20	177	30	7	91	16	12	160	11	642
7:45 AM	36	75	7	32	195	42	5	93	23	13	125	19	665
8:00 AM	31	76	8	24	209	26	8	97	27	10	145	19	680
8:15 AM	21	84	6	27	193	19	9	90	29	15	166	19	678
8:30 AM	28	87	7	33	199	37	5	87	36	10	145	22	696
8:45 AM	23	86	15	27	189	45	7	105	31	12	124	17	681
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	281	711	75	256	1952	335	71	839	262	145	1738	166	6831
APPROACH %'s :	26.34%	66.64%	7.03%	10.07%	76.76%	13.17%	6.06%	71.59%	22.35%	7.08%	84.82%	8.10%	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	103	333	36	111	790	127	29	379	123	47	580	77	2735
PEAK HR FACTOR :		0.952			0.955			0.928			0.880		0.982

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-024 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	3	0	1	3	0	1	2	1	
3:00 PM	17	157	17	21	85	33	19	119	31	6	84	17	606
3:15 PM	18	165	18	13	104	38	26	114	11	10	64	9	590
3:30 PM	18	175	12	27	80	24	27	169	21	7	88	17	665
3:45 PM	20	168	27	19	100	32	35	182	25	12	87	21	728
4:00 PM	23	199	32	16	99	43	16	172	28	11	103	21	763
4:15 PM	25	219	28	12	74	28	18	174	20	6	84	21	709
4:30 PM	20	220	34	22	99	42	25	201	29	11	106	19	828
4:45 PM	18	267	32	22	99	29	31	194	22	9	129	29	881
5:00 PM	33	246	25	19	131	36	24	188	29	16	119	40	906
5:15 PM	33	224	17	24	96	37	32	209	33	27	107	69	908
5:30 PM	32	252	20	22	113	52	30	186	28	22	118	60	935
5:45 PM	33	271	20	18	96	42	20	190	32	26	99	60	907
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	290	2563	282	235	1176	436	303	2098	309	163	1188	383	9426
APPROACH %'s :	9.25%	81.75%	9.00%	12.72%	63.67%	23.61%	11.18%	77.42%	11.40%	9.40%	68.51%	22.09%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	131	993	82	83	436	167	106	773	122	91	443	229	3656
PEAK HR FACTOR :		0.931			0.917			0.913			0.940		0.978

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Judge John Aiso St

East/West Temple St

Day: Thursday Date: November 5, 2015 Weather: SUNNY

Hours: 6-9 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	36	0	71	84
BIKES	12	1	12	14
BUSES	86	0	91	174

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	95	7.00	0	0.00	151	8.15	267	8.30
PM PK 15 MIN	160	17.00	0	0.00	219	17.00	185	15.30
AM PK HOUR	337	7.00	0	0.00	551	7.45	981	7.45
PM PK HOUR	583	17.00	0	0.00	826	16.45	619	15.30

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	66	0	61	127
7-8	214	0	123	337
8-9	165	0	111	276
15-16	189	0	141	330
16-17	272	0	187	459
17-18	316	0	267	583
TOTAL	1222	0	890	2112

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	0	0	0	0
7-8	0	0	0	0
8-9	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
127	43	3	14	0
337	98	2	10	0
276	147	0	20	0
330	97	3	0	0
459	102	0	0	0
583	97	1	0	0
2112	584	9	44	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	0	170	89	259
7-8	1	283	168	452
8-9	1	336	212	549
15-16	0	573	57	630
16-17	0	675	85	760
17-18	0	676	92	768
TOTAL	2	2713	703	3418

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	99	459	0	558
7-8	172	782	0	954
8-9	201	757	0	958
15-16	86	467	0	553
16-17	113	474	0	587
17-18	90	437	0	527
TOTAL	761	3376	0	4137

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
817	0	0	33	1
1406	1	0	104	1
1507	1	0	135	0
1183	0	0	199	6
1347	0	0	137	2
1295	1	0	48	0
7555	3	0	656	10

ITM Peak Hour Summary

Prepared by:

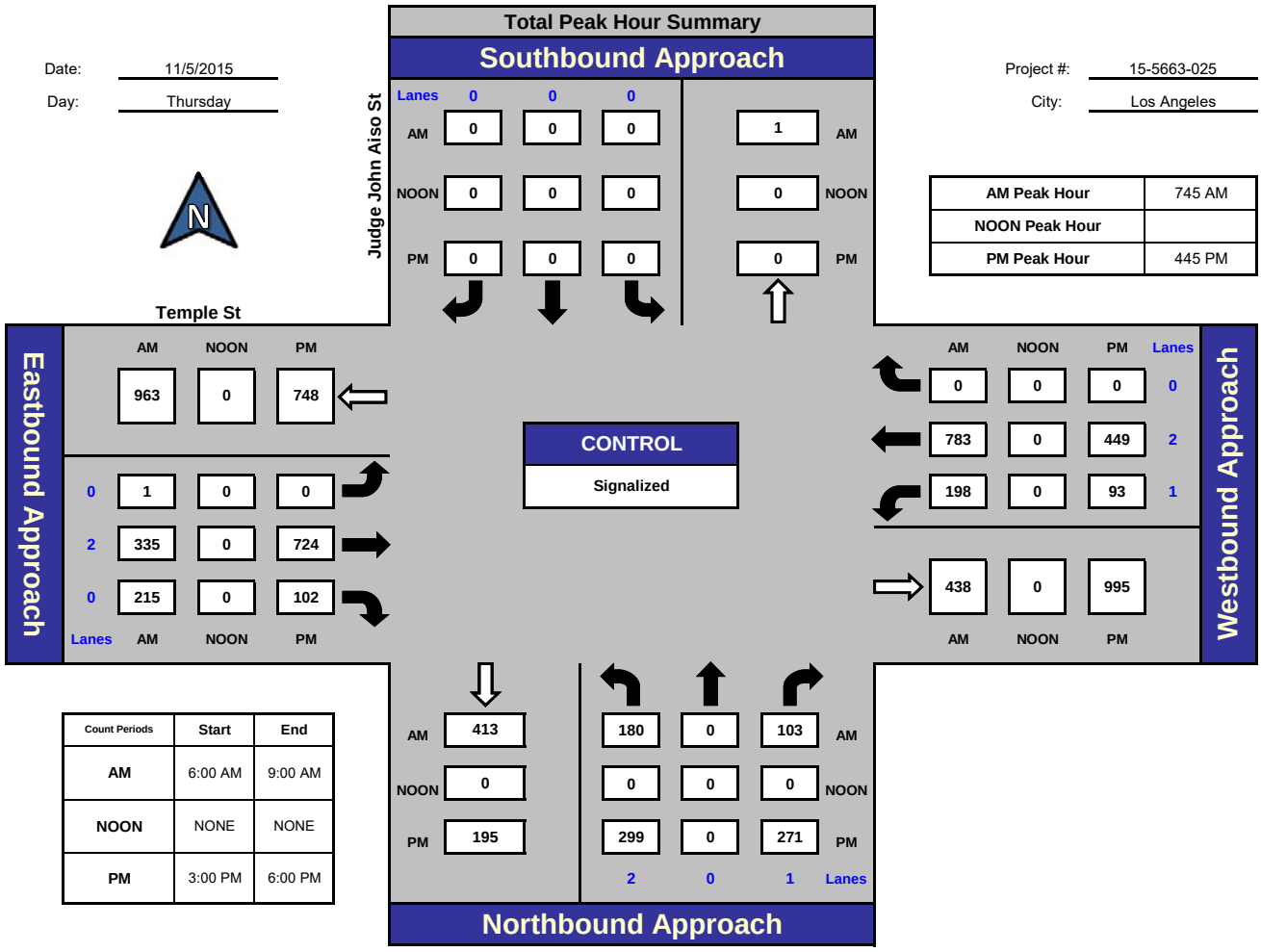
National Data & Surveying Services

Judge John Aiso St and Temple St , Los Angeles

Date: 11/5/2015
Day: Thursday

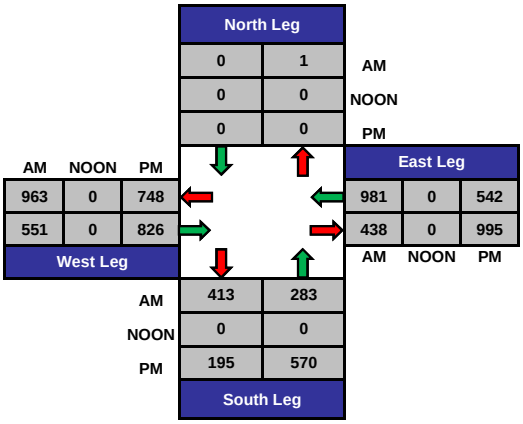
Project #: 15-5663-025
City: Los Angeles

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	445 PM

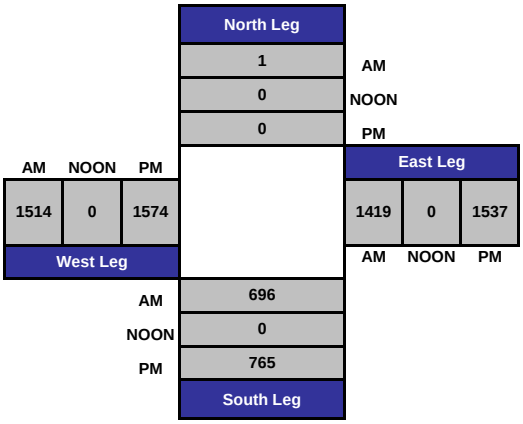


Count Periods	Start	End
AM	6:00 AM	9:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-025 **Day:** Thursday

TOTALS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	Judge John Aiso St			Judge John Aiso St			Temple St			Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	0	1	0	0	0	0	2	0	1	2	0	
6:00 AM	11	0	5	0	0	0	0	36	29	26	54	0	161
6:15 AM	16	0	12	0	0	0	0	41	20	17	89	0	195
6:30 AM	8	0	23	0	0	0	0	39	22	26	135	0	253
6:45 AM	31	0	21	0	0	0	0	54	18	30	181	0	335
7:00 AM	60	0	35	0	0	0	0	67	32	37	216	0	447
7:15 AM	53	0	29	0	0	0	0	76	32	47	206	0	443
7:30 AM	55	0	28	0	0	0	0	73	47	50	177	0	430
7:45 AM	46	0	31	0	0	0	1	67	57	38	183	0	423
8:00 AM	41	0	16	0	0	0	0	79	49	51	203	0	439
8:15 AM	57	0	28	0	0	0	0	91	60	46	193	0	475
8:30 AM	36	0	28	0	0	0	0	98	49	63	204	0	478
8:45 AM	31	0	39	0	0	0	1	68	54	41	157	0	391
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	445	0	295	0	0	0	2	789	469	472	1998	0	4470
APPROACH %'s :	60.14%	0.00%	39.86%	#DIV/0!	#DIV/0!	#DIV/0!	0.16%	62.62%	37.22%	19.11%	80.89%	0.00%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	180	0	103	0	0	0	1	335	215	198	783	0	1815
PEAK HR FACTOR :		0.832			0.000			0.912			0.919		0.949

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-025

Day: Thursday

City: Los Angeles

TOTALS

Date: 11/5/2015

PM

NS/EW Streets:	Judge John Aiso St			Judge John Aiso St			Temple St			Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	0	1	0	0	0	0	2	0	1	2	0	
3:00 PM	39	0	25	0	0	0	0	132	0	16	95	0	307
3:15 PM	40	0	30	0	0	0	0	154	19	28	98	0	369
3:30 PM	56	0	50	0	0	0	0	152	16	27	158	0	459
3:45 PM	54	0	36	0	0	0	0	135	22	15	116	0	378
4:00 PM	59	0	53	0	0	0	0	153	10	37	133	0	445
4:15 PM	64	0	41	0	0	0	0	183	22	25	108	0	443
4:30 PM	69	0	36	0	0	0	0	152	27	28	109	0	421
4:45 PM	80	0	57	0	0	0	0	187	26	23	124	0	497
5:00 PM	86	0	74	0	0	0	0	189	30	25	113	0	517
5:15 PM	69	0	67	0	0	0	0	186	16	24	111	0	473
5:30 PM	64	0	73	0	0	0	0	162	30	21	101	0	451
5:45 PM	97	0	53	0	0	0	0	139	16	20	112	0	437
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	777	0	595	0	0	0	0	1924	234	289	1378	0	5197
APPROACH %'s :	56.63%	0.00%	43.37%	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	89.16%	10.84%	17.34%	82.66%	0.00%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	299	0	271	0	0	0	0	724	102	93	449	0	1938
PEAK HR FACTOR :		0.891			0.000			0.943			0.922		0.937

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-025 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	Judge John Aiso St			Judge John Aiso St			Temple St			Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	0	1	0	0	0	0	2	0	1	2	0	
6:00 AM	9	0	4	0	0	0	0	32	28	23	50	0	146
6:15 AM	13	0	9	0	0	0	0	36	19	14	84	0	175
6:30 AM	8	0	18	0	0	0	0	37	22	21	131	0	237
6:45 AM	30	0	17	0	0	0	0	46	18	27	173	0	311
7:00 AM	56	0	31	0	0	0	0	61	31	33	208	0	420
7:15 AM	52	0	25	0	0	0	0	64	32	42	200	0	415
7:30 AM	55	0	23	0	0	0	0	70	47	46	170	0	411
7:45 AM	45	0	25	0	0	0	1	57	54	33	177	0	392
8:00 AM	40	0	12	0	0	0	0	74	47	44	192	0	409
8:15 AM	56	0	21	0	0	0	0	85	57	42	189	0	450
8:30 AM	36	0	26	0	0	0	0	91	45	60	196	0	454
8:45 AM	31	0	33	0	0	0	1	63	54	36	147	0	365
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	431	0	244	0	0	0	2	716	454	421	1917	0	4185
APPROACH %'s :	63.85%	0.00%	36.15%				0.17%	61.09%	38.74%	18.01%	81.99%	0.00%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	177	0	84	0	0	0	1	307	203	179	754	0	1705
PEAK HR FACTOR :		0.847			0.000			0.900			0.911		0.939

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-025 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	Judge John Aiso St			Judge John Aiso St			Temple St			Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	0	1	0	0	0	0	2	0	1	2	0	
3:00 PM	35	0	20	0	0	0	0	132	0	15	85	0	287
3:15 PM	40	0	25	0	0	0	0	145	19	23	94	0	346
3:30 PM	54	0	48	0	0	0	0	147	16	23	152	0	440
3:45 PM	54	0	32	0	0	0	0	123	20	12	108	0	349
4:00 PM	57	0	50	0	0	0	0	148	10	34	128	0	427
4:15 PM	62	0	38	0	0	0	0	175	22	20	101	0	418
4:30 PM	68	0	33	0	0	0	0	150	26	25	100	0	402
4:45 PM	80	0	54	0	0	0	0	180	25	19	115	0	473
5:00 PM	86	0	71	0	0	0	0	180	30	23	101	0	491
5:15 PM	69	0	60	0	0	0	0	182	16	20	101	0	448
5:30 PM	63	0	70	0	0	0	0	156	30	17	98	0	434
5:45 PM	97	0	49	0	0	0	0	136	16	17	110	0	425
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	765	0	550	0	0	0	0	1854	230	248	1293	0	4940
APPROACH %'s :	58.17%	0.00%	41.83%				0.00%	88.96%	11.04%	16.09%	83.91%	0.00%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	298	0	255	0	0	0	0	698	101	79	415	0	1846
PEAK HR FACTOR :		0.881			0.000			0.951			0.922		0.940

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Judge John Aiso St_San Pedro St

East/West 1st St

Day: Thursday Date: November 5, 2015 Weather: SUNNY

Hours: 6-9 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	50	42	70	71
BIKES	13	10	51	69
BUSES	72	77	138	14

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	127	7.15	98	8.00	148	8.45	192	7.45
PM PK 15 MIN	220	17.15	82	17.30	274	17.15	190	17.30
AM PK HOUR	450	7.00	357	7.45	541	8.00	726	7.45
PM PK HOUR	753	17.00	278	17.00	1022	16.30	701	16.45

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	73	87	21	181
7-8	181	241	28	450
8-9	143	206	54	403
15-16	107	226	89	422
16-17	127	293	125	545
17-18	178	453	122	753
TOTAL	809	1506	439	2754

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	10	121	27	158
7-8	11	229	33	273
8-9	25	276	37	338
15-16	28	173	41	242
16-17	28	170	35	233
17-18	29	170	79	278
TOTAL	131	1139	252	1522

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
339	43	3	47	0
723	68	4	60	0
741	79	7	72	0
664	204	17	123	6
778	216	4	131	0
1031	207	2	89	0
4276	817	37	522	6

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	39	151	55	245
7-8	64	233	131	428
8-9	83	291	167	541
15-16	103	525	137	765
16-17	70	735	157	962
17-18	87	757	118	962
TOTAL	446	2692	765	3903

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	39	549	21	609
7-8	75	568	67	710
8-9	85	559	65	709
15-16	49	306	46	401
16-17	69	412	51	532
17-18	72	542	81	695
TOTAL	389	2936	331	3656

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
854	9	0	32	0
1138	35	0	47	2
1250	49	0	76	1
1166	65	2	100	5
1494	61	1	133	0
1657	90	0	115	0
7559	309	3	503	8

ITM Peak Hour Summary

Prepared by:

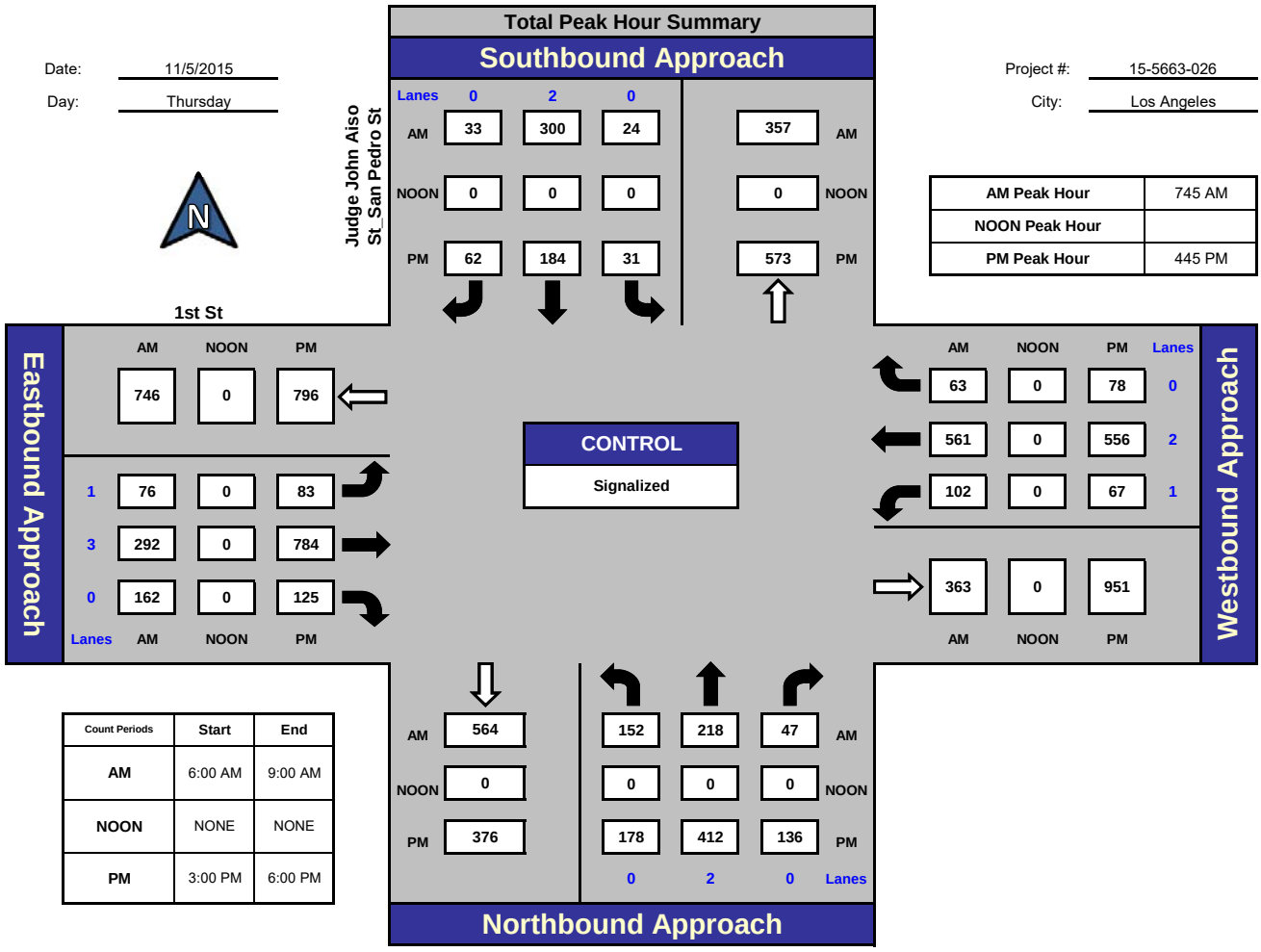
National Data & Surveying Services

Judge John Aiso St_San Pedro St and 1st St , Los Angeles

Date: 11/5/2015
Day: Thursday

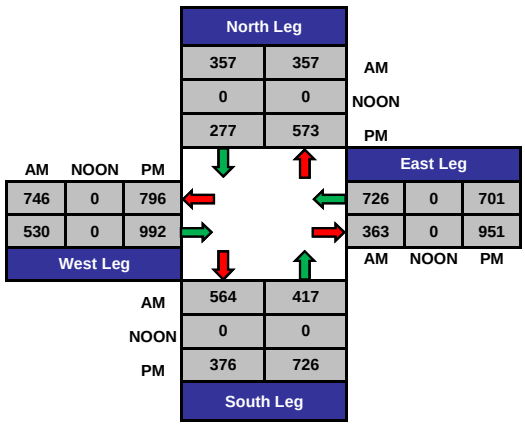
Project #: 15-5663-026
City: Los Angeles

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	445 PM

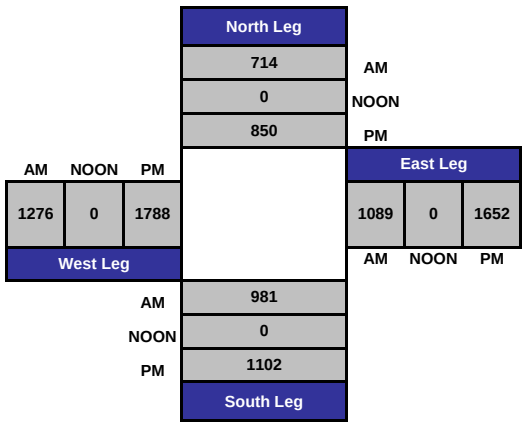


Count Periods	Start	End
AM	6:00 AM	9:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-026

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	Judge John Aiso St_San Pedro St			Judge John Aiso St_San Pedro St			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	2	0	1	3	0	1	2	0	
6:00 AM	4	8	5	4	36	7	9	22	8	4	102	6	215
6:15 AM	15	19	3	3	20	6	8	39	14	10	141	4	282
6:30 AM	18	24	3	0	35	7	10	42	15	12	150	3	319
6:45 AM	36	36	10	3	30	7	12	48	18	13	156	8	377
7:00 AM	34	70	3	1	44	11	15	46	22	9	145	16	416
7:15 AM	61	63	3	3	46	10	16	51	32	18	147	17	467
7:30 AM	52	52	10	4	59	7	16	62	31	15	136	15	459
7:45 AM	34	56	12	3	80	5	17	74	46	33	140	19	519
8:00 AM	33	49	17	9	78	11	23	67	40	19	139	8	493
8:15 AM	50	62	6	4	68	7	21	79	39	27	142	15	520
8:30 AM	35	51	12	8	74	10	15	72	37	23	140	21	498
8:45 AM	25	44	19	4	56	9	24	73	51	16	138	21	480
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	397	534	103	46	626	97	186	675	353	199	1676	153	5045
APPROACH %'s :	38.39%	51.64%	9.96%	5.98%	81.40%	12.61%	15.32%	55.60%	29.08%	9.81%	82.64%	7.54%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	152	218	47	24	300	33	76	292	162	102	561	63	2030
PEAK HR FACTOR :		0.883			0.911			0.953			0.945		0.976

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-026

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/5/2015

PM

NS/EW Streets:	Judge John Aiso St_San Pedro St			Judge John Aiso St_San Pedro St			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	2	0	1	3	0	1	2	0	
3:00 PM	30	55	23	7	39	11	20	110	47	15	71	10	438
3:15 PM	17	63	22	4	49	10	27	100	28	13	66	11	410
3:30 PM	26	48	26	7	48	9	36	141	33	13	89	10	486
3:45 PM	34	60	18	10	37	11	20	174	29	8	80	15	496
4:00 PM	24	79	25	5	44	10	18	168	40	18	102	9	542
4:15 PM	35	64	35	8	44	7	21	168	34	15	86	9	526
4:30 PM	34	73	27	7	34	9	15	202	45	18	95	16	575
4:45 PM	34	77	38	8	48	9	16	197	38	18	129	17	629
5:00 PM	39	94	32	7	35	17	20	183	32	7	139	13	618
5:15 PM	58	126	36	9	45	17	26	217	31	21	141	26	753
5:30 PM	47	115	30	7	56	19	21	187	24	21	147	22	696
5:45 PM	34	118	24	6	34	26	20	170	31	23	115	20	621
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	412	972	336	85	513	155	260	2017	412	190	1260	178	6790
APPROACH %'s :	23.95%	56.51%	19.53%	11.29%	68.13%	20.58%	9.67%	75.01%	15.32%	11.67%	77.40%	10.93%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	178	412	136	31	184	62	83	784	125	67	556	78	2696
PEAK HR FACTOR :		0.825			0.845			0.905			0.922		0.895

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-026 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	Judge John Aiso St_San Pedro St			Judge John Aiso St_San Pedro St			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	2	0	1	3	0	1	2	0	
6:00 AM	3	7	4	4	34	5	8	21	8	4	101	6	205
6:15 AM	12	17	3	3	20	3	5	35	12	10	139	4	263
6:30 AM	14	22	2	0	33	3	5	38	14	12	149	3	295
6:45 AM	33	34	5	3	29	5	10	44	16	12	152	8	351
7:00 AM	31	68	3	1	43	7	11	43	21	9	142	16	395
7:15 AM	55	62	3	3	44	8	12	49	31	17	144	17	445
7:30 AM	48	50	9	4	59	3	13	58	30	15	129	15	433
7:45 AM	30	54	11	3	76	1	13	71	44	33	136	19	491
8:00 AM	30	48	17	9	71	8	19	65	38	19	138	8	470
8:15 AM	48	59	6	4	63	5	15	73	36	26	138	15	488
8:30 AM	31	49	12	8	68	8	13	68	36	23	134	21	471
8:45 AM	21	42	18	4	54	6	21	71	48	15	133	20	453
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	356	512	93	46	594	62	145	636	334	195	1635	152	4760
APPROACH %'s :	37.04%	53.28%	9.68%	6.55%	84.62%	8.83%	13.00%	57.04%	29.96%	9.84%	82.49%	7.67%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	139	210	46	24	278	22	60	277	154	101	546	63	1920
PEAK HR FACTOR :		0.874			0.920			0.959			0.944		0.978

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-026 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	Judge John Aiso St_San Pedro St			Judge John Aiso St_San Pedro St			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	2	0	1	3	0	1	2	0	
3:00 PM	25	54	21	7	36	9	16	105	43	13	67	10	406
3:15 PM	15	62	22	4	48	7	23	93	27	12	66	11	390
3:30 PM	24	48	25	7	46	5	34	139	29	10	87	8	462
3:45 PM	31	59	18	10	36	8	18	170	29	8	79	14	480
4:00 PM	23	77	24	5	44	7	15	164	39	16	99	9	522
4:15 PM	33	63	35	8	42	4	16	163	33	14	83	9	503
4:30 PM	30	72	26	7	33	5	14	197	43	18	93	16	554
4:45 PM	33	74	37	8	46	8	13	193	36	18	126	17	609
5:00 PM	38	93	31	7	35	13	15	180	29	7	136	13	597
5:15 PM	56	126	36	9	44	15	24	213	30	21	140	24	738
5:30 PM	46	114	30	7	55	14	17	182	24	21	146	21	677
5:45 PM	31	116	23	6	33	23	16	169	29	22	115	20	603
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	385	958	328	85	498	118	221	1968	391	180	1237	172	6541
APPROACH %'s :	23.04%	57.33%	19.63%	12.13%	71.04%	16.83%	8.57%	76.28%	15.16%	11.33%	77.85%	10.82%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	173	407	134	31	180	50	69	768	119	67	548	75	2621
PEAK HR FACTOR :		0.819			0.859			0.895			0.918		0.888

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Mission Rd

East/West Cesar Chavez Ave

Day: Thursday Date: November 5, 2015 Weather: SUNNY

Hours: 6-9 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	108	182	123	71
BIKES	16	14	33	25
BUSES	19	211	196	58

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	214	7.45	475	7.45	187	7.45	339	6.30
PM PK 15 MIN	272	17.45	280	16.15	378	16.00	247	17.45
AM PK HOUR	782	7.30	1812	7.45	625	7.00	1295	6.30
PM PK HOUR	934	17.00	986	16.15	1409	16.00	848	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	190	217	41	448
7-8	185	415	80	680
8-9	200	455	59	714
15-16	68	424	88	580
16-17	75	519	68	662
17-18	288	565	81	934
TOTAL	1006	2595	417	4018

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	17	539	510	1066
7-8	32	969	712	1713
8-9	32	1028	696	1756
15-16	36	482	283	801
16-17	26	605	340	971
17-18	45	463	358	866
TOTAL	188	4086	2899	7173

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
1514	7	0	7	0
2393	8	0	9	0
2470	13	0	13	0
1381	9	0	12	0
1633	3	0	1	0
1800	10	0	5	0
11191	50	0	47	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	180	110	165	455
7-8	288	210	127	625
8-9	229	198	128	555
15-16	383	426	357	1166
16-17	493	591	325	1409
17-18	399	578	278	1255
TOTAL	1972	2113	1380	5465

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	195	965	5	1165
7-8	280	978	9	1267
8-9	236	842	22	1100
15-16	136	370	64	570
16-17	121	459	62	642
17-18	167	655	26	848
TOTAL	1135	4269	188	5592

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
1620	5	0	2	0
1892	4	0	13	0
1655	3	0	5	0
1736	4	0	6	0
2051	1	0	3	0
2103	4	0	0	0
11057	21	0	29	0

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Mission Rd and Cesar Chavez Ave , Los Angeles

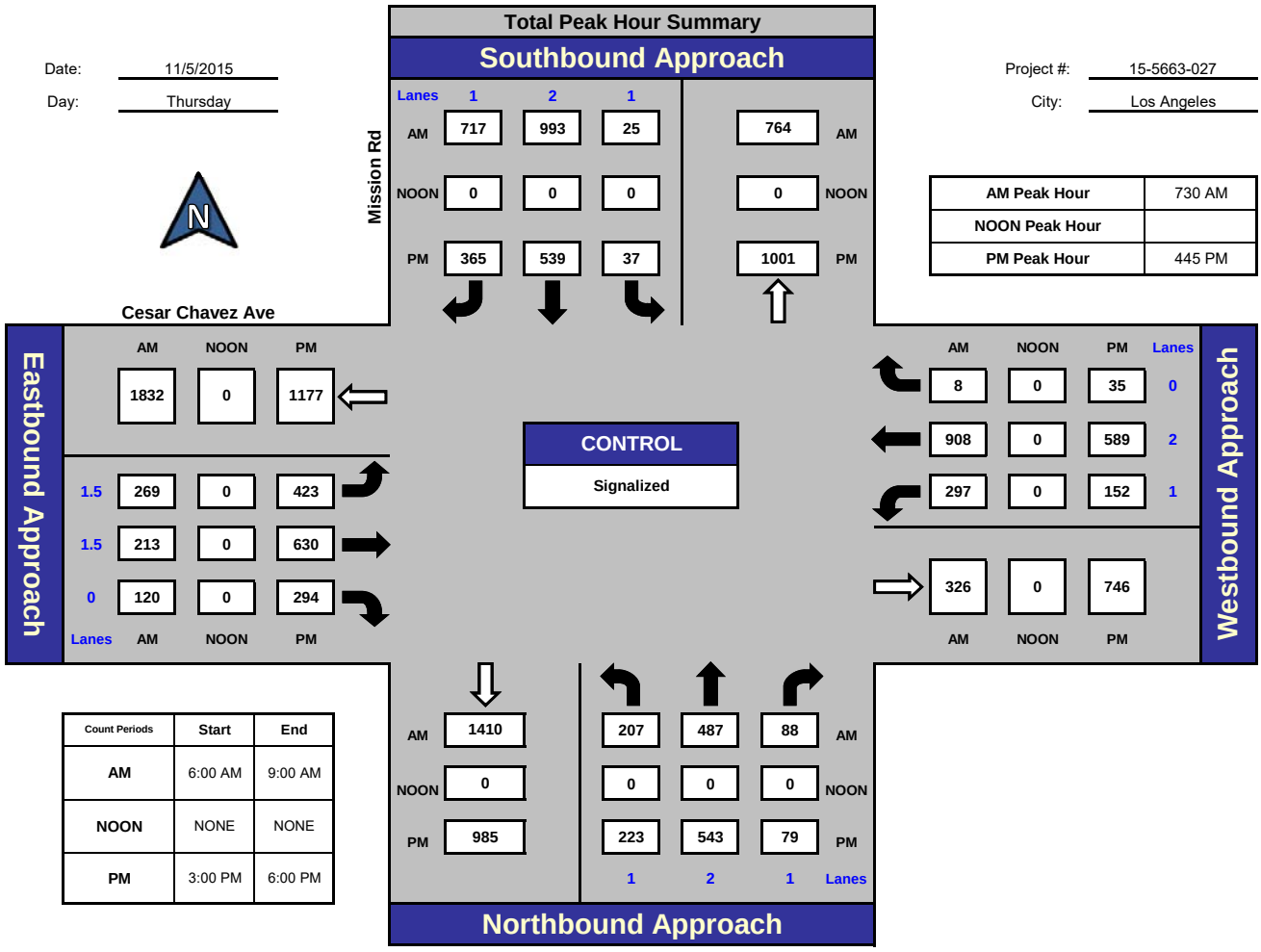
Date: 11/5/2015

Day: Thursday

Project #: 15-5663-027

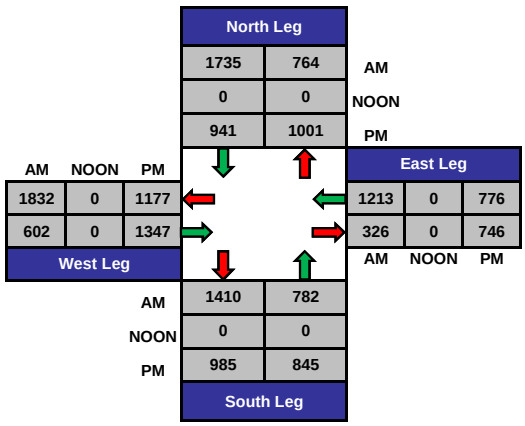
City: Los Angeles

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	445 PM

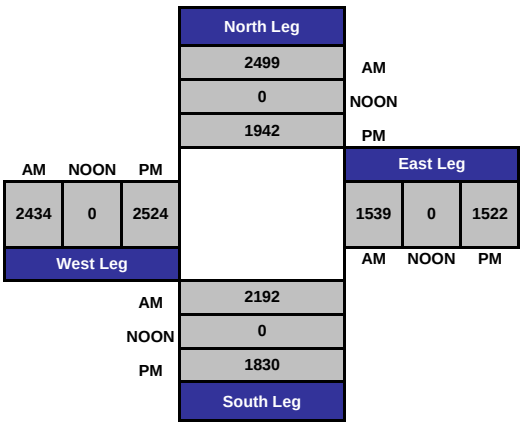


Count Periods	Start	End
AM	6:00 AM	9:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-027

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	Mission Rd			Mission Rd			Cesar Chavez Ave			Cesar Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	1	1.5	1.5	0	1	2	0	
6:00 AM	55	43	9	2	94	72	30	26	47	44	180	1	603
6:15 AM	42	55	13	1	111	138	34	31	60	51	219	1	756
6:30 AM	49	73	10	7	151	124	50	21	32	43	294	2	856
6:45 AM	44	46	9	7	183	176	66	32	26	57	272	1	919
7:00 AM	36	81	9	10	224	169	52	54	36	47	279	2	999
7:15 AM	45	89	15	7	234	201	78	50	23	71	222	5	1040
7:30 AM	47	130	14	5	233	155	74	48	23	66	268	2	1065
7:45 AM	57	115	42	10	278	187	84	58	45	96	209	0	1181
8:00 AM	52	116	21	7	216	171	60	50	27	74	216	2	1012
8:15 AM	51	126	11	3	266	204	51	57	25	61	215	4	1074
8:30 AM	52	113	11	7	286	177	54	36	35	55	209	10	1045
8:45 AM	45	100	16	15	260	144	64	55	41	46	202	6	994
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	575	1087	180	81	2536	1918	697	518	420	711	2785	36	11544
APPROACH %'s :	31.22%	59.01%	9.77%	1.79%	55.92%	42.29%	42.63%	31.68%	25.69%	20.13%	78.85%	1.02%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	207	487	88	25	993	717	269	213	120	297	908	8	4332
PEAK HR FACTOR :		0.914			0.913			0.805			0.903		0.917

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-027

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/5/2015

PM

NS/EW Streets:	Mission Rd			Mission Rd			Cesar Chavez Ave			Cesar Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	1	1.5	1.5	0	1	2	0	
3:00 PM	10	97	27	8	103	61	84	102	108	28	73	16	717
3:15 PM	21	112	29	9	112	80	89	102	88	30	102	11	785
3:30 PM	21	97	20	6	138	77	111	100	93	32	84	15	794
3:45 PM	16	118	12	13	129	65	99	122	68	46	111	22	821
4:00 PM	19	119	12	9	140	83	128	139	111	30	115	13	918
4:15 PM	13	117	15	5	181	94	122	132	74	38	104	20	915
4:30 PM	23	141	20	6	129	95	128	149	78	27	105	15	916
4:45 PM	20	142	21	6	155	68	115	171	62	26	135	14	935
5:00 PM	55	129	16	17	127	103	112	181	77	35	120	7	979
5:15 PM	79	148	19	7	137	100	91	133	79	51	174	9	1027
5:30 PM	69	124	23	7	120	94	105	145	76	40	160	5	968
5:45 PM	85	164	23	14	79	61	91	119	46	41	201	5	929
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	431	1508	237	107	1550	981	1275	1595	960	424	1484	152	10704
APPROACH %'s :	19.81%	69.30%	10.89%	4.06%	58.76%	37.19%	33.29%	41.64%	25.07%	20.58%	72.04%	7.38%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	223	543	79	37	539	365	423	630	294	152	589	35	3909
PEAK HR FACTOR :		0.859			0.952			0.910			0.829		0.952

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-027

Day: Thursday

CARS

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	Mission Rd			Mission Rd			Cesar Chavez Ave			Cesar Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	1	1.5	1.5	0	1	2	0	
6:00 AM	55	40	8	2	86	61	25	22	44	44	175	1	563
6:15 AM	40	54	13	1	99	123	30	27	58	51	215	1	712
6:30 AM	46	69	10	7	135	112	44	15	32	43	289	2	804
6:45 AM	41	44	9	7	172	158	62	26	24	56	267	1	867
7:00 AM	33	78	9	10	209	157	46	44	33	47	274	2	942
7:15 AM	45	87	15	7	231	188	69	44	20	70	218	4	998
7:30 AM	46	124	14	5	226	148	66	41	23	66	263	2	1024
7:45 AM	55	114	40	10	273	180	75	53	43	95	206	0	1144
8:00 AM	45	109	20	7	211	157	52	49	25	74	211	2	962
8:15 AM	50	121	11	3	258	195	39	54	25	59	206	4	1025
8:30 AM	51	103	11	7	274	170	44	35	30	55	202	10	992
8:45 AM	43	93	14	13	251	131	56	48	35	45	197	6	932
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	550	1036	174	79	2425	1780	608	458	392	705	2723	35	10965
APPROACH %'s :	31.25%	58.86%	9.89%	1.84%	56.61%	41.55%	41.70%	31.41%	26.89%	20.36%	78.63%	1.01%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	196	468	85	25	968	680	232	197	116	294	886	8	4155
PEAK HR FACTOR :		0.896			0.903			0.797			0.897		0.908

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-027 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	Mission Rd			Mission Rd			Cesar Chavez Ave			Cesar Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	1	1.5	1.5	0	1	2	0	
3:00 PM	10	92	27	8	92	54	75	99	104	28	71	15	675
3:15 PM	20	107	29	8	109	71	83	98	85	26	98	11	745
3:30 PM	21	97	19	6	129	71	103	95	90	32	81	14	758
3:45 PM	16	114	12	12	121	57	89	118	65	45	104	22	775
4:00 PM	19	119	12	9	134	75	121	134	110	30	111	13	887
4:15 PM	12	115	15	5	171	91	116	128	69	38	103	20	883
4:30 PM	23	137	20	6	127	91	125	146	76	27	99	12	889
4:45 PM	19	140	21	6	150	65	107	167	62	26	132	13	908
5:00 PM	54	125	16	15	119	99	108	178	77	34	118	7	950
5:15 PM	78	143	19	7	134	97	85	130	78	51	167	7	996
5:30 PM	69	123	23	7	119	86	104	142	75	39	156	5	948
5:45 PM	84	158	23	14	75	56	83	117	46	41	199	5	901
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	425	1470	236	103	1480	913	1199	1552	937	417	1439	144	10315
APPROACH %'s :	19.94%	68.98%	11.07%	4.13%	59.29%	36.58%	32.51%	42.08%	25.41%	20.85%	71.95%	7.20%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	220	531	79	35	522	347	404	617	292	150	573	32	3802
PEAK HR FACTOR :		0.865			0.950			0.904			0.839		0.954

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Mission Rd

East/West 1st St

Day: Thursday Date: November 5, 2015 Weather: SUNNY

Hours: 6-9 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	71	102	47	74
BIKES	11	15	41	59
BUSES	1	3	16	26

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	63	7.45	199	8.30	53	7.30	222	6.45
PM PK 15 MIN	97	17.45	123	17.15	235	17.15	124	17.45
AM PK HOUR	200	7.30	733	7.15	189	7.30	765	6.15
PM PK HOUR	323	17.00	421	17.00	873	17.00	402	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	8	52	5	65
7-8	36	161	2	199
8-9	28	98	10	136
15-16	9	105	9	123
16-17	11	181	8	200
17-18	16	303	4	323
TOTAL	108	900	38	1046

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	31	60	255	346
7-8	101	142	453	696
8-9	86	187	449	722
15-16	100	119	125	344
16-17	88	108	136	332
17-18	92	128	201	421
TOTAL	498	744	1619	2861

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
411	4	0	12	1
895	9	0	12	0
858	14	0	9	0
467	7	0	9	0
532	22	0	6	0
744	11	0	6	0
3907	67	0	54	1

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	58	40	8	106
7-8	103	67	13	183
8-9	78	92	10	180
15-16	223	274	13	510
16-17	374	348	16	738
17-18	468	395	10	873
TOTAL	1304	1216	70	2590

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	7	625	73	705
7-8	12	555	142	709
8-9	7	580	108	695
15-16	7	179	132	318
16-17	5	209	109	323
17-18	6	237	159	402
TOTAL	44	2385	723	3152

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
811	0	0	3	0
892	0	0	3	0
875	0	0	8	0
828	0	0	8	0
1061	1	0	4	0
1275	1	1	4	0
5742	2	1	30	0

ITM Peak Hour Summary

Prepared by:

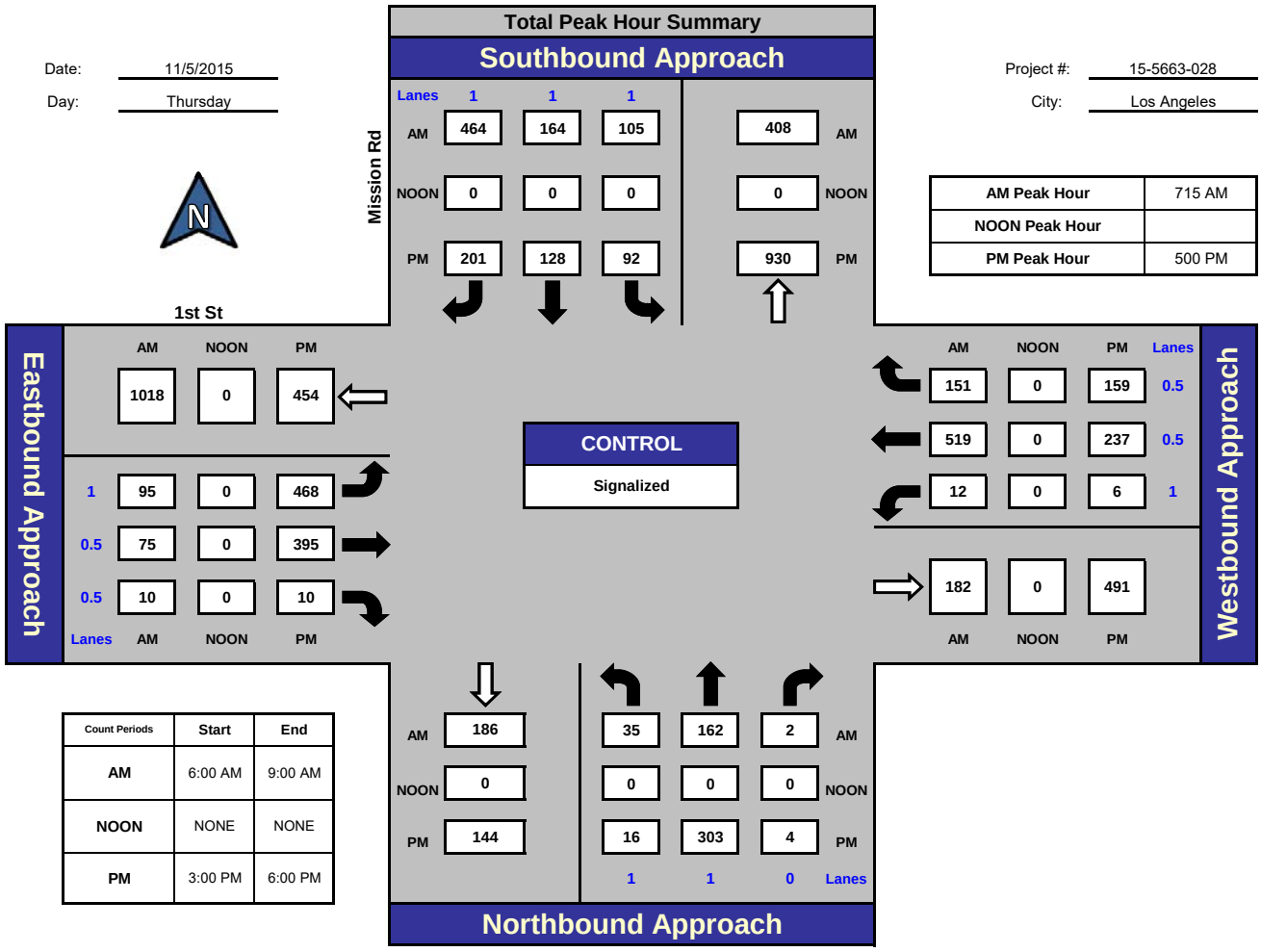
National Data & Surveying Services

Mission Rd and 1st St , Los Angeles

Date: 11/5/2015
Day: Thursday

Project #: 15-5663-028
City: Los Angeles

AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	500 PM



Count Periods	Start	End
AM	6:00 AM	9:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs

North Leg		
733	408	AM
0	0	NOON
421	930	PM

West Leg			East Leg		
AM	NOON	PM			
1018	0	454	682	0	402
180	0	873	182	0	491
			AM	NOON	PM

South Leg		
186	199	AM
0	0	NOON
144	323	PM

Total Volume Per Leg

North Leg	
1141	AM
0	NOON
1351	PM

West Leg			East Leg		
AM	NOON	PM			
1198	0	1327	864	0	893
			AM	NOON	PM

South Leg	
385	AM
0	NOON
467	PM

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-028

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	Mission Rd			Mission Rd			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	0	1	1	1	1	0.5	0.5	1	0.5	0.5	
6:00 AM	4	11	0	8	8	44	13	8	1	3	113	23	236
6:15 AM	1	16	4	8	15	52	9	8	3	0	152	22	290
6:30 AM	3	17	1	4	18	71	22	7	3	1	157	12	316
6:45 AM	0	8	0	11	19	88	14	17	1	3	203	16	380
7:00 AM	11	35	1	19	34	98	21	11	5	4	178	17	434
7:15 AM	4	33	0	24	40	111	23	18	2	0	146	26	427
7:30 AM	9	42	1	30	31	125	38	14	1	3	116	44	454
7:45 AM	12	51	0	28	37	119	21	24	5	5	115	55	472
8:00 AM	10	36	1	23	56	109	13	19	2	4	142	26	441
8:15 AM	10	26	2	17	41	86	26	24	2	3	146	32	415
8:30 AM	5	22	6	21	42	136	16	28	1	0	146	23	446
8:45 AM	3	14	1	25	48	118	23	21	5	0	146	27	431
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	72	311	17	218	389	1157	239	199	31	26	1760	323	4742
APPROACH %'s :	18.00%	77.75%	4.25%	12.36%	22.05%	65.59%	50.96%	42.43%	6.61%	1.23%	83.45%	15.32%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	35	162	2	105	164	464	95	75	10	12	519	151	1794
PEAK HR FACTOR :		0.790			0.975			0.849			0.974		0.950

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-028 **Day:** Thursday

City: Los Angeles **Date:** 11/5/2015

TOTALS

PM

NS/EW Streets:	Mission Rd			Mission Rd			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	0	1	1	1	1	0.5	0.5	1	0.5	0.5	
3:00 PM	2	31	2	24	24	27	57	50	4	2	47	37	307
3:15 PM	3	26	1	23	28	27	43	52	2	2	46	50	303
3:30 PM	2	25	4	26	45	28	54	85	2	1	38	27	337
3:45 PM	2	23	2	27	22	43	69	87	5	2	48	18	348
4:00 PM	5	45	1	17	20	30	81	85	4	0	41	23	352
4:15 PM	0	44	4	25	38	35	92	95	5	2	54	26	420
4:30 PM	3	43	1	24	23	34	102	83	4	3	57	27	404
4:45 PM	3	49	2	22	27	37	99	85	3	0	57	33	417
5:00 PM	3	62	1	26	31	50	109	86	1	1	51	38	459
5:15 PM	6	57	1	24	41	58	113	120	2	2	63	36	523
5:30 PM	5	89	2	20	30	54	120	103	3	1	50	36	513
5:45 PM	2	95	0	22	26	39	126	86	4	2	73	49	524
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	36	589	21	280	355	462	1065	1017	39	18	625	400	4907
APPROACH %'s :	5.57%	91.18%	3.25%	25.52%	32.36%	42.11%	50.21%	47.95%	1.84%	1.73%	59.92%	38.35%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	16	303	4	92	128	201	468	395	10	6	237	159	2019
PEAK HR FACTOR :		0.832			0.856			0.929			0.810		0.963

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-028

Day: Thursday

CARS

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	Mission Rd			Mission Rd			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	0	1	1	1	1	0.5	0.5	1	0.5	0.5	
6:00 AM	4	6	0	8	7	43	11	8	1	3	112	21	224
6:15 AM	1	13	3	8	12	51	9	6	2	0	151	21	277
6:30 AM	3	14	1	4	16	69	19	7	3	1	151	12	300
6:45 AM	0	6	0	11	16	88	13	15	1	3	197	14	364
7:00 AM	9	30	0	18	31	96	21	10	5	4	176	16	416
7:15 AM	4	31	0	23	39	107	21	15	2	0	142	26	410
7:30 AM	9	40	1	30	30	124	34	13	0	3	112	44	440
7:45 AM	12	47	0	28	35	117	20	22	5	5	113	54	458
8:00 AM	10	28	1	23	55	107	11	15	2	4	136	23	415
8:15 AM	10	23	2	17	40	85	23	23	2	1	144	29	399
8:30 AM	5	19	4	19	38	129	16	27	1	0	145	18	421
8:45 AM	3	10	1	25	46	115	21	21	5	0	143	21	411
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	70	267	13	214	365	1131	219	182	29	24	1722	299	4535
APPROACH %'s :	20.00%	76.29%	3.71%	12.51%	21.35%	66.14%	50.93%	42.33%	6.74%	1.17%	84.21%	14.62%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	35	146	2	104	159	455	86	65	9	12	503	147	1723
PEAK HR FACTOR :		0.775			0.970			0.851			0.962		0.941

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-028 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	Mission Rd			Mission Rd			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	0	1	1	1	1	0.5	0.5	1	0.5	0.5	
3:00 PM	2	31	2	23	21	27	55	49	4	2	42	34	292
3:15 PM	3	25	1	21	24	27	42	50	1	2	45	50	291
3:30 PM	2	24	3	26	37	28	54	85	2	0	36	26	323
3:45 PM	2	22	1	26	22	42	68	87	5	2	46	17	340
4:00 PM	5	45	1	16	20	29	81	83	4	0	39	23	346
4:15 PM	0	41	4	23	31	34	92	94	5	2	52	25	403
4:30 PM	2	37	0	23	21	34	101	83	4	2	55	26	388
4:45 PM	3	47	2	22	25	37	98	83	3	0	56	33	409
5:00 PM	3	61	1	25	29	50	107	84	1	1	50	37	449
5:15 PM	6	56	0	23	37	58	111	119	2	2	61	35	510
5:30 PM	5	88	2	20	28	54	120	103	3	1	50	36	510
5:45 PM	2	95	0	22	23	38	126	84	4	1	72	46	513
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	35	572	17	270	318	458	1055	1004	38	15	604	388	4774
APPROACH %'s :	5.61%	91.67%	2.72%	25.81%	30.40%	43.79%	50.31%	47.88%	1.81%	1.49%	59.98%	38.53%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	16	300	3	90	117	200	464	390	10	5	233	154	1982
PEAK HR FACTOR :		0.822			0.862			0.931			0.824		0.966

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Central Ave

East/West 1st St

Day: Thursday Date: November 5, 2015 Weather: SUNNY

Hours: 6-9 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	43	0	47	77
BIKES	20	3	48	106
BUSES	3	0	58	17

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	62	6.45	0	0.00	92	8.15	180	7.15
PM PK 15 MIN	142	17.30	0	0.00	254	16.45	147	17.45
AM PK HOUR	196	7.45	0	0.00	349	8.00	686	7.15
PM PK HOUR	512	17.00	0	0.00	952	16.30	560	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	95	0	55	150
7-8	184	0	1	185
8-9	181	0	0	181
15-16	134	0	89	223
16-17	176	0	133	309
17-18	247	0	265	512
TOTAL	1017	0	543	1560

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	0	0	0	0
7-8	0	0	0	0
8-9	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
150	45	4	37	0
185	40	0	96	0
181	66	0	96	0
223	114	0	145	0
309	116	1	163	0
512	161	1	177	0
1560	542	6	714	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	0	96	87	183
7-8	1	1	265	267
8-9	0	0	349	349
15-16	0	499	158	657
16-17	1	747	154	902
17-18	0	702	203	905
TOTAL	2	2045	1216	3263

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	100	527	0	627
7-8	140	524	0	664
8-9	132	547	0	679
15-16	85	273	0	358
16-17	106	350	0	456
17-18	103	457	0	560
TOTAL	666	2678	0	3344

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
810	16	0	3	0
931	62	0	7	0
1028	58	0	15	0
1015	185	4	20	0
1358	212	0	39	0
1465	185	0	41	0
6607	718	4	125	0

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Central Ave and 1st St , Los Angeles

Date: 11/5/2015

Day: Thursday

Project #: 15-5663-029

City: Los Angeles

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Total Peak Hour Summary

Southbound Approach

Lanes	0	0	0		
AM	0	0	0	0	AM
NOON	0	0	0	0	NOON
PM	0	0	0	0	PM

Central Ave

1st St

Eastbound Approach

	AM	NOON	PM
	739	0	704
0	0	0	0
2	0	0	702
0	347	0	203
Lanes	AM	NOON	PM

CONTROL

Signalized

Westbound Approach

	AM	NOON	PM	Lanes
	0	0	0	0
	543	0	457	2
	139	0	103	1
	0	0	967	
	AM	NOON	PM	

Northbound Approach

AM	486	196	0	AM
NOON	0	0	0	NOON
PM	306	247	265	PM
		1	0	1 Lanes

Count Periods	Start	End
AM	6:00 AM	9:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs

North Leg		
0	0	AM
0	0	NOON
0	0	PM

West Leg			East Leg		
AM	NOON	PM			
739	0	704	682	0	560
347	0	905	0	0	967
			AM	NOON	PM

South Leg		
AM	486	196
NOON	0	0
PM	306	512

Total Volume Per Leg

North Leg	
0	AM
0	NOON
0	PM

West Leg			East Leg		
AM	NOON	PM			
1086	0	1609	682	0	1527
			AM	NOON	PM

South Leg	
AM	682
NOON	0
PM	818

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-029 **Day:** Thursday

TOTALS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	Central Ave			Central Ave			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	0	1	0	0	0	0	2	0	1	2	0	
6:00 AM	10	0	7	0	0	0	0	14	17	19	101	0	168
6:15 AM	16	0	15	0	0	0	0	21	22	18	139	0	231
6:30 AM	22	0	18	0	0	0	0	27	19	30	144	0	260
6:45 AM	47	0	15	0	0	0	0	34	29	33	143	0	301
7:00 AM	36	0	0	0	0	0	1	1	53	17	130	0	238
7:15 AM	41	0	1	0	0	0	0	0	55	31	149	0	277
7:30 AM	50	0	0	0	0	0	0	0	75	51	113	0	289
7:45 AM	57	0	0	0	0	0	0	0	82	41	132	0	312
8:00 AM	40	0	0	0	0	0	0	0	86	41	128	0	295
8:15 AM	41	0	0	0	0	0	0	0	92	20	145	0	298
8:30 AM	58	0	0	0	0	0	0	0	87	37	138	0	320
8:45 AM	42	0	0	0	0	0	0	0	84	34	136	0	296
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	460	0	56	0	0	0	1	97	701	372	1598	0	3285
APPROACH %'s :	89.15%	0.00%	10.85%	#DIV/0!	#DIV/0!	#DIV/0!	0.13%	12.14%	87.73%	18.88%	81.12%	0.00%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	196	0	0	0	0	0	0	0	347	139	543	0	1225
PEAK HR FACTOR :		0.845			0.000			0.943			0.974		0.957

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-029 **Day:** Thursday

City: Los Angeles **Date:** 11/5/2015

TOTALS

PM

NS/EW Streets:	Central Ave			Central Ave			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	0	1	0	0	0	0	2	0	1	2	0	
3:00 PM	33	0	29	0	0	0	0	108	38	18	63	0	289
3:15 PM	25	0	19	0	0	0	0	85	47	14	65	0	255
3:30 PM	30	0	22	0	0	0	0	138	39	27	86	0	342
3:45 PM	46	0	19	0	0	0	0	168	34	26	59	0	352
4:00 PM	40	0	15	0	0	0	0	173	29	29	82	0	368
4:15 PM	37	0	28	0	0	0	0	165	37	26	72	0	365
4:30 PM	52	0	45	0	0	0	1	199	44	24	88	0	453
4:45 PM	47	0	45	0	0	0	0	210	44	27	108	0	481
5:00 PM	60	0	49	0	0	0	0	181	39	32	103	0	464
5:15 PM	52	0	69	0	0	0	0	187	47	16	119	0	490
5:30 PM	75	0	67	0	0	0	0	172	72	27	116	0	529
5:45 PM	60	0	80	0	0	0	0	162	45	28	119	0	494
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	557	0	487	0	0	0	1	1948	515	294	1080	0	4882
APPROACH %'s :	53.35%	0.00%	46.65%	#DIV/0!	#DIV/0!	#DIV/0!	0.04%	79.06%	20.90%	21.40%	78.60%	0.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	247	0	265	0	0	0	0	702	203	103	457	0	1977
PEAK HR FACTOR :		0.901			0.000			0.927			0.952		0.934

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-029 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	Central Ave			Central Ave			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	0	1	0	0	0	0	2	0	1	2	0	
6:00 AM	10	0	7	0	0	0	0	11	17	15	100	0	160
6:15 AM	15	0	13	0	0	0	0	19	21	16	138	0	222
6:30 AM	22	0	16	0	0	0	0	23	18	28	142	0	249
6:45 AM	46	0	12	0	0	0	0	30	28	29	140	0	285
7:00 AM	36	0	0	0	0	0	1	1	48	17	128	0	231
7:15 AM	40	0	0	0	0	0	0	0	53	30	145	0	268
7:30 AM	48	0	0	0	0	0	0	0	71	50	109	0	278
7:45 AM	55	0	0	0	0	0	0	0	77	39	130	0	301
8:00 AM	40	0	0	0	0	0	0	0	84	41	127	0	292
8:15 AM	41	0	0	0	0	0	0	0	86	19	141	0	287
8:30 AM	56	0	0	0	0	0	0	0	82	37	134	0	309
8:45 AM	37	0	0	0	0	0	0	0	81	33	132	0	283
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	446	0	48	0	0	0	1	84	666	354	1566	0	3165
APPROACH %'s :	90.28%	0.00%	9.72%				0.13%	11.19%	88.68%	18.44%	81.56%	0.00%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	192	0	0	0	0	0	0	0	329	136	532	0	1189
PEAK HR FACTOR :		0.857			0.000			0.956			0.977		0.962

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-029 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	Central Ave			Central Ave			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	0	1	0	0	0	0	2	0	1	2	0	
3:00 PM	33	0	27	0	0	0	0	103	34	18	58	0	273
3:15 PM	24	0	16	0	0	0	0	80	45	14	63	0	242
3:30 PM	28	0	20	0	0	0	0	136	39	24	84	0	331
3:45 PM	45	0	18	0	0	0	0	165	33	25	58	0	344
4:00 PM	40	0	14	0	0	0	0	170	29	24	75	0	352
4:15 PM	37	0	28	0	0	0	0	161	36	25	67	0	354
4:30 PM	51	0	45	0	0	0	1	195	42	23	85	0	442
4:45 PM	46	0	40	0	0	0	0	207	42	27	107	0	469
5:00 PM	60	0	49	0	0	0	0	177	38	31	100	0	455
5:15 PM	52	0	66	0	0	0	0	185	46	16	118	0	483
5:30 PM	75	0	67	0	0	0	0	167	72	27	115	0	523
5:45 PM	60	0	79	0	0	0	0	159	45	28	118	0	489
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	551	0	469	0	0	0	1	1905	501	282	1048	0	4757
APPROACH %'s :	54.02%	0.00%	45.98%				0.04%	79.14%	20.81%	21.20%	78.80%	0.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	247	0	261	0	0	0	0	688	201	102	451	0	1950
PEAK HR FACTOR :		0.894			0.000			0.930			0.947		0.932

CONTROL : Signalized

City Of Los Angeles
Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:
North/South Alameda St

East/West Ord St_Main St

Day: Thursday Date: November 19, 2015 Weather: SUNNY

Hours: 6-9 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	317	312	10	0
BIKES	62	58	4	4
BUSES	119	45	45	0

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	171	7.45	426	7.45	20	8.00	0	0.00
PM PK 15 MIN	459	17.45	206	15.30	33	15.00	0	0.00
AM PK HOUR	638	7.45	1526	7.45	65	8.00	0	0.00
PM PK HOUR	1801	17.00	776	15.15	101	15.00	0	0.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	30	181	158	369
7-8	55	324	194	573
8-9	54	351	227	632
15-16	89	720	318	1127
16-17	69	1025	472	1566
17-18	97	1078	626	1801
TOTAL	394	3679	1995	6068

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	1	898	67	966
7-8	1	1336	183	1520
8-9	2	1269	229	1500
15-16	4	720	48	772
16-17	2	694	49	745
17-18	2	643	49	694
TOTAL	12	5560	625	6197

TOTAL

N-S
1335
2093
2132
1899
2311
2495
12265

XING S/L

Ped	Sch
0	0
0	0
0	0
0	0
1	0
0	0
1	0

XING N/L

Ped	Sch
4	0
0	0
0	0
1	0
0	0
0	0
5	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	0	0	32	32
7-8	0	0	52	52
8-9	0	0	65	65
15-16	0	0	101	101
16-17	1	2	72	75
17-18	1	1	78	80
TOTAL	2	3	400	405

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	0	0	0	0
7-8	0	0	0	0
8-9	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

TOTAL

E-W
32
52
65
101
75
80
405

XING W/L

Ped	Sch
73	0
60	1
52	0
64	1
54	3
51	0
354	5

XING E/L

Ped	Sch
19	0
20	0
20	0
15	0
20	0
18	0
112	0

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Alameda St and Ord St_Main St , Los Angeles

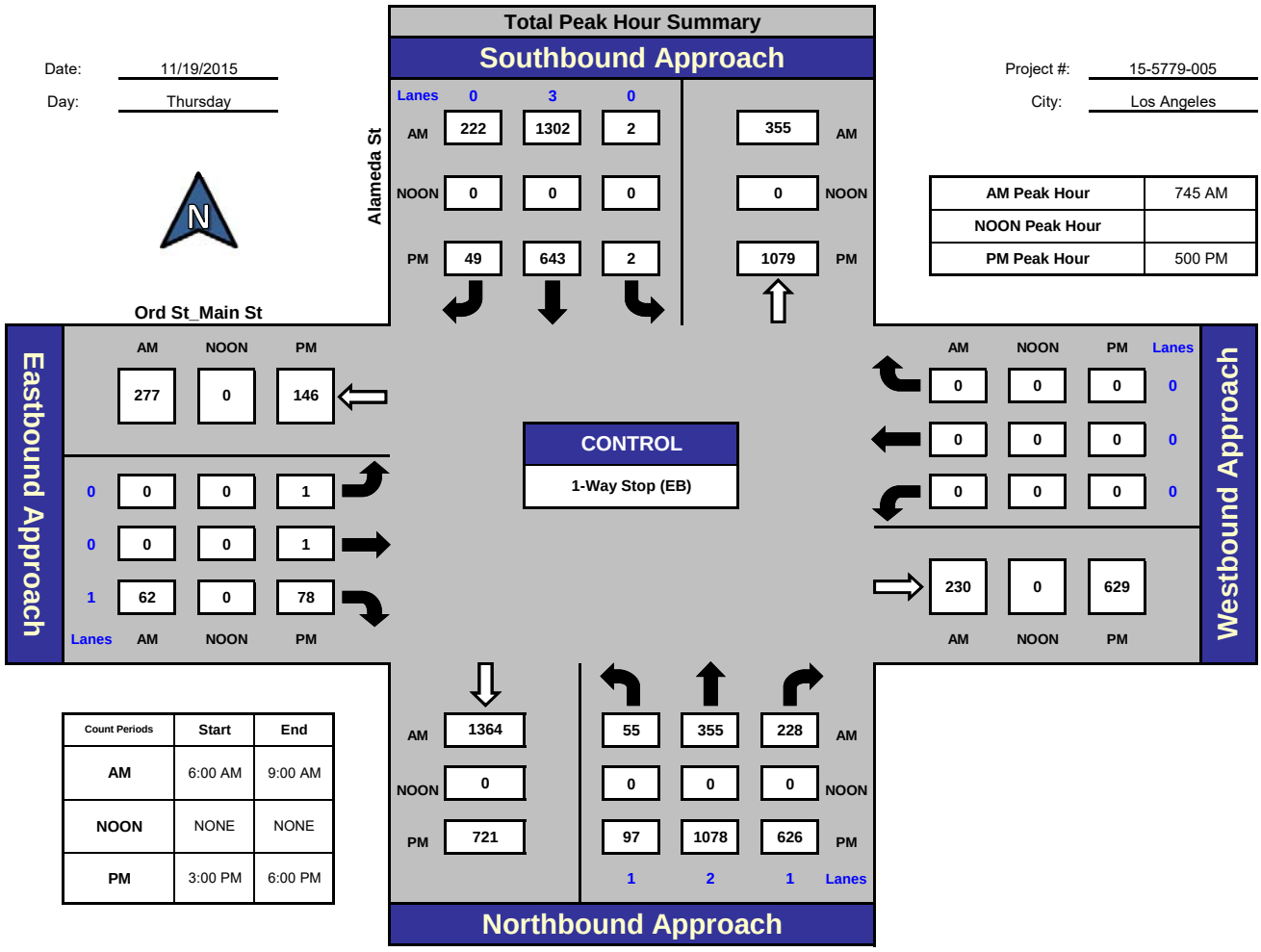
Date: 11/19/2015

Day: Thursday

Project #: 15-5779-005

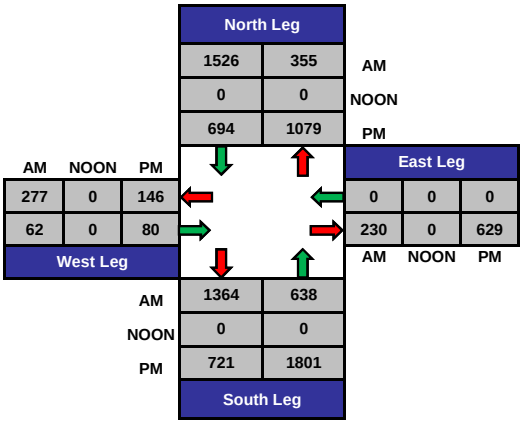
City: Los Angeles

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	500 PM

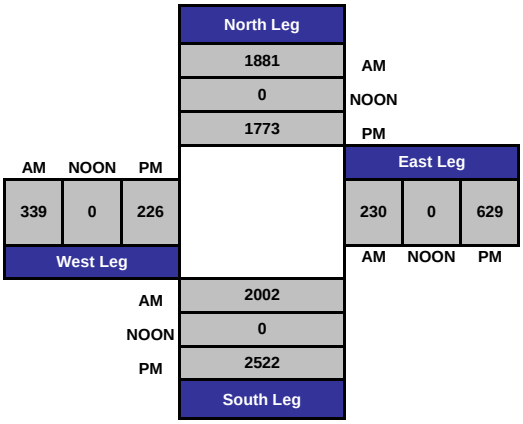


Count Periods	Start	End
AM	6:00 AM	9:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-005

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/19/2015

AM

NS/EW Streets:	Alameda St			Alameda St			Ord St_Main St			Ord St_Main St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	0	3	0	0	0	1	0	0	0	
6:00 AM	7	41	42	0	147	10	0	0	5	0	0	0	252
6:15 AM	7	29	28	0	215	9	0	0	7	0	0	0	295
6:30 AM	8	54	37	0	243	10	0	0	7	0	0	0	359
6:45 AM	8	57	51	1	293	38	0	0	13	0	0	0	461
7:00 AM	10	70	40	0	353	33	0	0	12	0	0	0	518
7:15 AM	18	79	44	1	337	45	0	0	13	0	0	0	537
7:30 AM	14	79	48	0	277	48	0	0	15	0	0	0	481
7:45 AM	13	96	62	0	369	57	0	0	12	0	0	0	609
8:00 AM	13	93	50	0	268	46	0	0	20	0	0	0	490
8:15 AM	16	77	76	2	332	62	0	0	13	0	0	0	578
8:30 AM	13	89	40	0	333	57	0	0	17	0	0	0	549
8:45 AM	12	92	61	0	336	64	0	0	15	0	0	0	580
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	139	856	579	4	3503	479	0	0	149	0	0	0	5709
APPROACH %'s :	8.83%	54.38%	36.79%	0.10%	87.88%	12.02%	0.00%	0.00%	100.00%	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	55	355	228	2	1302	222	0	0	62	0	0	0	2226
PEAK HR FACTOR :		0.933			0.896			0.775			0.000		0.914

CONTROL : 1-Way Stop (EB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-005 **Day:** Thursday

City: Los Angeles **Date:** 11/19/2015

TOTALS

PM

NS/EW Streets:	Alameda St			Alameda St			Ord St_Main St			Ord St_Main St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	0	3	0	0	0	1	0	0	0	
3:00 PM	18	161	71	1	177	12	0	0	33	0	0	0	473
3:15 PM	28	151	88	1	175	10	0	0	20	0	0	0	473
3:30 PM	18	202	73	0	191	15	0	0	26	0	0	0	525
3:45 PM	25	206	86	2	177	11	0	0	22	0	0	0	529
4:00 PM	14	240	94	1	179	14	0	1	15	0	0	0	558
4:15 PM	15	252	95	0	161	11	1	1	23	0	0	0	559
4:30 PM	17	266	127	0	178	10	0	0	17	0	0	0	615
4:45 PM	23	267	156	1	176	14	0	0	17	0	0	0	654
5:00 PM	16	275	148	0	146	7	1	0	20	0	0	0	613
5:15 PM	20	259	170	0	181	13	0	1	24	0	0	0	668
5:30 PM	30	276	148	0	154	13	0	0	15	0	0	0	636
5:45 PM	31	268	160	2	162	16	0	0	19	0	0	0	658
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	255	2823	1416	8	2057	146	2	3	251	0	0	0	6961
APPROACH %'s :	5.67%	62.82%	31.51%	0.36%	93.03%	6.60%	0.78%	1.17%	98.05%	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	97	1078	626	2	643	49	1	1	78	0	0	0	2575
PEAK HR FACTOR :		0.981			0.894			0.800			0.000		0.964

CONTROL : 1-Way Stop (EB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-005 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/19/2015

AM

NS/EW Streets:	Alameda St			Alameda St			Ord St_Main St			Ord St_Main St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	0	3	0	0	0	1	0	0	0	
6:00 AM	6	35	35	0	101	7	0	0	4	0	0	0	188
6:15 AM	4	25	23	0	169	8	0	0	5	0	0	0	234
6:30 AM	5	49	31	0	221	10	0	0	5	0	0	0	321
6:45 AM	5	54	48	1	274	36	0	0	10	0	0	0	428
7:00 AM	8	66	32	0	339	33	0	0	10	0	0	0	488
7:15 AM	16	69	39	1	326	44	0	0	10	0	0	0	505
7:30 AM	13	74	43	0	268	47	0	0	13	0	0	0	458
7:45 AM	11	88	52	0	356	57	0	0	9	0	0	0	573
8:00 AM	11	82	44	0	251	46	0	0	18	0	0	0	452
8:15 AM	15	65	59	2	323	62	0	0	10	0	0	0	536
8:30 AM	10	78	29	0	319	57	0	0	14	0	0	0	507
8:45 AM	10	74	47	0	317	62	0	0	13	0	0	0	523
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	114	759	482	4	3264	469	0	0	121	0	0	0	5213
APPROACH %'s :	8.41%	56.01%	35.57%	0.11%	87.34%	12.55%	0.00%	0.00%	100.00%				
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	47	313	184	2	1249	222	0	0	51	0	0	0	2068
PEAK HR FACTOR :		0.901			0.892			0.708			0.000		0.902

CONTROL : 1-Way Stop (EB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-005 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/19/2015

PM

NS/EW Streets:	Alameda St			Alameda St			Ord St_Main St			Ord St_Main St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	0	3	0	0	0	1	0	0	0	
3:00 PM	14	154	62	1	166	10	0	0	28	0	0	0	435
3:15 PM	27	145	81	1	166	10	0	0	18	0	0	0	448
3:30 PM	16	192	67	0	179	13	0	0	24	0	0	0	491
3:45 PM	22	198	77	2	162	11	0	0	20	0	0	0	492
4:00 PM	14	229	88	1	172	14	0	1	12	0	0	0	531
4:15 PM	12	245	87	0	151	10	1	1	22	0	0	0	529
4:30 PM	15	256	116	0	174	9	0	0	15	0	0	0	585
4:45 PM	23	253	147	1	173	12	0	0	15	0	0	0	624
5:00 PM	13	268	138	0	138	7	1	0	20	0	0	0	585
5:15 PM	19	254	165	0	173	13	0	1	19	0	0	0	644
5:30 PM	29	267	141	0	150	13	0	0	14	0	0	0	614
5:45 PM	30	261	152	2	154	15	0	0	17	0	0	0	631
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	234	2722	1321	8	1958	137	2	3	224	0	0	0	6609
APPROACH %'s :	5.47%	63.64%	30.89%	0.38%	93.11%	6.51%	0.87%	1.31%	97.82%				
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	91	1050	596	2	615	48	1	1	70	0	0	0	2474
PEAK HR FACTOR :		0.980			0.894			0.857			0.000		0.960

CONTROL : 1-Way Stop (EB)

City Of Los Angeles
Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:
North/South Alameda St

East/West Main St

Day: Thursday Date: November 19, 2015 Weather: SUNNY

Hours: 6-9 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	210	305	128	16
BIKES	33	51	22	2
BUSES	69	88	72	2

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	133	8.15	384	7.45	65	8.45	15	8.45
PM PK 15 MIN	237	17.30	228	15.30	252	17.45	53	15.00
AM PK HOUR	498	8.00	1396	7.00	217	8.00	41	8.00
PM PK HOUR	913	17.00	832	15.00	973	17.00	172	15.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	0	265	23	288
7-8	0	417	36	453
8-9	0	442	56	498
15-16	0	686	34	720
16-17	0	843	21	864
17-18	0	901	12	913
TOTAL	0	3554	182	3736

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	19	908	0	927
7-8	23	1373	0	1396
8-9	48	1287	0	1335
15-16	18	814	0	832
16-17	12	759	0	771
17-18	3	711	0	714
TOTAL	123	5852	0	5975

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
1215	13	0	0	0
1849	9	0	1	0
1833	17	0	0	0
1552	40	0	2	0
1635	19	2	0	0
1627	10	0	0	0
9711	108	2	3	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	93	6	12	111
7-8	157	13	15	185
8-9	158	42	17	217
15-16	336	25	28	389
16-17	670	11	24	705
17-18	915	22	36	973
TOTAL	2329	119	132	2580

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	3	0	8	11
7-8	19	0	3	22
8-9	21	0	20	41
15-16	105	0	67	172
16-17	68	0	51	119
17-18	41	0	35	76
TOTAL	257	0	184	441

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
122	41	1	36	1
207	73	0	44	0
258	64	1	58	0
561	98	2	43	0
824	65	0	47	0
1049	47	0	47	0
3021	388	4	275	1

ITM Peak Hour Summary

Prepared by:

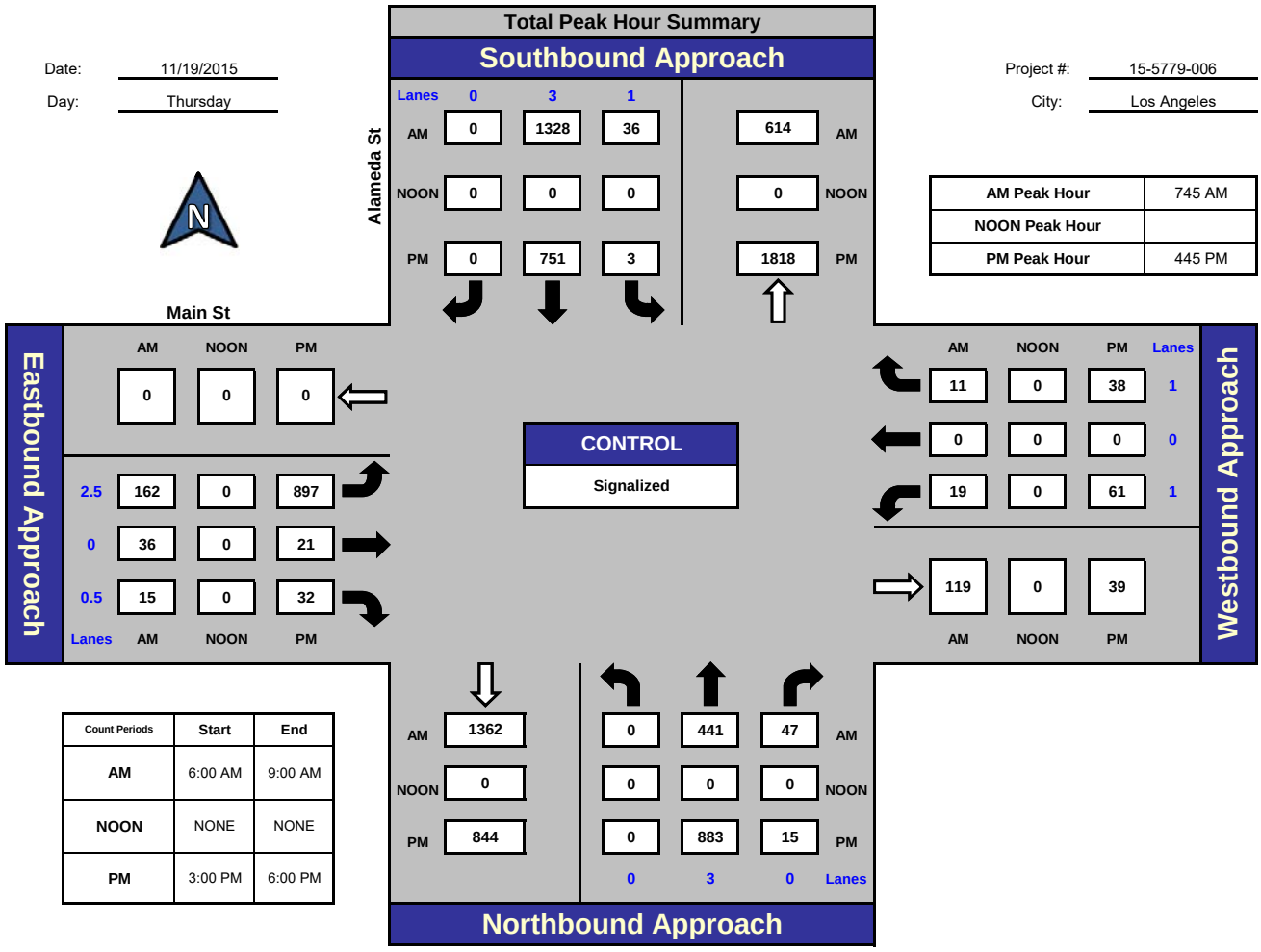
National Data & Surveying Services

Alameda St and Main St , Los Angeles

Date: 11/19/2015
Day: Thursday

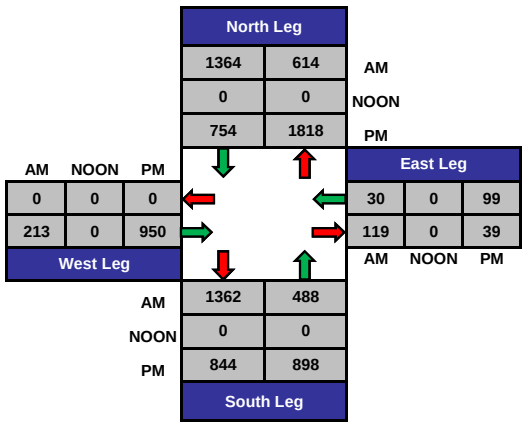
Project #: 15-5779-006
City: Los Angeles

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	445 PM

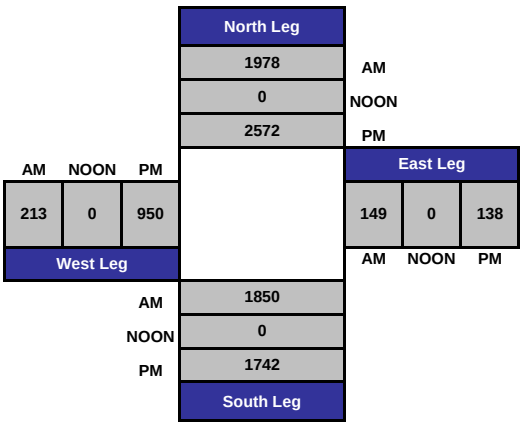


Count Periods	Start	End
AM	6:00 AM	9:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-006

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/19/2015

AM

NS/EW Streets:	Alameda St			Alameda St			Main St			Main St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	1	3	0	2.5	0	0.5	1	0	1	
6:00 AM	0	58	6	2	151	0	30	0	3	1	0	1	252
6:15 AM	0	47	6	3	211	0	17	3	2	0	0	3	292
6:30 AM	0	79	4	5	242	0	14	1	4	1	0	3	353
6:45 AM	0	81	7	9	304	0	32	2	3	1	0	1	440
7:00 AM	0	92	9	6	358	0	23	2	4	6	0	1	501
7:15 AM	0	104	15	5	349	0	41	3	3	5	0	1	526
7:30 AM	0	107	7	6	288	0	42	2	4	4	0	1	461
7:45 AM	0	114	5	6	378	0	51	6	4	4	0	0	568
8:00 AM	0	111	11	10	275	0	35	9	3	5	0	3	462
8:15 AM	0	117	16	9	332	0	40	12	5	7	0	2	540
8:30 AM	0	99	15	11	343	0	36	9	3	3	0	6	525
8:45 AM	0	115	14	18	337	0	47	12	6	6	0	9	564
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	1124	115	90	3568	0	408	61	44	43	0	31	5484
APPROACH %'s :	0.00%	90.72%	9.28%	2.46%	97.54%	0.00%	79.53%	11.89%	8.58%	58.11%	0.00%	41.89%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	441	47	36	1328	0	162	36	15	19	0	11	2095
PEAK HR FACTOR :		0.917			0.888			0.873			0.833		0.922

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-006 **Day:** Thursday

City: Los Angeles **Date:** 11/19/2015

TOTALS

PM

NS/EW Streets:	Alameda St			Alameda St			Main St			Main St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	1	3	0	2.5	0	0.5	1	0	1	
3:00 PM	0	154	9	9	204	0	72	9	10	32	0	21	520
3:15 PM	0	161	6	2	187	0	71	8	3	21	0	14	473
3:30 PM	0	187	8	4	224	0	87	4	5	35	0	16	570
3:45 PM	0	184	11	3	199	0	106	4	10	17	0	16	550
4:00 PM	0	209	4	3	195	0	121	0	10	19	0	15	576
4:15 PM	0	213	3	6	169	0	134	3	4	12	0	14	558
4:30 PM	0	207	8	3	190	0	194	4	6	11	0	11	634
4:45 PM	0	214	6	0	205	0	221	4	4	26	0	11	691
5:00 PM	0	213	5	2	172	0	213	7	9	10	0	14	645
5:15 PM	0	222	1	0	195	0	223	5	13	9	0	9	677
5:30 PM	0	234	3	1	179	0	240	5	6	16	0	4	688
5:45 PM	0	232	3	0	165	0	239	5	8	6	0	8	666
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	2430	67	33	2284	0	1921	58	88	214	0	153	7248
APPROACH %'s :	0.00%	97.32%	2.68%	1.42%	98.58%	0.00%	92.94%	2.81%	4.26%	58.31%	0.00%	41.69%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	0	883	15	3	751	0	897	21	32	61	0	38	2701
PEAK HR FACTOR :		0.947			0.920			0.946			0.669		0.977

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-006

Day: Thursday

CARS

City: Los Angeles

Date: 11/19/2015

AM

NS/EW Streets:	Alameda St			Alameda St			Main St			Main St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	1	3	0	2.5	0	0.5	1	0	1	
6:00 AM	0	49	5	1	102	0	27	0	2	1	0	0	187
6:15 AM	0	40	5	3	163	0	15	3	0	0	0	2	231
6:30 AM	0	67	4	5	217	0	12	1	3	1	0	3	313
6:45 AM	0	75	7	9	283	0	31	2	2	1	0	0	410
7:00 AM	0	79	9	6	340	0	22	2	3	6	0	1	468
7:15 AM	0	93	14	5	338	0	35	2	2	5	0	1	495
7:30 AM	0	96	6	6	274	0	40	1	1	3	0	1	428
7:45 AM	0	99	5	6	361	0	47	6	3	4	0	0	531
8:00 AM	0	97	10	10	261	0	31	9	2	3	0	2	425
8:15 AM	0	97	16	9	317	0	33	12	3	4	0	2	493
8:30 AM	0	82	15	11	327	0	27	9	3	3	0	6	483
8:45 AM	0	87	14	17	317	0	38	11	5	5	0	9	503
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	961	110	88	3300	0	358	58	29	36	0	27	4967
APPROACH %'s :	0.00%	89.73%	10.27%	2.60%	97.40%	0.00%	80.45%	13.03%	6.52%	57.14%	0.00%	42.86%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	375	46	36	1266	0	138	36	11	14	0	10	1932
PEAK HR FACTOR :		0.931			0.887			0.826			0.667		0.910

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-006 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/19/2015

PM

NS/EW Streets:	Alameda St			Alameda St			Main St			Main St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	1	3	0	2.5	0	0.5	1	0	1	
3:00 PM	0	142	9	9	189	0	66	9	9	32	0	20	485
3:15 PM	0	154	6	2	176	0	64	7	2	21	0	14	446
3:30 PM	0	175	8	4	207	0	81	3	5	35	0	16	534
3:45 PM	0	176	10	3	185	0	95	2	9	17	0	14	511
4:00 PM	0	197	3	3	186	0	117	0	9	19	0	14	548
4:15 PM	0	207	3	6	158	0	124	3	3	10	0	14	528
4:30 PM	0	195	7	3	184	0	184	4	5	11	0	11	604
4:45 PM	0	206	6	0	197	0	206	3	4	26	0	11	659
5:00 PM	0	203	5	2	164	0	202	4	7	10	0	14	611
5:15 PM	0	217	1	0	185	0	217	5	13	8	0	9	655
5:30 PM	0	228	1	1	174	0	229	2	6	16	0	4	661
5:45 PM	0	224	3	0	156	0	227	3	6	6	0	8	633
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	2324	62	33	2161	0	1812	45	78	211	0	149	6875
APPROACH %'s :	0.00%	97.40%	2.60%	1.50%	98.50%	0.00%	93.64%	2.33%	4.03%	58.61%	0.00%	41.39%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	0	854	13	3	720	0	854	14	30	60	0	38	2586
PEAK HR FACTOR :		0.947			0.918			0.947			0.662		0.978

CONTROL : Signalized

City Of Los Angeles
Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:
North/South Main St

East/West Cesar E. Chavez Ave

Day: Thursday Date: November 19, 2015 Weather: SUNNY

Hours: 6-9 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	200	0	96	100
BIKES	56	15	42	31
BUSES	90	0	262	336

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	99	8.15	0	0.00	163	7.45	408	6.45
PM PK 15 MIN	412	17.45	0	0.00	294	17.15	319	17.30
AM PK HOUR	364	8.00	0	0.00	629	7.30	1542	6.30
PM PK HOUR	1492	17.00	0	0.00	1111	16.30	1192	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	39	79	49	167
7-8	104	121	84	309
8-9	116	156	92	364
15-16	197	324	188	709
16-17	336	641	214	1191
17-18	402	856	234	1492
TOTAL	1194	2177	861	4232

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	0	0	0	0
7-8	0	0	0	0
8-9	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
167	34	0	31	0
309	29	1	47	0
364	34	0	53	0
709	55	22	125	0
1191	82	5	137	0
1492	81	3	101	0
4232	315	31	494	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	25	344	0	369
7-8	47	536	0	583
8-9	61	537	0	598
15-16	61	807	0	868
16-17	61	983	0	1044
17-18	76	979	0	1055
TOTAL	331	4186	0	4517

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	1	1266	12	1279
7-8	0	1439	13	1452
8-9	0	1452	19	1471
15-16	0	822	21	843
16-17	0	920	23	943
17-18	0	1170	22	1192
TOTAL	1	7069	110	7180

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
1648	1	0	29	0
2035	2	0	46	0
2069	0	0	50	0
1711	0	0	79	5
1987	4	1	90	0
2247	0	0	84	0
11697	7	1	378	5

ITM Peak Hour Summary

Prepared by:

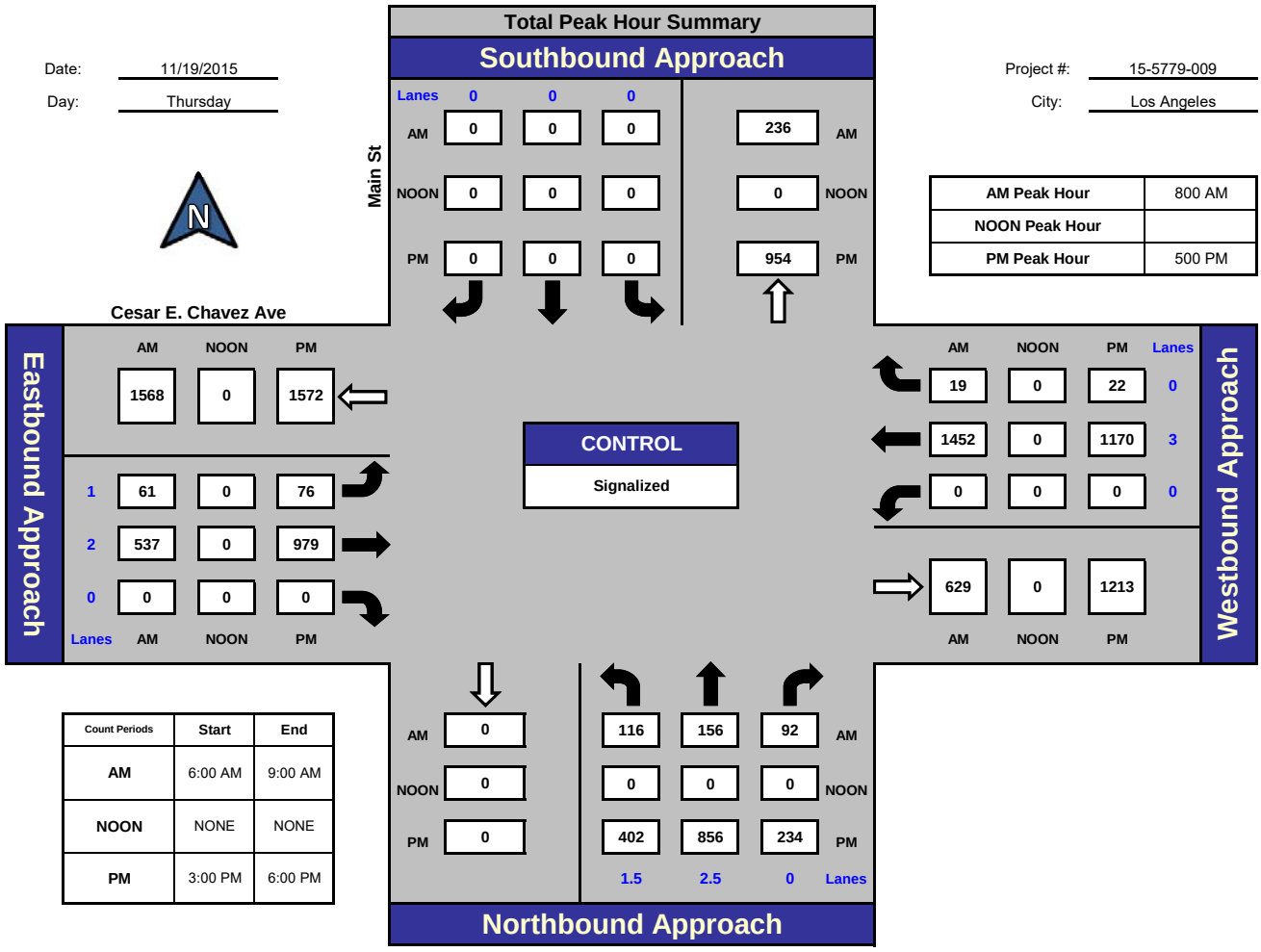
National Data & Surveying Services

Main St and Cesar E. Chavez Ave , Los Angeles

Date: 11/19/2015
Day: Thursday

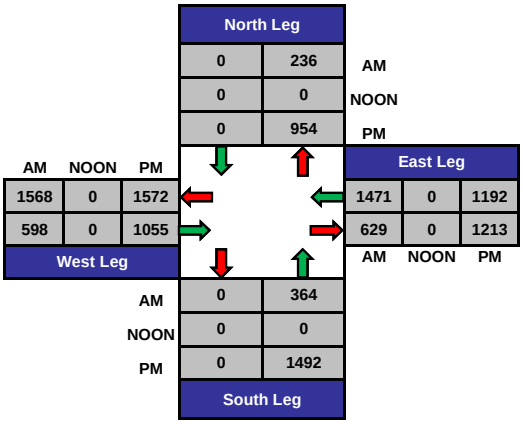
Project #: 15-5779-009
City: Los Angeles

AM Peak Hour	800 AM
NOON Peak Hour	
PM Peak Hour	500 PM

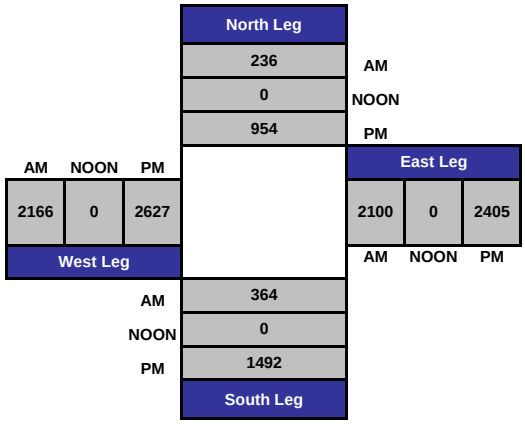


Count Periods	Start	End
AM	6:00 AM	9:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-009

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/19/2015

AM

NS/EW Streets:	Main St			Main St			Cesar E. Chavez Ave			Cesar E. Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1.5	2.5	0	0	0	0	1	2	0	0	3	0	
6:00 AM	6	23	9	0	0	0	11	91	0	0	178	3	321
6:15 AM	5	14	10	0	0	0	4	79	0	0	321	1	434
6:30 AM	15	14	12	0	0	0	5	89	0	0	366	2	503
6:45 AM	13	28	18	0	0	0	5	85	0	1	401	6	557
7:00 AM	21	25	20	0	0	0	8	117	0	0	404	2	597
7:15 AM	20	32	23	0	0	0	9	128	0	0	355	5	572
7:30 AM	30	31	25	0	0	0	15	143	0	0	324	2	570
7:45 AM	33	33	16	0	0	0	15	148	0	0	356	4	605
8:00 AM	30	34	20	0	0	0	15	140	0	0	375	3	617
8:15 AM	34	41	24	0	0	0	17	136	0	0	368	5	625
8:30 AM	32	38	20	0	0	0	13	133	0	0	334	4	574
8:45 AM	20	43	28	0	0	0	16	128	0	0	375	7	617
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	259	356	225	0	0	0	133	1417	0	1	4157	44	6592
APPROACH %'s :	30.83%	42.38%	26.79%	#DIV/0!	#DIV/0!	#DIV/0!	8.58%	91.42%	0.00%	0.02%	98.93%	1.05%	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	116	156	92	0	0	0	61	537	0	0	1452	19	2433
PEAK HR FACTOR :		0.919			0.000			0.965			0.963		0.973

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-009

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/19/2015

PM

NS/EW Streets:	Main St			Main St			Cesar E. Chavez Ave			Cesar E. Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1.5	2.5	0	0	0	0	1	2	0	0	3	0	
3:00 PM	45	77	41	0	0	0	15	166	0	0	180	5	529
3:15 PM	39	67	33	0	0	0	12	222	0	0	181	6	560
3:30 PM	46	83	52	0	0	0	16	215	0	0	233	3	648
3:45 PM	67	97	62	0	0	0	18	204	0	0	228	7	683
4:00 PM	83	120	56	0	0	0	9	230	0	0	235	3	736
4:15 PM	63	135	49	0	0	0	19	227	0	0	203	8	704
4:30 PM	110	187	60	0	0	0	11	266	0	0	244	5	883
4:45 PM	80	199	49	0	0	0	22	260	0	0	238	7	855
5:00 PM	85	206	59	0	0	0	15	243	0	0	289	7	904
5:15 PM	111	207	56	0	0	0	18	276	0	0	286	4	958
5:30 PM	76	227	53	0	0	0	20	235	0	0	315	4	930
5:45 PM	130	216	66	0	0	0	23	225	0	0	280	7	947
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	935	1821	636	0	0	0	198	2769	0	0	2912	66	9337
APPROACH %'s :	27.56%	53.69%	18.75%	#DIV/0!	#DIV/0!	#DIV/0!	6.67%	93.33%	0.00%	0.00%	97.78%	2.22%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	402	856	234	0	0	0	76	979	0	0	1170	22	3739
PEAK HR FACTOR :		0.905			0.000			0.897			0.934		0.976

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-009 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/19/2015

AM

NS/EW Streets:	Main St			Main St			Cesar E. Chavez Ave			Cesar E. Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1.5	2.5	0	0	0	0	1	2	0	0	3	0	
6:00 AM	6	19	8	0	0	0	9	84	0	0	156	3	285
6:15 AM	5	10	4	0	0	0	3	72	0	0	297	0	391
6:30 AM	15	14	9	0	0	0	3	79	0	0	342	1	463
6:45 AM	13	26	13	0	0	0	4	75	0	1	373	6	511
7:00 AM	21	22	14	0	0	0	6	105	0	0	379	2	549
7:15 AM	18	27	19	0	0	0	8	114	0	0	337	3	526
7:30 AM	27	28	19	0	0	0	13	130	0	0	301	2	520
7:45 AM	32	31	12	0	0	0	15	135	0	0	334	3	562
8:00 AM	29	28	16	0	0	0	13	121	0	0	358	2	567
8:15 AM	33	37	19	0	0	0	16	126	0	0	349	4	584
8:30 AM	32	32	17	0	0	0	10	118	0	0	320	3	532
8:45 AM	17	35	20	0	0	0	11	120	0	0	352	7	562
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	248	309	170	0	0	0	111	1279	0	1	3898	36	6052
APPROACH %'s :	34.11%	42.50%	23.38%				7.99%	92.01%	0.00%	0.03%	99.06%	0.91%	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	111	132	72	0	0	0	50	485	0	0	1379	16	2245
PEAK HR FACTOR :		0.885			0.000			0.942			0.969		0.961

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-009

Day: Thursday

CARS

City: Los Angeles

Date: 11/19/2015

PM

NS/EW Streets:	Main St			Main St			Cesar E. Chavez Ave			Cesar E. Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1.5	2.5	0	0	0	0	1	2	0	0	3	0	
3:00 PM	45	70	36	0	0	0	15	154	0	0	168	4	492
3:15 PM	36	60	29	0	0	0	10	212	0	0	165	5	517
3:30 PM	46	79	46	0	0	0	14	197	0	0	219	3	604
3:45 PM	67	87	56	0	0	0	15	190	0	0	211	6	632
4:00 PM	82	115	48	0	0	0	8	217	0	0	223	3	696
4:15 PM	61	128	43	0	0	0	15	212	0	0	189	6	654
4:30 PM	109	183	54	0	0	0	7	253	0	0	232	5	843
4:45 PM	80	183	40	0	0	0	20	242	0	0	225	6	796
5:00 PM	85	196	53	0	0	0	14	224	0	0	273	6	851
5:15 PM	111	202	45	0	0	0	16	264	0	0	279	4	921
5:30 PM	76	216	50	0	0	0	18	222	0	0	295	4	881
5:45 PM	130	208	60	0	0	0	19	211	0	0	273	5	906
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	928	1727	560	0	0	0	171	2598	0	0	2752	57	8793
APPROACH %'s :	28.86%	53.72%	17.42%				6.18%	93.82%	0.00%	0.00%	97.97%	2.03%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	402	822	208	0	0	0	67	921	0	0	1120	19	3559
PEAK HR FACTOR :		0.899			0.000			0.882			0.952		0.966

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Alameda St

East/West Cesar E. Chavez Ave

Day: Thursday Date: November 19, 2015 Weather: SUNNY

Hours: 6-9 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	241	326	147	82
BIKES	59	32	34	36
BUSES	93	114	295	337

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	168	7.45	378	7.45	167	7.30	396	6.45
PM PK 15 MIN	242	17.30	259	15.00	340	16.30	307	17.30
AM PK HOUR	646	7.45	1320	7.00	643	7.30	1452	6.30
PM PK HOUR	900	16.45	957	15.00	1263	16.30	1167	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	75	192	61	328
7-8	110	361	115	586
8-9	121	404	118	643
15-16	116	582	139	837
16-17	111	654	122	887
17-18	104	687	108	899
TOTAL	637	2880	663	4180

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	61	753	102	916
7-8	107	1114	99	1320
8-9	81	1077	122	1280
15-16	105	707	145	957
16-17	99	638	118	855
17-18	92	570	104	766
TOTAL	545	4859	690	6094

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
1244	40	2	36	0
1906	53	0	37	2
1923	31	0	52	0
1794	44	0	111	0
1742	48	0	114	2
1665	39	0	89	0
10274	255	2	439	4

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	44	304	56	404
7-8	42	476	87	605
8-9	47	476	102	625
15-16	63	751	183	997
16-17	92	906	197	1195
17-18	92	912	182	1186
TOTAL	380	3825	807	5012

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	96	1086	42	1224
7-8	100	1195	47	1342
8-9	119	1146	49	1314
15-16	118	585	83	786
16-17	130	733	126	989
17-18	122	937	108	1167
TOTAL	685	5682	455	6822

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
1628	43	3	58	0
1947	73	1	48	0
1939	58	0	51	0
1783	83	0	113	0
2184	79	0	92	0
2353	90	0	66	0
11834	426	4	428	0

ITM Peak Hour Summary

Prepared by:

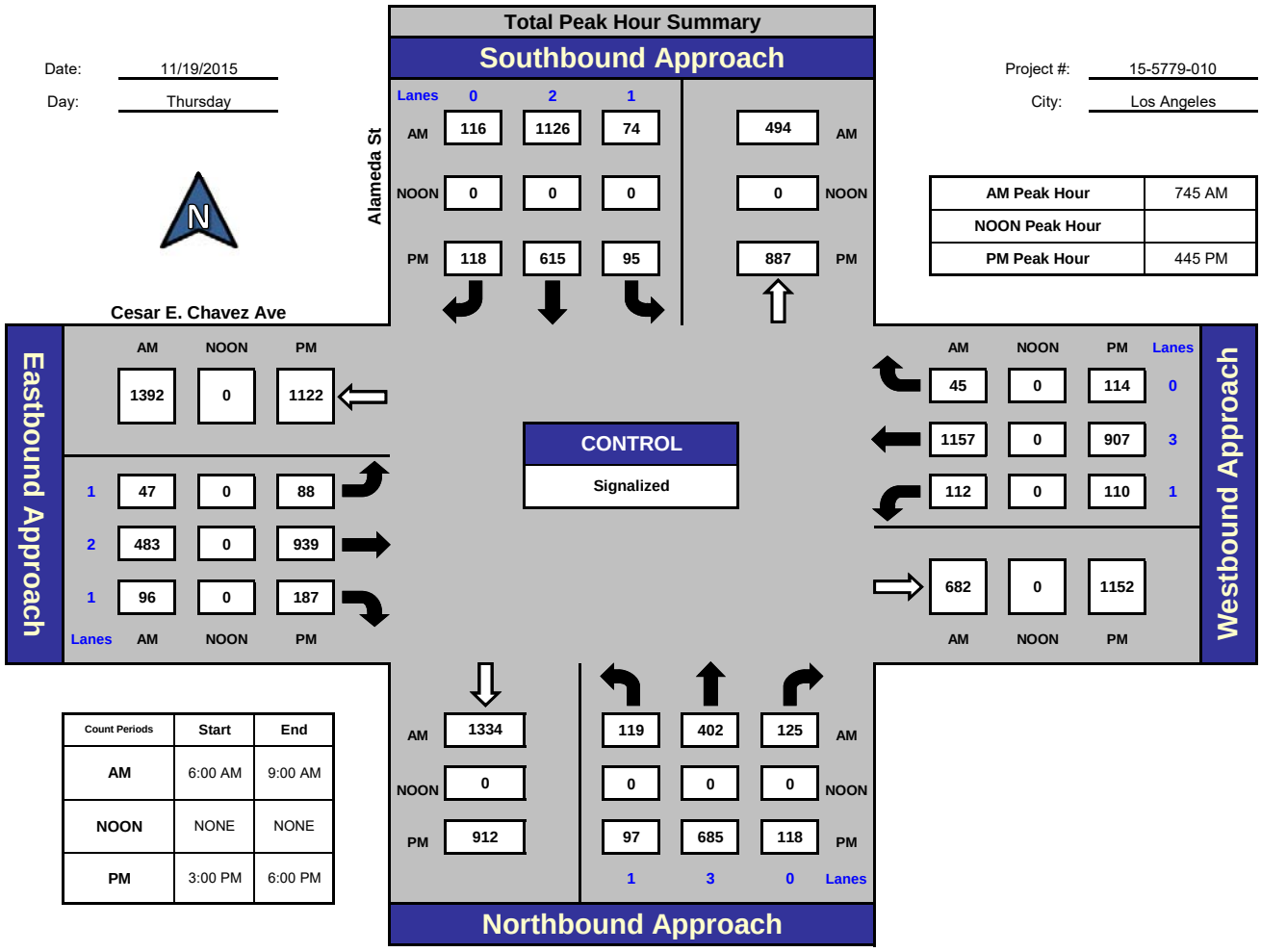
National Data & Surveying Services

Alameda St and Cesar E. Chavez Ave , Los Angeles

Date: 11/19/2015
Day: Thursday

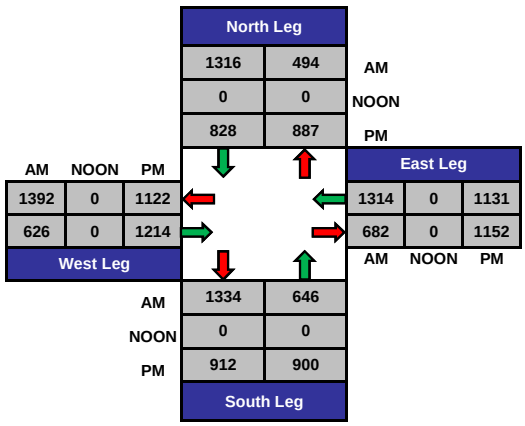
Project #: 15-5779-010
City: Los Angeles

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	445 PM

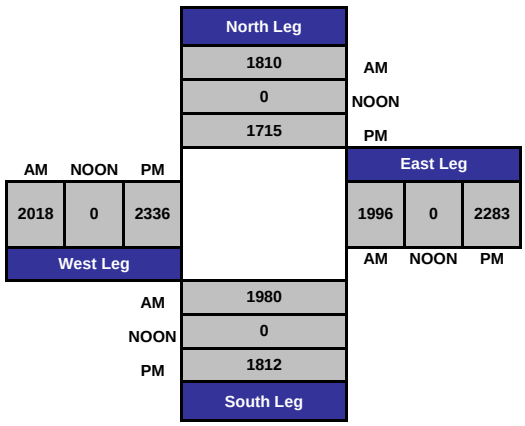


Count Periods	Start	End
AM	6:00 AM	9:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-010

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/19/2015

AM

NS/EW Streets:	Alameda St			Alameda St			Cesar E. Chavez Ave			Cesar E. Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	1	2	0	1	2	1	1	3	0	
6:00 AM	14	44	15	10	128	16	11	78	16	14	151	7	504
6:15 AM	17	31	13	17	166	38	8	68	14	20	267	12	671
6:30 AM	24	63	18	17	199	25	10	81	10	34	314	9	804
6:45 AM	20	54	15	17	260	23	15	77	16	28	354	14	893
7:00 AM	25	76	29	23	278	41	10	107	15	27	340	11	982
7:15 AM	26	88	22	29	270	19	14	110	22	22	282	17	921
7:30 AM	36	90	26	34	240	8	8	133	26	27	274	15	917
7:45 AM	23	107	38	21	326	31	10	126	24	24	299	4	1033
8:00 AM	37	95	24	22	248	21	15	113	24	26	317	13	955
8:15 AM	30	107	31	14	267	30	15	122	27	33	285	14	975
8:30 AM	29	93	32	17	285	34	7	122	21	29	256	14	939
8:45 AM	25	109	31	28	277	37	10	119	30	31	288	8	993
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	306	957	294	249	2944	323	133	1256	245	315	3427	138	10587
APPROACH %'s :	19.65%	61.46%	18.88%	7.08%	83.73%	9.19%	8.14%	76.87%	14.99%	8.12%	88.32%	3.56%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	119	402	125	74	1126	116	47	483	96	112	1157	45	3902
PEAK HR FACTOR :		0.961			0.870			0.954			0.923		0.944

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-010

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/19/2015

PM

NS/EW Streets:	Alameda St			Alameda St			Cesar E. Chavez Ave			Cesar E. Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	1	2	0	1	2	1	1	3	0	
3:00 PM	25	143	43	24	194	41	6	161	35	24	114	19	829
3:15 PM	22	137	31	28	150	29	17	180	51	34	141	18	838
3:30 PM	35	160	28	28	185	44	21	200	49	28	168	14	960
3:45 PM	34	142	37	25	178	31	19	210	48	32	162	32	950
4:00 PM	27	166	24	30	163	32	20	216	44	34	180	36	972
4:15 PM	30	152	40	23	144	21	13	202	49	33	163	35	905
4:30 PM	30	167	26	14	169	28	31	253	56	38	190	23	1025
4:45 PM	24	169	32	32	162	37	28	235	48	25	200	32	1024
5:00 PM	19	165	27	18	133	28	18	237	48	27	232	29	981
5:15 PM	26	170	26	27	173	25	22	240	47	31	227	21	1035
5:30 PM	28	181	33	18	147	28	20	227	44	27	248	32	1033
5:45 PM	31	171	22	29	117	23	32	208	43	37	230	26	969
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	331	1923	369	296	1915	367	247	2569	562	370	2255	317	11521
APPROACH %'s :	12.62%	73.31%	14.07%	11.48%	74.28%	14.24%	7.31%	76.05%	16.64%	12.58%	76.65%	10.77%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	97	685	118	95	615	118	88	939	187	110	907	114	4073
PEAK HR FACTOR :		0.930			0.896			0.976			0.921		0.984

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-010

Day: Thursday

CARS

City: Los Angeles

Date: 11/19/2015

AM

NS/EW Streets:	Alameda St			Alameda St			Cesar E. Chavez Ave			Cesar E. Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	1	2	0	1	2	1	1	3	0	
6:00 AM	13	34	14	10	79	15	11	69	16	13	133	7	414
6:15 AM	16	23	10	16	121	33	7	56	14	19	248	12	575
6:30 AM	22	51	16	16	178	22	10	70	9	34	293	7	728
6:45 AM	20	49	12	16	240	21	15	62	16	27	331	13	822
7:00 AM	24	65	25	22	264	40	10	89	15	25	318	10	907
7:15 AM	23	77	20	26	258	19	14	92	22	20	264	15	850
7:30 AM	33	83	23	32	224	8	6	120	23	27	255	12	846
7:45 AM	20	94	35	20	310	29	8	107	24	22	279	4	952
8:00 AM	32	80	22	20	236	21	14	94	22	24	303	12	880
8:15 AM	25	90	29	13	248	28	14	107	26	31	272	14	897
8:30 AM	28	78	27	16	273	32	7	105	21	27	244	13	871
8:45 AM	22	83	27	27	257	33	10	106	30	28	268	7	898
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	278	807	260	234	2688	301	126	1077	238	297	3208	126	9640
APPROACH %'s :	20.67%	60.00%	19.33%	7.26%	83.40%	9.34%	8.74%	74.74%	16.52%	8.18%	88.35%	3.47%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	105	342	113	69	1067	110	43	413	93	104	1098	43	3600
PEAK HR FACTOR :		0.940			0.868			0.934			0.918		0.945

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-010

Day: Thursday

CARS

City: Los Angeles

Date: 11/19/2015

PM

NS/EW Streets:	Alameda St			Alameda St			Cesar E. Chavez Ave			Cesar E. Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	1	2	0	1	2	1	1	3	0	
3:00 PM	24	134	41	23	181	39	6	148	33	23	103	16	771
3:15 PM	21	131	28	26	141	27	17	168	49	30	127	18	783
3:30 PM	35	149	28	28	172	39	20	181	47	28	159	12	898
3:45 PM	30	132	36	23	163	30	19	190	46	30	148	32	879
4:00 PM	27	157	22	27	155	30	17	199	43	31	170	33	911
4:15 PM	28	146	36	22	133	19	12	184	47	31	151	35	844
4:30 PM	30	153	25	14	163	27	30	234	55	37	178	20	966
4:45 PM	23	167	32	32	159	34	26	211	46	24	190	31	975
5:00 PM	18	158	27	15	127	24	18	216	43	25	221	27	919
5:15 PM	26	166	25	26	163	25	21	219	46	26	220	21	984
5:30 PM	27	176	31	18	144	26	18	214	43	27	232	31	987
5:45 PM	29	164	19	29	106	21	30	192	41	34	226	25	916
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	318	1833	350	283	1807	341	234	2356	539	346	2125	301	10833
APPROACH %'s :	12.71%	73.29%	13.99%	11.64%	74.33%	14.03%	7.48%	75.30%	17.23%	12.48%	76.66%	10.86%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	94	667	115	91	593	109	83	860	178	102	863	110	3865
PEAK HR FACTOR :		0.936			0.881			0.980			0.927		0.979

CONTROL : Signalized

City Of Los Angeles
Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:
North/South Vignes St

East/West Cesar E. Chavez Ave

Day: Thursday Date: November 19, 2015 Weather: SUNNY

Hours: 6-9 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	218	143	110	126
BIKES	24	27	26	30
BUSES	198	74	318	215

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	153	7.45	156	7.45	175	7.30	486	6.45
PM PK 15 MIN	326	16.30	186	16.30	330	17.15	341	17.30
AM PK HOUR	587	7.00	540	7.30	673	7.30	1861	6.45
PM PK HOUR	1180	16.00	636	15.00	1251	16.30	1249	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	130	266	57	453
7-8	176	343	68	587
8-9	163	324	67	554
15-16	186	414	146	746
16-17	262	732	186	1180
17-18	279	677	145	1101
TOTAL	1196	2756	669	4621

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	172	191	44	407
7-8	142	321	24	487
8-9	99	298	41	438
15-16	266	307	63	636
16-17	260	303	50	613
17-18	238	302	47	587
TOTAL	1177	1722	269	3168

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
860	27	0	16	0
1074	28	1	28	1
992	19	0	12	0
1382	39	1	19	0
1793	46	2	27	0
1688	28	0	6	0
7789	187	4	108	1

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	63	209	127	399
7-8	43	405	179	627
8-9	54	413	181	648
15-16	51	826	188	1065
16-17	44	912	242	1198
17-18	46	922	257	1225
TOTAL	301	3687	1174	5162

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	164	1108	290	1562
7-8	211	1270	320	1801
8-9	260	1176	315	1751
15-16	44	519	134	697
16-17	63	642	167	872
17-18	114	842	293	1249
TOTAL	856	5557	1519	7932

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
1961	213	5	15	0
2428	250	0	17	0
2399	272	0	7	0
1762	249	1	24	0
2070	312	0	18	0
2474	181	0	17	0
13094	1477	6	98	0

ITM Peak Hour Summary

Prepared by:

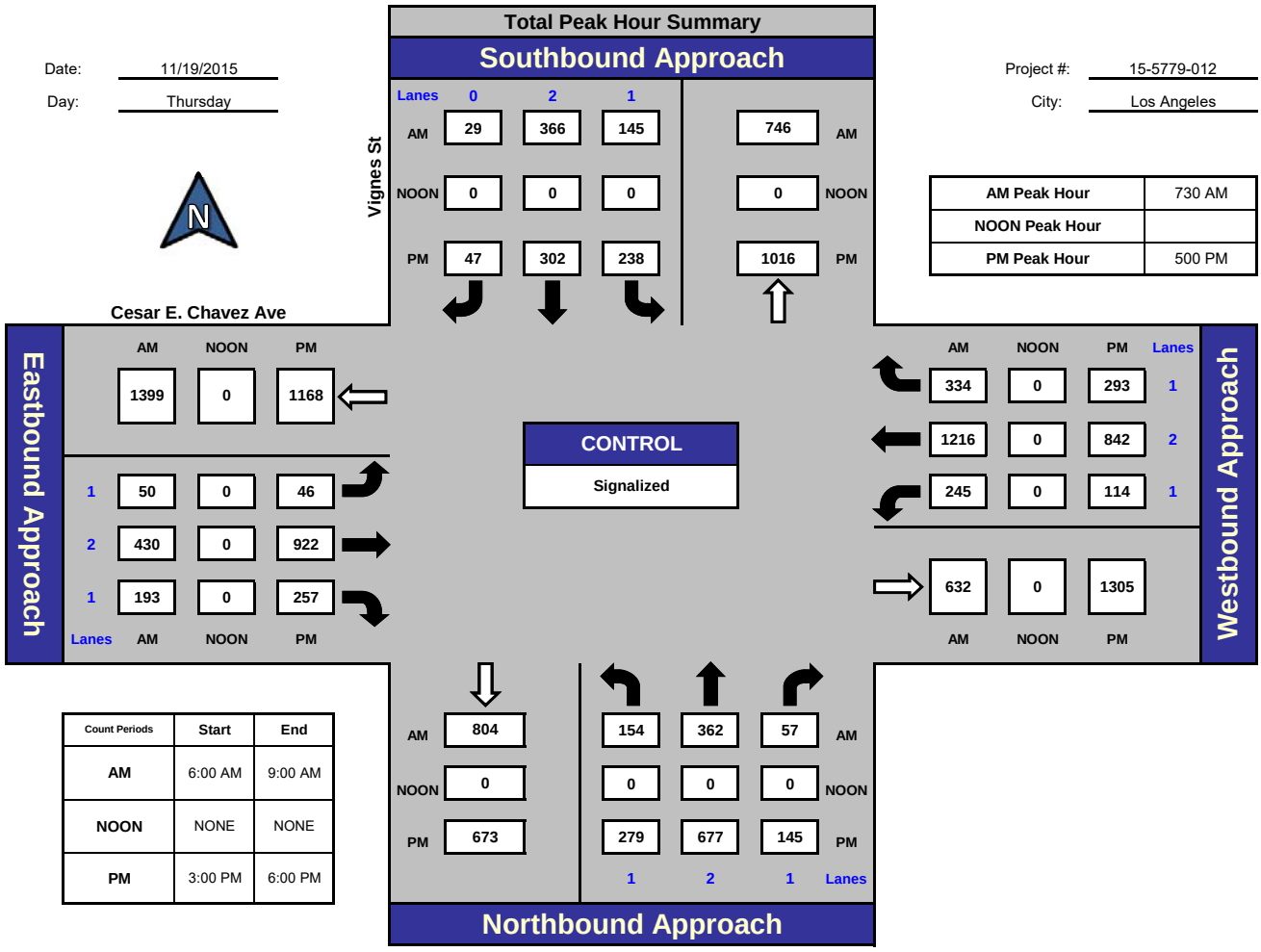
National Data & Surveying Services

Vignes St and Cesar E. Chavez Ave , Los Angeles

Date: 11/19/2015
Day: Thursday

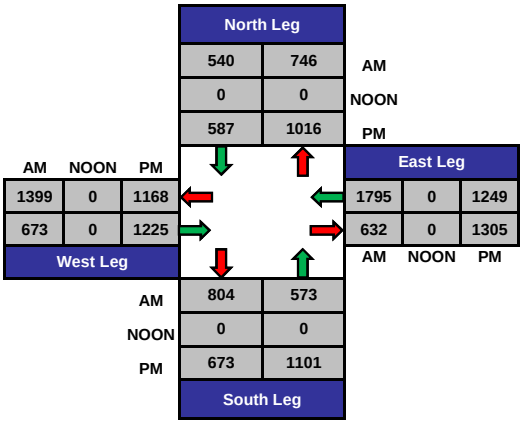
Project #: 15-5779-012
City: Los Angeles

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	500 PM

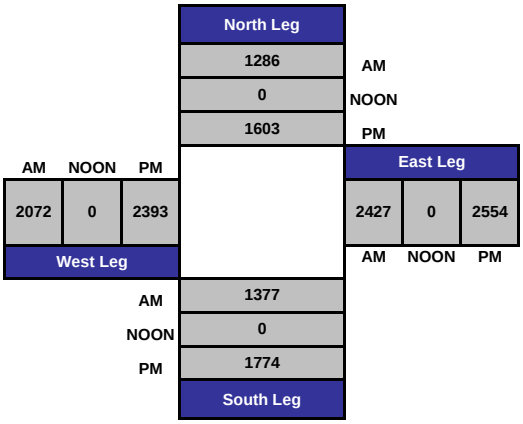


Count Periods	Start	End
AM	6:00 AM	9:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-012

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/19/2015

AM

NS/EW Streets:	Vignes St			Vignes St			Cesar E. Chavez Ave			Cesar E. Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	0	1	2	1	1	2	1	
6:00 AM	31	87	16	58	48	8	22	42	40	30	141	78	601
6:15 AM	23	63	14	54	47	13	21	45	21	50	286	81	718
6:30 AM	38	57	16	32	38	11	8	70	32	37	322	51	712
6:45 AM	38	59	11	28	58	12	12	52	34	47	359	80	790
7:00 AM	55	74	17	27	60	13	12	85	36	41	344	69	833
7:15 AM	39	77	27	23	67	3	10	98	46	62	329	72	853
7:30 AM	40	93	12	46	88	4	12	113	50	64	304	90	916
7:45 AM	42	99	12	46	106	4	9	109	47	44	293	89	900
8:00 AM	36	93	15	30	89	14	13	99	49	69	296	94	897
8:15 AM	36	77	18	23	83	7	16	109	47	68	323	61	868
8:30 AM	45	87	13	28	70	15	10	107	42	58	246	77	798
8:45 AM	46	67	21	18	56	5	15	98	43	65	311	83	828
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	469	933	192	413	810	109	160	1027	487	635	3554	925	9714
APPROACH %'s :	29.42%	58.53%	12.05%	31.01%	60.81%	8.18%	9.56%	61.35%	29.09%	12.42%	69.50%	18.09%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	154	362	57	145	366	29	50	430	193	245	1216	334	3581
PEAK HR FACTOR :		0.936			0.865			0.961			0.978		0.977

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-012

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/19/2015

PM

NS/EW Streets:	Vignes St			Vignes St			Cesar E. Chavez Ave			Cesar E. Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	0	1	2	1	1	2	1	
3:00 PM	37	101	39	58	81	20	15	211	45	15	107	16	745
3:15 PM	39	83	30	62	79	19	14	191	35	8	131	44	735
3:30 PM	51	102	47	85	82	16	10	209	61	11	130	45	849
3:45 PM	59	128	30	61	65	8	12	215	47	10	151	29	815
4:00 PM	76	179	53	55	76	18	8	224	58	23	149	36	955
4:15 PM	65	166	41	71	77	9	11	233	61	18	156	43	951
4:30 PM	59	210	57	84	89	13	13	224	68	11	168	40	1036
4:45 PM	62	177	35	50	61	10	12	231	55	11	169	48	921
5:00 PM	82	181	36	55	81	15	13	249	56	15	177	53	1013
5:15 PM	68	143	41	62	81	13	9	251	70	40	210	77	1065
5:30 PM	71	175	38	68	69	7	14	216	71	34	231	76	1070
5:45 PM	58	178	30	53	71	12	10	206	60	25	224	87	1014
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	727	1823	477	764	912	160	141	2660	687	221	2003	594	11169
APPROACH %'s :	24.02%	60.22%	15.76%	41.61%	49.67%	8.71%	4.04%	76.26%	19.70%	7.84%	71.08%	21.08%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	279	677	145	238	302	47	46	922	257	114	842	293	4162
PEAK HR FACTOR :		0.921			0.941			0.928			0.916		0.972

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-012

Day: Thursday

CARS

City: Los Angeles

Date: 11/19/2015

AM

NS/EW Streets:	Vignes St			Vignes St			Cesar E. Chavez Ave			Cesar E. Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	0	1	2	1	1	2	1	
6:00 AM	21	82	14	54	39	8	21	35	34	26	129	77	540
6:15 AM	13	58	13	51	39	12	20	42	16	45	277	80	666
6:30 AM	31	55	15	28	36	9	7	63	26	34	308	50	662
6:45 AM	29	56	10	24	54	10	8	46	28	37	343	77	722
7:00 AM	44	72	15	22	52	9	11	76	27	37	329	68	762
7:15 AM	33	71	25	20	58	3	6	92	38	55	317	70	788
7:30 AM	33	86	9	41	81	1	12	105	42	61	294	88	853
7:45 AM	33	92	10	42	98	3	7	102	37	40	283	87	834
8:00 AM	30	88	10	27	84	12	9	90	39	66	286	91	832
8:15 AM	30	69	13	19	80	7	11	102	40	65	312	61	809
8:30 AM	40	75	11	25	65	10	9	97	35	56	238	71	732
8:45 AM	38	56	16	15	50	3	15	87	37	60	298	77	752
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	375	860	161	368	736	87	136	937	399	582	3414	897	8952
APPROACH %'s :	26.86%	61.60%	11.53%	30.90%	61.80%	7.30%	9.24%	63.65%	27.11%	11.89%	69.77%	18.33%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	126	335	42	129	343	23	39	399	158	232	1175	327	3328
PEAK HR FACTOR :		0.931			0.865			0.937			0.979		0.975

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-012

Day: Thursday

CARS

City: Los Angeles

Date: 11/19/2015

PM

NS/EW Streets:	Vignes St			Vignes St			Cesar E. Chavez Ave			Cesar E. Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	0	1	2	1	1	2	1	
3:00 PM	31	98	38	57	76	19	14	201	39	11	100	15	699
3:15 PM	34	70	30	58	74	18	12	184	31	5	122	43	681
3:30 PM	46	92	45	83	76	14	9	198	54	10	123	44	794
3:45 PM	51	118	30	61	60	7	11	204	41	9	146	27	765
4:00 PM	70	173	51	52	71	16	7	212	50	20	141	34	897
4:15 PM	56	157	39	70	68	8	9	220	54	17	149	43	890
4:30 PM	52	205	56	81	88	11	13	218	56	10	165	39	994
4:45 PM	56	165	34	49	61	9	9	221	46	11	163	46	870
5:00 PM	76	172	34	55	79	13	11	239	45	13	170	51	958
5:15 PM	62	129	41	60	79	13	8	245	59	38	207	74	1015
5:30 PM	66	152	38	67	65	7	12	211	63	33	221	75	1010
5:45 PM	53	160	29	53	70	12	9	197	50	24	218	81	956
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	653	1691	465	746	867	147	124	2550	588	201	1925	572	10529
APPROACH %'s :	23.25%	60.20%	16.55%	42.39%	49.26%	8.35%	3.80%	78.17%	18.03%	7.45%	71.35%	21.20%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	257	613	142	235	293	45	40	892	217	108	816	281	3939
PEAK HR FACTOR :		0.897			0.942			0.921			0.916		0.970

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Alameda St (North)

East/West Los Angeles St

Day: Thursday Date: November 19, 2015 Weather: SUNNY

Hours: 6-9 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	236	322	0	44
BIKES	30	42	6	26
BUSES	97	115	0	0

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	161	8.15	360	7.45	0	0.00	59	8.00
PM PK 15 MIN	215	17.30	276	15.45	0	0.00	94	16.45
AM PK HOUR	624	8.00	1344	7.45	0	0.00	204	7.30
PM PK HOUR	838	15.45	1025	15.00	0	0.00	303	16.15

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	0	317	0	317
7-8	0	534	0	534
8-9	0	624	0	624
15-16	0	795	0	795
16-17	1	837	0	838
17-18	0	811	0	811
TOTAL	1	3918	0	3919

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	0	788	146	934
7-8	0	1005	304	1309
8-9	0	1005	323	1328
15-16	1	917	107	1025
16-17	0	814	128	942
17-18	0	752	117	869
TOTAL	1	5281	1125	6407

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
1251	0	0	165	1
1843	0	0	268	0
1952	0	0	197	0
1820	0	0	245	4
1780	0	0	284	0
1680	0	0	336	3
10326	0	0	1495	8

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	0	0	0	0
7-8	0	0	0	0
8-9	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	98	38	29	165
7-8	93	46	39	178
8-9	102	66	29	197
15-16	130	45	57	232
16-17	125	73	77	275
17-18	117	60	89	266
TOTAL	665	328	320	1313

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
165	15	0	17	0
178	10	0	26	0
197	14	0	26	0
232	23	0	28	0
275	26	0	30	0
266	28	0	20	0
1313	116	0	147	0

ITM Peak Hour Summary

Prepared by:

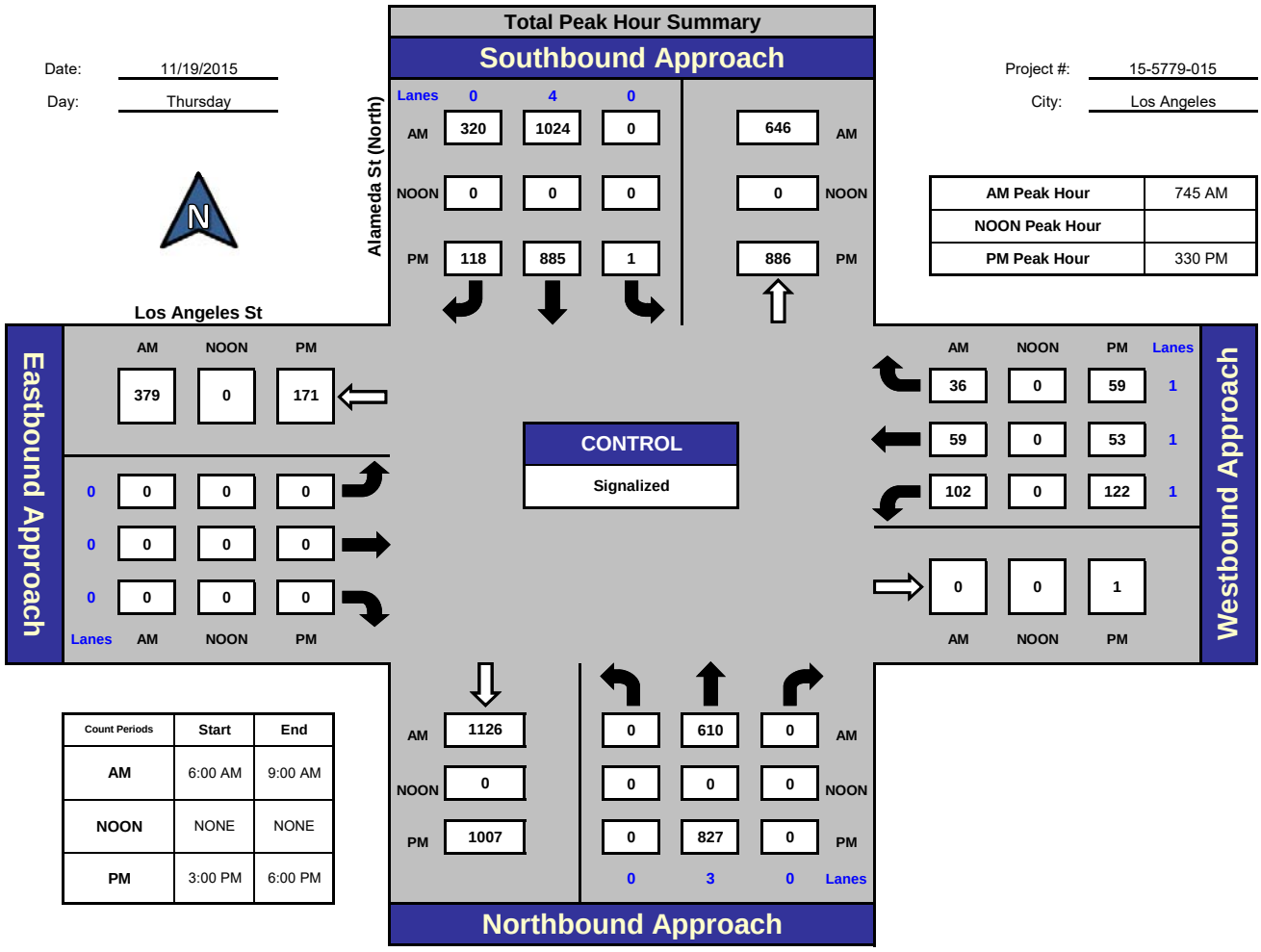
National Data & Surveying Services

Alameda St (North) and Los Angeles St , Los Angeles

Date: 11/19/2015
Day: Thursday

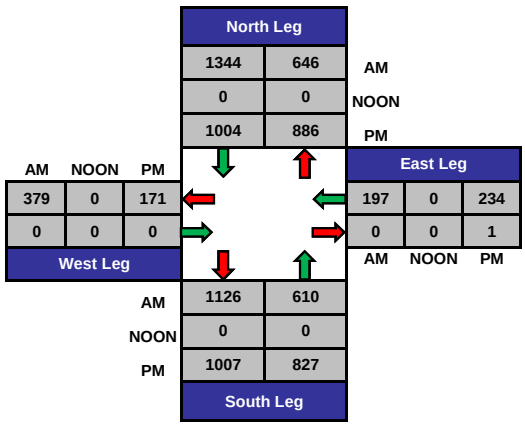
Project #: 15-5779-015
City: Los Angeles

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	330 PM

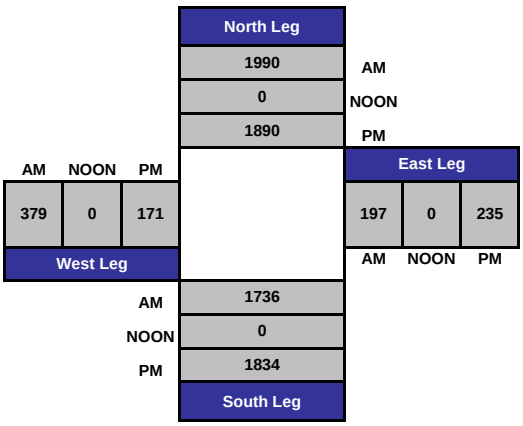


Count Periods	Start	End
AM	6:00 AM	9:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-015

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/19/2015

AM

NS/EW Streets:	Alameda St (North)			Alameda St (North)			Los Angeles St			Los Angeles St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	0	4	0	0	0	0	1	1	1	
6:00 AM	0	63	0	0	147	17	0	0	0	25	7	9	268
6:15 AM	0	62	0	0	182	29	0	0	0	29	8	8	318
6:30 AM	0	97	0	0	220	31	0	0	0	22	6	9	385
6:45 AM	0	95	0	0	239	69	0	0	0	22	17	3	445
7:00 AM	0	122	0	0	261	64	0	0	0	17	15	11	490
7:15 AM	0	133	0	0	246	63	0	0	0	21	9	7	479
7:30 AM	0	138	0	0	230	85	0	0	0	29	14	9	505
7:45 AM	0	141	0	0	268	92	0	0	0	26	8	12	547
8:00 AM	0	150	0	0	247	64	0	0	0	27	19	13	520
8:15 AM	0	161	0	0	261	79	0	0	0	25	17	5	548
8:30 AM	0	158	0	0	248	85	0	0	0	24	15	6	536
8:45 AM	0	155	0	0	249	95	0	0	0	26	15	5	545
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	1475	0	0	2798	773	0	0	0	293	150	97	5586
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	78.35%	21.65%	#DIV/0!	#DIV/0!	#DIV/0!	54.26%	27.78%	17.96%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	610	0	0	1024	320	0	0	0	102	59	36	2151
PEAK HR FACTOR :		0.947			0.933			0.000			0.835		0.981

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-015 **Day:** Thursday

TOTALS

City: Los Angeles **Date:** 11/19/2015

PM

NS/EW Streets:	Alameda St (North)			Alameda St (North)			Los Angeles St			Los Angeles St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	0	4	0	0	0	0	1	1	1	
3:00 PM	0	201	0	0	238	27	0	0	0	35	14	17	532
3:15 PM	0	183	0	0	206	20	0	0	0	31	11	12	463
3:30 PM	0	200	0	0	227	31	0	0	0	34	10	16	518
3:45 PM	0	211	0	1	246	29	0	0	0	30	10	12	539
4:00 PM	0	208	0	0	220	29	0	0	0	24	14	14	509
4:15 PM	0	208	0	0	192	29	0	0	0	34	19	17	499
4:30 PM	0	211	0	0	208	33	0	0	0	28	13	18	511
4:45 PM	1	210	0	0	194	37	0	0	0	39	27	28	536
5:00 PM	0	194	0	0	179	33	0	0	0	36	16	28	486
5:15 PM	0	204	0	0	220	21	0	0	0	27	14	19	505
5:30 PM	0	215	0	0	175	34	0	0	0	32	15	22	493
5:45 PM	0	198	0	0	178	29	0	0	0	22	15	20	462
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	2443	0	1	2483	352	0	0	0	372	178	223	6053
APPROACH %'s :	0.04%	99.96%	0.00%	0.04%	87.55%	12.41%	#DIV/0!	#DIV/0!	#DIV/0!	48.12%	23.03%	28.85%	
PEAK HR START TIME :	330 PM												TOTAL
PEAK HR VOL :	0	827	0	1	885	118	0	0	0	122	53	59	2065
PEAK HR FACTOR :		0.980			0.909			0.000			0.836		0.958

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-015

Day: Thursday

CARS

City: Los Angeles

Date: 11/19/2015

AM

NS/EW Streets:	Alameda St (North)			Alameda St (North)			Los Angeles St			Los Angeles St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	0	4	0	0	0	0	1	1	1	
6:00 AM	0	50	0	0	100	12	0	0	0	25	7	9	203
6:15 AM	0	47	0	0	139	25	0	0	0	29	8	8	256
6:30 AM	0	84	0	0	197	29	0	0	0	21	4	9	344
6:45 AM	0	81	0	0	225	65	0	0	0	22	15	3	411
7:00 AM	0	106	0	0	249	58	0	0	0	17	14	11	455
7:15 AM	0	119	0	0	236	60	0	0	0	21	7	7	450
7:30 AM	0	120	0	0	216	81	0	0	0	28	11	9	465
7:45 AM	0	127	0	0	255	88	0	0	0	26	6	12	514
8:00 AM	0	132	0	0	231	62	0	0	0	27	18	13	483
8:15 AM	0	136	0	0	245	75	0	0	0	24	15	5	500
8:30 AM	0	132	0	0	234	83	0	0	0	23	13	5	490
8:45 AM	0	131	0	0	232	90	0	0	0	26	13	5	497
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	1265	0	0	2559	728	0	0	0	289	131	96	5068
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	77.85%	22.15%				56.01%	25.39%	18.60%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	527	0	0	965	308	0	0	0	100	52	35	1987
PEAK HR FACTOR :		0.969			0.928			0.000			0.806		0.966

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-015 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/19/2015

PM

NS/EW Streets:	Alameda St (North)			Alameda St (North)			Los Angeles St			Los Angeles St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	0	4	0	0	0	0	1	1	1	
3:00 PM	0	189	0	0	219	20	0	0	0	35	14	17	494
3:15 PM	0	174	0	0	198	16	0	0	0	30	10	12	440
3:30 PM	0	189	0	0	219	29	0	0	0	34	10	15	496
3:45 PM	0	201	0	1	234	23	0	0	0	29	9	12	509
4:00 PM	0	198	0	0	213	23	0	0	0	23	14	14	485
4:15 PM	0	195	0	0	179	26	0	0	0	34	18	17	469
4:30 PM	0	201	0	0	200	31	0	0	0	27	13	18	490
4:45 PM	1	199	0	0	182	34	0	0	0	39	25	26	506
5:00 PM	0	182	0	0	173	30	0	0	0	36	15	28	464
5:15 PM	0	196	0	0	218	18	0	0	0	24	12	19	487
5:30 PM	0	209	0	0	170	30	0	0	0	32	14	22	477
5:45 PM	0	187	0	0	169	28	0	0	0	22	14	20	440
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	2320	0	1	2374	308	0	0	0	365	168	220	5757
APPROACH %'s :	0.04%	99.96%	0.00%	0.04%	88.48%	11.48%				48.47%	22.31%	29.22%	
PEAK HR START TIME :	330 PM												TOTAL
PEAK HR VOL :	0	783	0	1	845	101	0	0	0	120	51	58	1959
PEAK HR FACTOR :		0.974			0.918			0.000			0.830		0.962

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Alameda St

East/West US-101 NB Ramp

Day: Thursday Date: November 19, 2015 Weather: SUNNY

Hours: 6-9 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	301	311	0	1
BIKES	36	40	0	1
BUSES	50	46	0	0

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	251	7.30	287	7.45	0	0.00	1	7.30
PM PK 15 MIN	213	15.30	287	15.45	0	0.00	0	0.00
AM PK HOUR	976	7.30	1100	7.45	0	0.00	1	7.30
PM PK HOUR	836	15.00	1085	15.00	0	0.00	0	0.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	329	417	0	746
7-8	353	600	0	953
8-9	330	627	0	957
15-16	206	630	0	836
16-17	152	586	0	738
17-18	149	478	0	627
TOTAL	1519	3338	0	4857

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	0	539	294	833
7-8	0	899	173	1072
8-9	0	881	203	1084
15-16	0	841	244	1085
16-17	0	723	192	915
17-18	0	752	179	931
TOTAL	0	4635	1285	5920

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
1579	1	0	0	0
2025	0	0	0	0
2041	0	0	0	0
1921	0	0	1	0
1653	0	0	0	0
1558	0	0	0	0
10777	1	0	1	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
TOTAL	0	0	0	0

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	1	1
TOTAL	0	0	1	1

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
1	48	1	12	2
1	277	12	101	20

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Alameda St and US-101 NB Ramp , Los Angeles

Date: 11/19/2015
Day: Thursday

Project #: 15-5779-016
City: Los Angeles

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	300 PM

Total Peak Hour Summary

Southbound Approach (Alameda St)

Lanes	0	3	0		
AM	187	912	0	607	AM
NOON	0	0	0	0	NOON
PM	244	841	0	630	PM

Eastbound Approach (US-101 NB Ramp)

Lanes	AM	NOON	PM
	557	0	450
0	0	0	0
0	0	0	0
0	0	0	0

Westbound Approach

Lanes	AM	NOON	PM
0	1	0	0
0	0	0	0
0	0	0	0
	0	0	0

CONTROL: No Control

Northbound Approach

AM	912	370	606	0	AM
NOON	0	0	0	0	NOON
PM	841	206	630	0	PM
		1	2	0	Lanes

Count Periods	Start	End
AM	6:00 AM	9:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs

	North Leg			East Leg			West Leg			South Leg		
	In	Out		In	Out		In	Out		In	Out	
AM	1099	607	AM	1	0	AM	557	450	AM	912	976	AM
NOON	0	0	NOON	0	0	NOON	0	0	NOON	0	0	NOON
PM	1085	630	PM	0	0	PM	0	0	PM	841	836	PM

Total Volume Per Leg

	North Leg		East Leg			West Leg			South Leg	
			In	Out		In	Out			
AM	1706	AM	1	0	AM	557	450	AM	1888	AM
NOON	0	NOON	0	0	NOON	0	0	NOON	0	NOON
PM	1715	PM	0	0	PM	0	0	PM	1677	PM

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-016

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/19/2015

AM

NS/EW Streets:	Alameda St			Alameda St			US-101 NB Ramp			US-101 NB Ramp			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	3	0	0	0	0	0	0	0	
6:00 AM	57	97	0	0	92	63	0	0	0	0	0	0	309
6:15 AM	83	103	0	0	107	83	0	0	0	0	0	0	376
6:30 AM	104	112	0	0	133	88	0	0	0	0	0	0	437
6:45 AM	85	105	0	0	207	60	0	0	0	0	0	0	457
7:00 AM	75	146	0	0	219	51	0	0	0	0	0	0	491
7:15 AM	77	155	0	0	212	44	0	0	0	0	0	0	488
7:30 AM	97	154	0	0	220	39	0	0	0	0	0	1	511
7:45 AM	104	145	0	0	248	39	0	0	0	0	0	0	536
8:00 AM	82	152	0	0	211	57	0	0	0	0	0	0	502
8:15 AM	87	155	0	0	233	52	0	0	0	0	0	0	527
8:30 AM	79	158	0	0	221	39	0	0	0	0	0	0	497
8:45 AM	82	162	0	0	216	55	0	0	0	0	0	0	515
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1012	1644	0	0	2319	670	0	0	0	0	0	1	5646
APPROACH %'s :	38.10%	61.90%	0.00%	0.00%	77.58%	22.42%	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	0.00%	100.00%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	370	606	0	0	912	187	0	0	0	0	0	1	2076
PEAK HR FACTOR :		0.972			0.957			0.000			0.250		0.968

CONTROL : No Control

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-016

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/19/2015

PM

NS/EW Streets:	Alameda St			Alameda St			US-101 NB Ramp			US-101 NB Ramp			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	3	0	0	0	0	0	0	0	
3:00 PM	50	159	0	0	204	63	0	0	0	0	0	0	476
3:15 PM	49	157	0	0	212	46	0	0	0	0	0	0	464
3:30 PM	54	159	0	0	207	66	0	0	0	0	0	0	486
3:45 PM	53	155	0	0	218	69	0	0	0	0	0	0	495
4:00 PM	46	150	0	0	173	51	0	0	0	0	0	0	420
4:15 PM	37	155	0	0	189	43	0	0	0	0	0	0	424
4:30 PM	36	150	0	0	192	45	0	0	0	0	0	0	423
4:45 PM	33	131	0	0	169	53	0	0	0	0	0	0	386
5:00 PM	31	113	0	0	178	54	0	0	0	0	0	0	376
5:15 PM	43	109	0	0	227	47	0	0	0	0	0	0	426
5:30 PM	33	133	0	0	164	37	0	0	0	0	0	0	367
5:45 PM	42	123	0	0	183	41	0	0	0	0	0	0	389
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	507	1694	0	0	2316	615	0	0	0	0	0	0	5132
APPROACH %'s :	23.03%	76.97%	0.00%	0.00%	79.02%	20.98%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	206	630	0	0	841	244	0	0	0	0	0	0	1921
PEAK HR FACTOR :		0.981			0.945			0.000			0.000		0.970

CONTROL : No Control

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-016

Day: Thursday

CARS

City: Los Angeles

Date: 11/19/2015

AM

NS/EW Streets:	Alameda St			Alameda St			US-101 NB Ramp			US-101 NB Ramp			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	3	0	0	0	0	0	0	0	
6:00 AM	51	87	0	0	81	31	0	0	0	0	0	0	250
6:15 AM	74	94	0	0	100	60	0	0	0	0	0	0	328
6:30 AM	95	101	0	0	121	77	0	0	0	0	0	0	394
6:45 AM	81	102	0	0	197	54	0	0	0	0	0	0	434
7:00 AM	65	130	0	0	211	46	0	0	0	0	0	0	452
7:15 AM	71	143	0	0	202	40	0	0	0	0	0	0	456
7:30 AM	90	139	0	0	210	36	0	0	0	0	0	0	475
7:45 AM	97	132	0	0	237	36	0	0	0	0	0	0	502
8:00 AM	76	135	0	0	200	49	0	0	0	0	0	0	460
8:15 AM	79	136	0	0	216	48	0	0	0	0	0	0	479
8:30 AM	74	140	0	0	208	36	0	0	0	0	0	0	458
8:45 AM	79	135	0	0	201	53	0	0	0	0	0	0	468
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	932	1474	0	0	2184	566	0	0	0	0	0	0	5156
APPROACH %'s :	38.74%	61.26%	0.00%	0.00%	79.42%	20.58%							
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	342	542	0	0	863	169	0	0	0	0	0	0	1916
PEAK HR FACTOR :		0.965			0.945			0.000			0.000		0.954

CONTROL : No Control

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-016 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/19/2015

PM

NS/EW Streets:	Alameda St			Alameda St			US-101 NB Ramp			US-101 NB Ramp			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	3	0	0	0	0	0	0	0	
3:00 PM	45	150	0	0	193	61	0	0	0	0	0	0	449
3:15 PM	49	151	0	0	200	44	0	0	0	0	0	0	444
3:30 PM	50	151	0	0	196	66	0	0	0	0	0	0	463
3:45 PM	50	149	0	0	207	67	0	0	0	0	0	0	473
4:00 PM	44	143	0	0	165	49	0	0	0	0	0	0	401
4:15 PM	36	149	0	0	180	43	0	0	0	0	0	0	408
4:30 PM	35	139	0	0	186	42	0	0	0	0	0	0	402
4:45 PM	32	127	0	0	166	51	0	0	0	0	0	0	376
5:00 PM	31	106	0	0	172	52	0	0	0	0	0	0	361
5:15 PM	42	104	0	0	220	45	0	0	0	0	0	0	411
5:30 PM	32	126	0	0	163	35	0	0	0	0	0	0	356
5:45 PM	42	117	0	0	174	36	0	0	0	0	0	0	369
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	488	1612	0	0	2222	591	0	0	0	0	0	0	4913
APPROACH %'s :	23.24%	76.76%	0.00%	0.00%	78.99%	21.01%							
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	194	601	0	0	796	238	0	0	0	0	0	0	1829
PEAK HR FACTOR :		0.989			0.943			0.000			0.000		0.967

CONTROL : No Control

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Alameda St

East/West Express Lanes Entrance_Exit

Day: Thursday Date: November 19, 2015 Weather: SUNNY

Hours: 6-9 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	343	187	0	0
BIKES	32	37	0	0
BUSES	303	43	0	0

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	272	8.45	239	7.45	0	0.00	0	0.00
PM PK 15 MIN	478	15.30	225	17.15	0	0.00	0	0.00
AM PK HOUR	1034	8.00	888	7.45	0	0.00	0	0.00
PM PK HOUR	1841	15.30	813	15.00	0	0.00	0	0.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	0	737	31	768
7-8	1	953	46	1000
8-9	0	980	54	1034
15-16	0	845	865	1710
16-17	0	741	1071	1812
17-18	0	619	1101	1720
TOTAL	1	4875	3168	8044

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	5	512	0	517
7-8	17	849	0	866
8-9	10	853	0	863
15-16	167	646	0	813
16-17	150	557	0	707
17-18	164	571	0	735
TOTAL	513	3988	0	4501

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
1285	0	0	0	0
1866	0	0	0	0
1897	0	0	0	0
2523	0	0	0	0
2519	1	0	0	0
2455	0	0	0	0
12545	1	0	0	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
TOTAL	0	0	0	0

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
TOTAL	0	0	0	0

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
0	32	0	2639	4

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Alameda St and Express Lanes Entrance Exit , Los Angeles

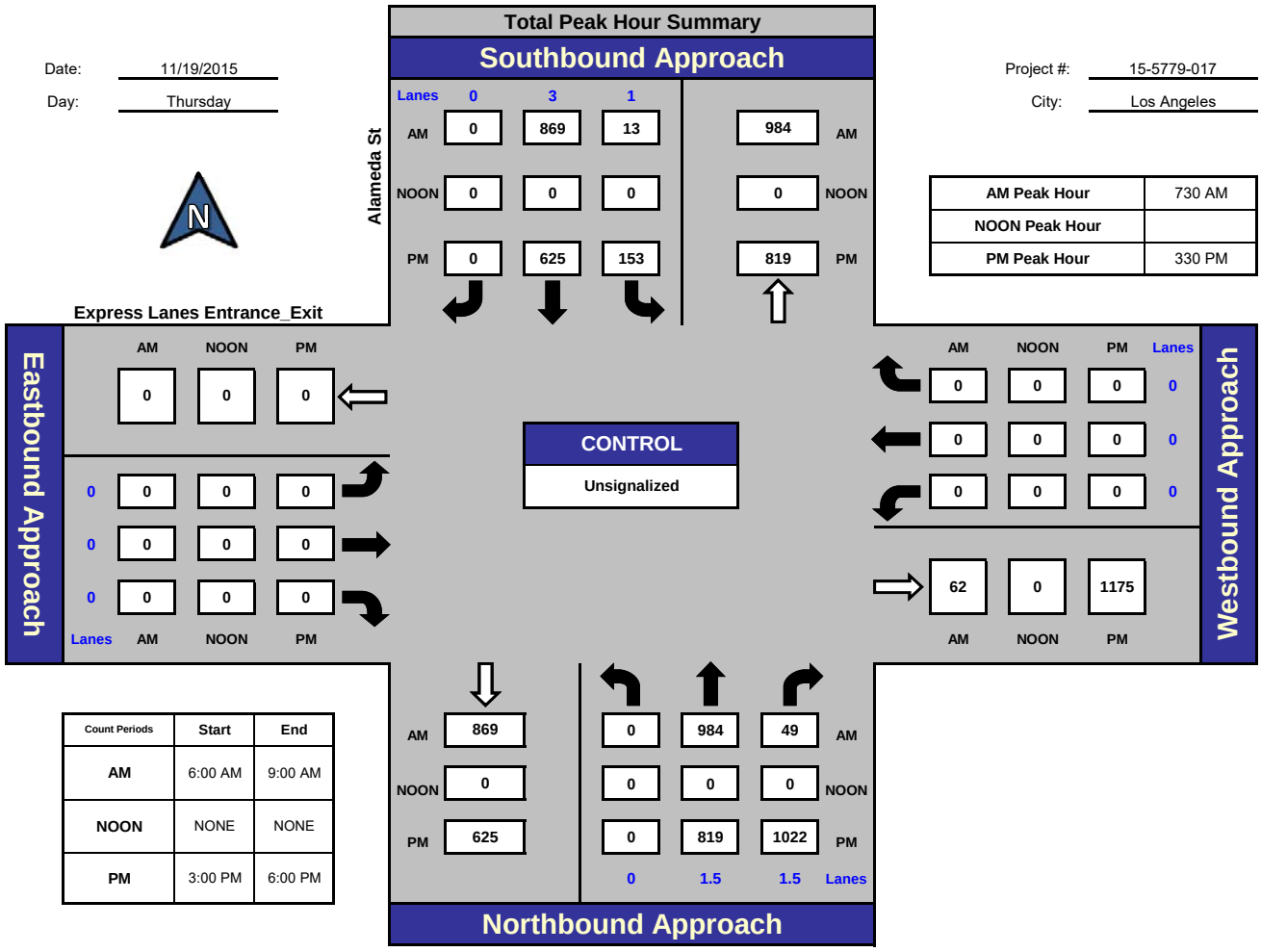
Date: 11/19/2015

Day: Thursday

Project #: 15-5779-017

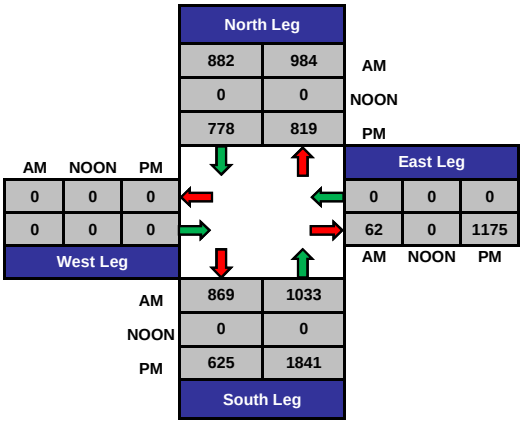
City: Los Angeles

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	330 PM

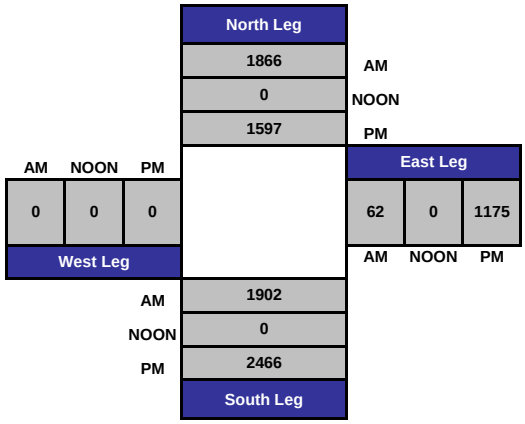


Count Periods	Start	End
AM	6:00 AM	9:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-017

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/19/2015

AM

NS/EW Streets:	Alameda St			Alameda St			Express Lanes Entrance_Exit			Express Lanes Entrance_Exit			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1.5	1.5	1	3	0	0	0	0	0	0	0	
6:00 AM	0	149	8	2	93	0	0	0	0	0	0	0	252
6:15 AM	0	180	7	1	104	0	0	0	0	0	0	0	292
6:30 AM	0	216	11	1	130	0	0	0	0	0	0	0	358
6:45 AM	0	192	5	1	185	0	0	0	0	0	0	0	383
7:00 AM	0	225	10	8	207	0	0	0	0	0	0	0	450
7:15 AM	1	233	14	1	194	0	0	0	0	0	0	0	443
7:30 AM	0	255	9	7	210	0	0	0	0	0	0	0	481
7:45 AM	0	240	13	1	238	0	0	0	0	0	0	0	492
8:00 AM	0	242	15	3	196	0	0	0	0	0	0	0	456
8:15 AM	0	247	12	2	225	0	0	0	0	0	0	0	486
8:30 AM	0	236	10	3	220	0	0	0	0	0	0	0	469
8:45 AM	0	255	17	2	212	0	0	0	0	0	0	0	486
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	2670	131	32	2214	0	0	0	0	0	0	0	5048
APPROACH %'s :	0.04%	95.29%	4.68%	1.42%	98.58%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	984	49	13	869	0	0	0	0	0	0	0	1915
PEAK HR FACTOR :		0.978			0.923			0.000			0.000		0.973

CONTROL : Unsignalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-017 **Day:** Thursday

TOTALS

City: Los Angeles **Date:** 11/19/2015

PM

NS/EW Streets:	Alameda St			Alameda St			Express Lanes Entrance_Exit			Express Lanes Entrance_Exit			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1.5	1.5	1	3	0	0	0	0	0	0	0	
3:00 PM	0	212	175	32	176	0	0	0	0	0	0	0	595
3:15 PM	0	202	180	46	137	0	0	0	0	0	0	0	565
3:30 PM	0	224	254	47	160	0	0	0	0	0	0	0	685
3:45 PM	0	207	256	42	173	0	0	0	0	0	0	0	678
4:00 PM	0	201	247	28	140	0	0	0	0	0	0	0	616
4:15 PM	0	187	265	36	152	0	0	0	0	0	0	0	640
4:30 PM	0	184	267	49	139	0	0	0	0	0	0	0	639
4:45 PM	0	169	292	37	126	0	0	0	0	0	0	0	624
5:00 PM	0	142	277	44	131	0	0	0	0	0	0	0	594
5:15 PM	0	157	267	47	178	0	0	0	0	0	0	0	649
5:30 PM	0	161	276	27	130	0	0	0	0	0	0	0	594
5:45 PM	0	159	281	46	132	0	0	0	0	0	0	0	618
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	2205	3037	481	1774	0	0	0	0	0	0	0	7497
APPROACH %'s :	0.00%	42.06%	57.94%	21.33%	78.67%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	330 PM												TOTAL
PEAK HR VOL :	0	819	1022	153	625	0	0	0	0	0	0	0	2619
PEAK HR FACTOR :		0.963			0.905			0.000			0.000		0.956

CONTROL : Unsignalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-017

Day: Thursday

CARS

City: Los Angeles

Date: 11/19/2015

AM

NS/EW Streets:	Alameda St			Alameda St			Express Lanes Entrance_Exit			Express Lanes Entrance_Exit			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1.5	1.5	1	3	0	0	0	0	0	0	0	
6:00 AM	0	135	2	2	83	0	0	0	0	0	0	0	222
6:15 AM	0	165	3	1	95	0	0	0	0	0	0	0	264
6:30 AM	0	197	1	0	121	0	0	0	0	0	0	0	319
6:45 AM	0	184	0	0	177	0	0	0	0	0	0	0	361
7:00 AM	0	198	2	4	199	0	0	0	0	0	0	0	403
7:15 AM	1	216	1	1	184	0	0	0	0	0	0	0	403
7:30 AM	0	233	1	6	201	0	0	0	0	0	0	0	441
7:45 AM	0	220	3	1	227	0	0	0	0	0	0	0	451
8:00 AM	0	216	8	2	187	0	0	0	0	0	0	0	413
8:15 AM	0	218	3	1	210	0	0	0	0	0	0	0	432
8:30 AM	0	212	2	3	207	0	0	0	0	0	0	0	424
8:45 AM	0	226	7	2	196	0	0	0	0	0	0	0	431
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	2420	33	23	2087	0	0	0	0	0	0	0	4564
APPROACH %'s :	0.04%	98.61%	1.34%	1.09%	98.91%	0.00%							
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	887	15	10	825	0	0	0	0	0	0	0	1737
PEAK HR FACTOR :		0.964			0.916			0.000			0.000		0.963

CONTROL : Unsignalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-017 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/19/2015

PM

NS/EW Streets:	Alameda St			Alameda St			Express Lanes Entrance_Exit			Express Lanes Entrance_Exit			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1.5	1.5	1	3	0	0	0	0	0	0	0	
3:00 PM	0	199	169	32	167	0	0	0	0	0	0	0	567
3:15 PM	0	194	168	45	129	0	0	0	0	0	0	0	536
3:30 PM	0	212	243	47	146	0	0	0	0	0	0	0	648
3:45 PM	0	198	245	42	162	0	0	0	0	0	0	0	647
4:00 PM	0	191	235	28	130	0	0	0	0	0	0	0	584
4:15 PM	0	180	246	36	143	0	0	0	0	0	0	0	605
4:30 PM	0	173	245	49	133	0	0	0	0	0	0	0	600
4:45 PM	0	165	273	37	123	0	0	0	0	0	0	0	598
5:00 PM	0	135	256	44	125	0	0	0	0	0	0	0	560
5:15 PM	0	150	245	47	170	0	0	0	0	0	0	0	612
5:30 PM	0	156	255	26	128	0	0	0	0	0	0	0	565
5:45 PM	0	152	259	46	126	0	0	0	0	0	0	0	583
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	2105	2839	479	1682	0	0	0	0	0	0	0	7105
APPROACH %'s :	0.00%	42.58%	57.42%	22.17%	77.83%	0.00%							
PEAK HR START TIME :	330 PM												TOTAL
PEAK HR VOL :	0	781	969	153	581	0	0	0	0	0	0	0	2484
PEAK HR FACTOR :		0.962			0.900			0.000			0.000		0.958

CONTROL : Unsignalized

City Of Los Angeles
Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:
North/South Alameda St

East/West Arcadia St_US-101 NB Off Ramp

Day: Thursday Date: November 19, 2015 Weather: SUNNY

Hours: 6-9 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	305	180	0	170
BIKES	39	47	0	7
BUSES	274	36	0	436

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	243	7.30	232	8.15	0	0.00	633	7.45
PM PK 15 MIN	420	15.45	174	15.45	0	0.00	265	15.45
AM PK HOUR	960	7.30	892	7.45	0	0.00	2414	7.30
PM PK HOUR	1665	15.45	647	15.00	0	0.00	954	15.30

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	33	579	0	612
7-8	142	784	0	926
8-9	131	814	0	945
15-16	13	1548	0	1561
16-17	21	1641	0	1662
17-18	18	1535	0	1553
TOTAL	358	6901	0	7259

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	0	483	21	504
7-8	0	797	55	852
8-9	0	809	58	867
15-16	0	621	26	647
16-17	0	543	22	565
17-18	0	538	30	568
TOTAL	0	3791	212	4003

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
1116	0	0	69	0
1778	0	0	64	1
1812	0	0	58	1
2208	0	0	90	0
2227	0	0	184	0
2121	0	0	32	0
11262	0	0	497	2

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	0	0	0	0
7-8	0	0	0	0
8-9	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	325	1482	186	1993
7-8	414	1670	227	2311
8-9	491	1634	213	2338
15-16	230	469	176	875
16-17	242	497	165	904
17-18	195	544	187	926
TOTAL	1897	6296	1154	9347

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
1993	49	0	135	2
2311	47	0	160	9
2338	60	0	161	5
875	100	1	87	0
904	201	0	119	0
926	44	0	95	0
9347	501	1	757	16

ITM Peak Hour Summary

Prepared by:

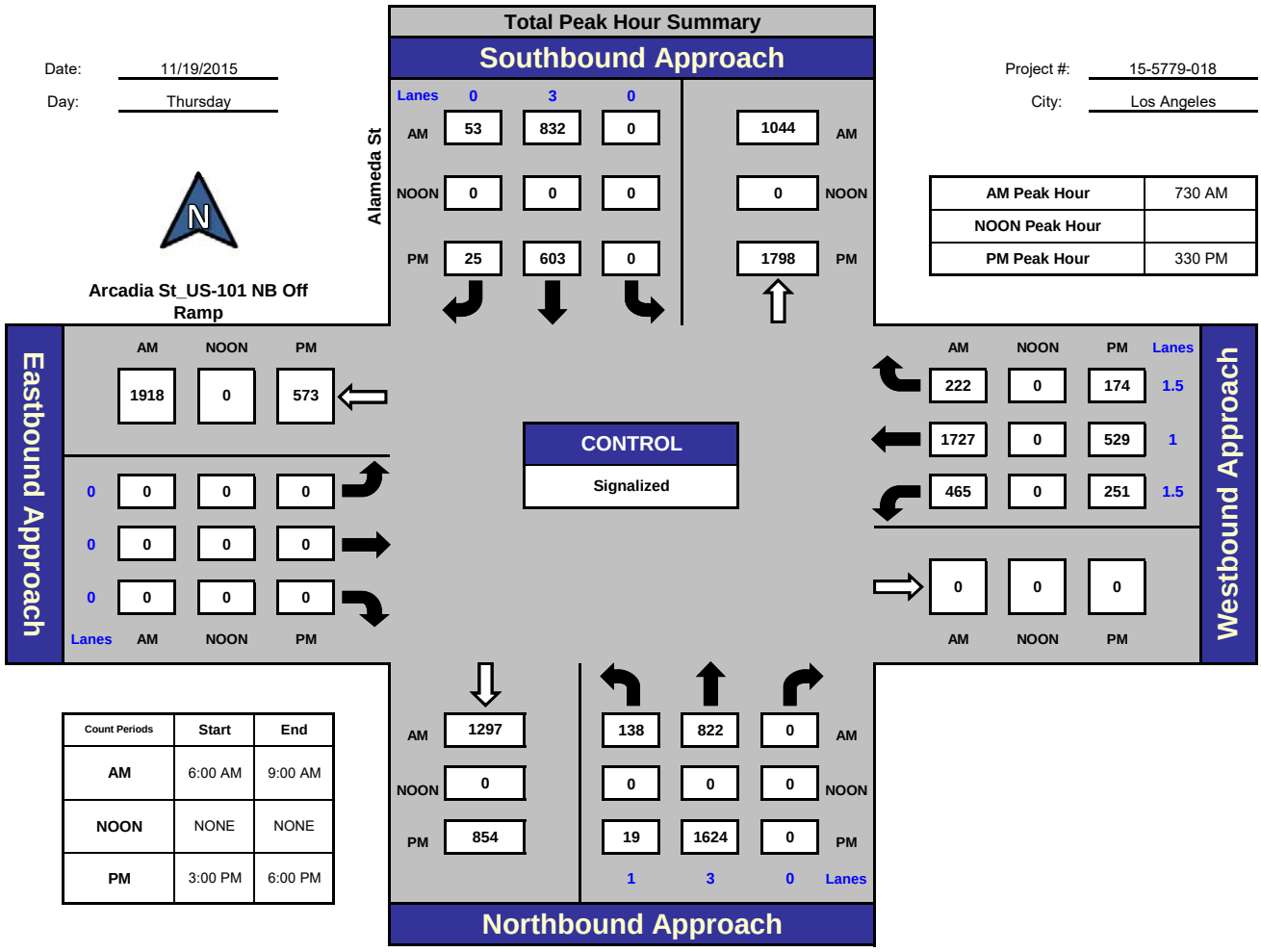
National Data & Surveying Services

Alameda St and Arcadia St_US-101 NB Off Ramp , Los Angeles

Date: 11/19/2015
Day: Thursday

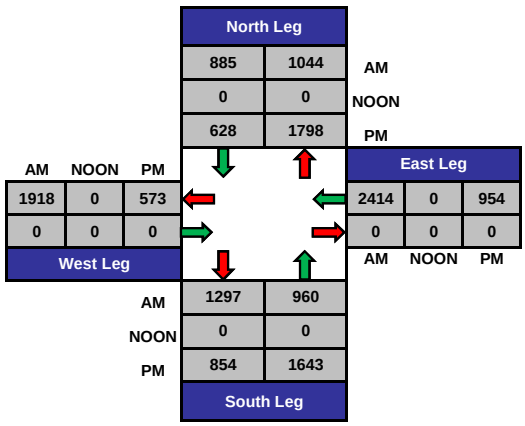
Project #: 15-5779-018
City: Los Angeles

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	330 PM

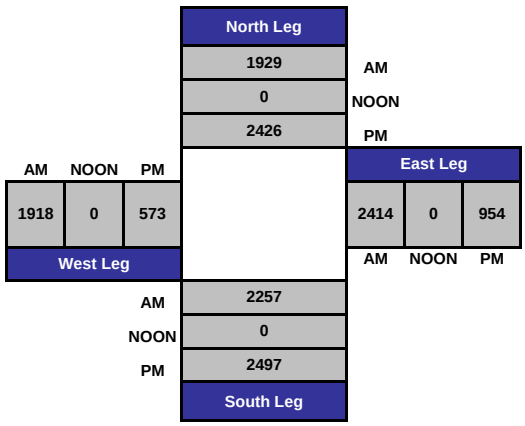


Count Periods	Start	End
AM	6:00 AM	9:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-018

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/19/2015

AM

NS/EW Streets:	Alameda St			Alameda St			Arcadia St_US-101 NB Off Ramp			Arcadia St_US-101 NB Off Ramp			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	0	3	0	0	0	0	1.5	1	1.5	
6:00 AM	3	107	0	0	84	4	0	0	0	74	319	44	635
6:15 AM	10	141	0	0	103	4	0	0	0	92	383	46	779
6:30 AM	7	174	0	0	113	4	0	0	0	72	375	50	795
6:45 AM	13	157	0	0	183	9	0	0	0	87	405	46	900
7:00 AM	35	190	0	0	195	13	0	0	0	97	389	48	967
7:15 AM	34	185	0	0	181	15	0	0	0	95	400	61	971
7:30 AM	38	205	0	0	204	13	0	0	0	97	432	59	1048
7:45 AM	35	204	0	0	217	14	0	0	0	125	449	59	1103
8:00 AM	34	201	0	0	194	11	0	0	0	135	414	58	1047
8:15 AM	31	212	0	0	217	15	0	0	0	108	432	46	1061
8:30 AM	40	187	0	0	211	13	0	0	0	113	408	57	1029
8:45 AM	26	214	0	0	187	19	0	0	0	135	380	52	1013
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	306	2177	0	0	2089	134	0	0	0	1230	4786	626	11348
APPROACH %'s :	12.32%	87.68%	0.00%	0.00%	93.97%	6.03%	#DIV/0!	#DIV/0!	#DIV/0!	18.52%	72.06%	9.42%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	138	822	0	0	832	53	0	0	0	465	1727	222	4259
PEAK HR FACTOR :		0.988			0.954			0.000			0.953		0.965

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-018 **Day:** Thursday

City: Los Angeles **Date:** 11/19/2015

TOTALS

PM

NS/EW Streets:	Alameda St			Alameda St			Arcadia St_US-101 NB Off Ramp			Arcadia St_US-101 NB Off Ramp			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	0	3	0	0	0	0	1.5	1	1.5	
3:00 PM	5	360	0	0	161	2	0	0	0	50	103	36	717
3:15 PM	2	381	0	0	144	9	0	0	0	48	95	46	725
3:30 PM	1	392	0	0	151	6	0	0	0	58	129	45	782
3:45 PM	5	415	0	0	165	9	0	0	0	74	142	49	859
4:00 PM	10	407	0	0	137	4	0	0	0	62	147	37	804
4:15 PM	3	410	0	0	150	6	0	0	0	57	111	43	780
4:30 PM	6	409	0	0	127	6	0	0	0	65	101	39	753
4:45 PM	2	415	0	0	129	6	0	0	0	58	138	46	794
5:00 PM	5	390	0	0	128	10	0	0	0	53	138	31	755
5:15 PM	4	381	0	0	159	9	0	0	0	44	157	43	797
5:30 PM	6	384	0	0	125	6	0	0	0	52	112	49	734
5:45 PM	3	380	0	0	126	5	0	0	0	46	137	64	761
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	52	4724	0	0	1702	78	0	0	0	667	1510	528	9261
APPROACH %'s :	1.09%	98.91%	0.00%	0.00%	95.62%	4.38%	#DIV/0!	#DIV/0!	#DIV/0!	24.66%	55.82%	19.52%	
PEAK HR START TIME :	330 PM												TOTAL
PEAK HR VOL :	19	1624	0	0	603	25	0	0	0	251	529	174	3225
PEAK HR FACTOR :		0.978			0.902			0.000			0.900		0.939

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-018

Day: Thursday

CARS

City: Los Angeles

Date: 11/19/2015

AM

NS/EW Streets:	Alameda St			Alameda St			Arcadia St_US-101 NB Off Ramp			Arcadia St_US-101 NB Off Ramp			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	0	3	0	0	0	0	1.5	1	1.5	
6:00 AM	3	92	0	0	73	3	0	0	0	70	299	40	580
6:15 AM	9	123	0	0	94	4	0	0	0	87	361	45	723
6:30 AM	6	146	0	0	104	4	0	0	0	69	351	47	727
6:45 AM	13	141	0	0	175	9	0	0	0	85	379	45	847
7:00 AM	35	159	0	0	190	13	0	0	0	96	359	43	895
7:15 AM	33	155	0	0	174	15	0	0	0	90	383	60	910
7:30 AM	37	177	0	0	196	12	0	0	0	93	408	57	980
7:45 AM	34	176	0	0	206	14	0	0	0	124	424	58	1036
8:00 AM	33	175	0	0	183	11	0	0	0	129	393	54	978
8:15 AM	31	180	0	0	201	15	0	0	0	107	409	41	984
8:30 AM	39	159	0	0	198	13	0	0	0	109	388	54	960
8:45 AM	25	178	0	0	171	19	0	0	0	128	356	51	928
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	298	1861	0	0	1965	132	0	0	0	1187	4510	595	10548
APPROACH %'s :	13.80%	86.20%	0.00%	0.00%	93.71%	6.29%				18.87%	71.68%	9.46%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	135	708	0	0	786	52	0	0	0	453	1634	210	3978
PEAK HR FACTOR :		0.985			0.952			0.000			0.948		0.960

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-018 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/19/2015

PM

NS/EW Streets:	Alameda St			Alameda St			Arcadia St_US-101 NB Off Ramp			Arcadia St_US-101 NB Off Ramp			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	0	3	0	0	0	0	1.5	1	1.5	
3:00 PM	5	341	0	0	153	2	0	0	0	47	97	33	678
3:15 PM	2	366	0	0	135	9	0	0	0	45	85	41	683
3:30 PM	1	374	0	0	139	6	0	0	0	56	111	39	726
3:45 PM	5	398	0	0	155	8	0	0	0	71	126	47	810
4:00 PM	10	390	0	0	128	4	0	0	0	61	132	33	758
4:15 PM	3	389	0	0	142	5	0	0	0	53	96	38	726
4:30 PM	6	379	0	0	120	6	0	0	0	57	84	35	687
4:45 PM	2	393	0	0	122	6	0	0	0	53	121	43	740
5:00 PM	5	367	0	0	123	9	0	0	0	50	123	27	704
5:15 PM	4	357	0	0	154	9	0	0	0	41	140	40	745
5:30 PM	6	360	0	0	124	6	0	0	0	50	103	48	697
5:45 PM	3	355	0	0	122	3	0	0	0	45	118	60	706
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	52	4469	0	0	1617	73	0	0	0	629	1336	484	8660
APPROACH %'s :	1.15%	98.85%	0.00%	0.00%	95.68%	4.32%				25.68%	54.55%	19.76%	
PEAK HR START TIME :	330 PM												TOTAL
PEAK HR VOL :	19	1551	0	0	564	23	0	0	0	241	465	157	3020
PEAK HR FACTOR :		0.974			0.900			0.000			0.884		0.932

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Alameda St

East/West Aliso St_Commercial St

Day: Thursday Date: November 19, 2015 Weather: SUNNY

Hours: 6-9 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	281	220	23	87
BIKES	52	48	4	2
BUSES	45	70	253	9

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	217	8.00	347	7.45	68	7.45	96	8.45
PM PK 15 MIN	341	16.15	245	15.45	135	16.30	75	16.45
AM PK HOUR	848	7.45	1307	7.45	250	7.45	363	8.00
PM PK HOUR	1300	15.30	866	15.30	506	15.00	273	16.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	0	456	87	543
7-8	0	682	121	803
8-9	0	692	152	844
15-16	0	1028	225	1253
16-17	0	1151	144	1295
17-18	0	1029	122	1151
TOTAL	0	5038	851	5889

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	91	715	0	806
7-8	128	1104	0	1232
8-9	118	1163	0	1281
15-16	148	705	0	853
16-17	115	668	0	783
17-18	127	610	0	737
TOTAL	727	4965	0	5692

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
1349	211	1	0	0
2035	243	0	0	0
2125	230	1	0	0
2106	158	0	0	0
2078	206	0	1	0
1888	112	0	0	0
11581	1160	2	1	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	40	25	71	136
7-8	43	47	109	199
8-9	45	34	153	232
15-16	362	75	69	506
16-17	363	64	55	482
17-18	338	41	30	409
TOTAL	1191	286	487	1964

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	121	0	127	248
7-8	122	0	188	310
8-9	161	0	202	363
15-16	82	0	164	246
16-17	119	0	154	273
17-18	74	0	155	229
TOTAL	679	0	990	1669

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
384	40	0	116	0
509	42	0	143	0
595	37	0	145	1
752	107	0	68	0
755	188	3	109	2
638	51	0	71	0
3633	465	3	652	3

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Alameda St and Aliso St_Commercial St , Los Angeles

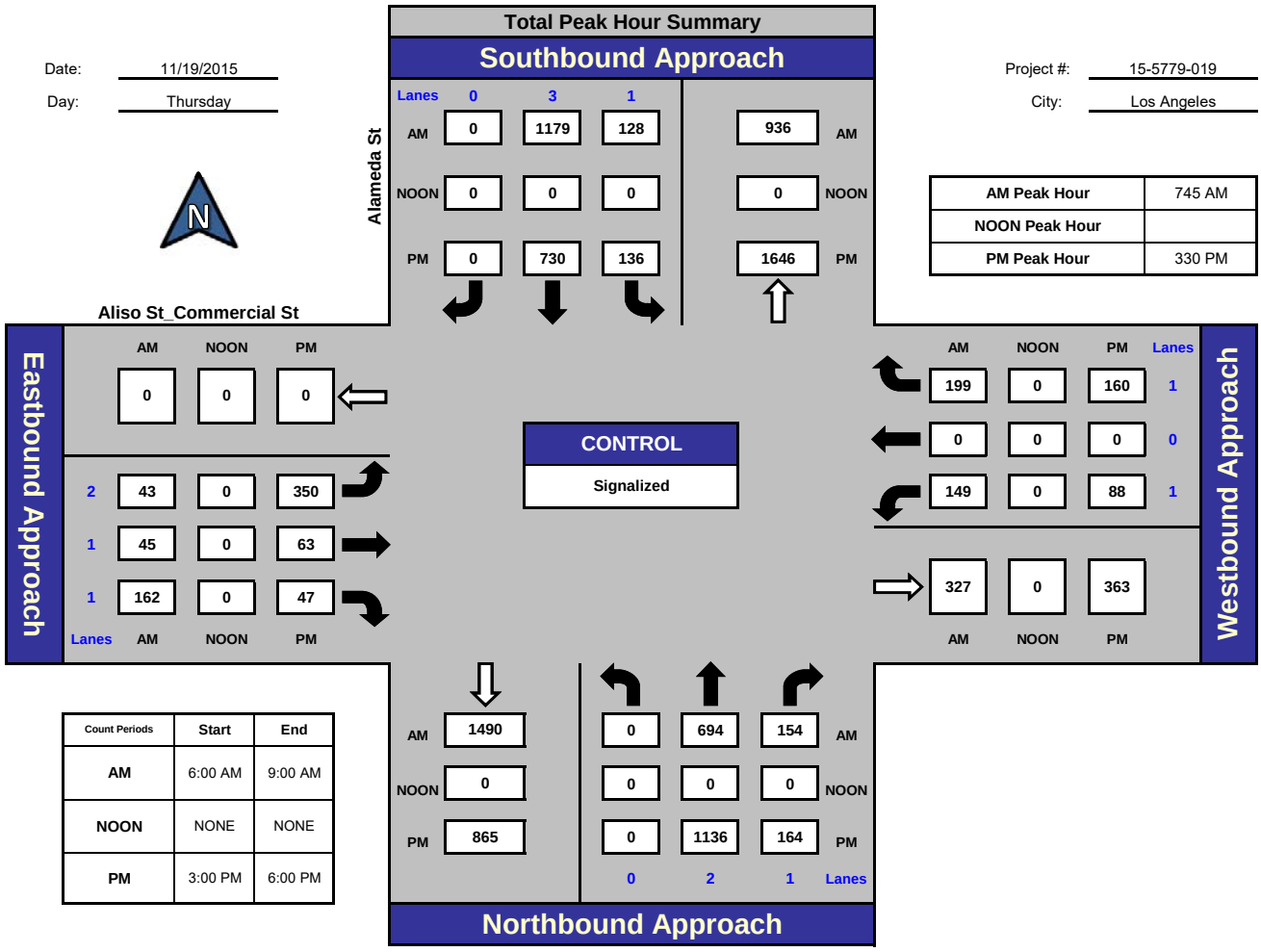
Date: 11/19/2015

Day: Thursday

Project #: 15-5779-019

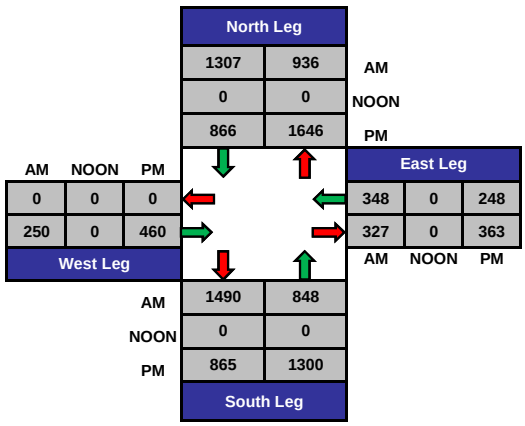
City: Los Angeles

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	330 PM

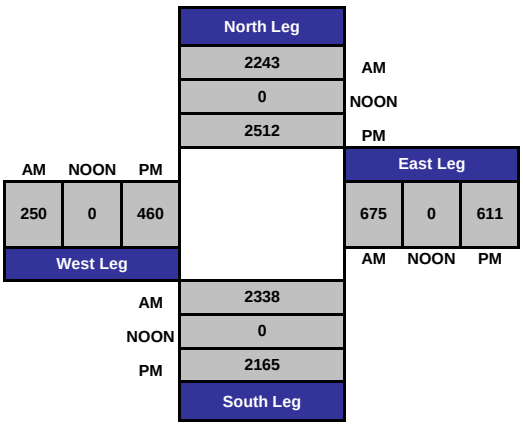


Count Periods	Start	End
AM	6:00 AM	9:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-019

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/19/2015

AM

NS/EW Streets:	Alameda St			Alameda St			Aliso St_Commercial St			Aliso St_Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	1	1	3	0	2	1	1	1	0	1	
6:00 AM	0	76	19	23	140	0	10	9	15	36	0	27	355
6:15 AM	0	120	19	20	165	0	6	3	15	37	0	32	417
6:30 AM	0	135	22	17	171	0	13	6	20	26	0	36	446
6:45 AM	0	125	27	31	239	0	11	7	21	22	0	32	515
7:00 AM	0	158	28	25	270	0	8	12	18	29	0	51	599
7:15 AM	0	159	33	36	251	0	12	8	19	26	0	42	586
7:30 AM	0	187	22	33	270	0	12	10	32	36	0	45	647
7:45 AM	0	178	38	34	313	0	11	17	40	31	0	50	712
8:00 AM	0	176	41	28	285	0	10	14	38	38	0	48	678
8:15 AM	0	176	23	34	286	0	13	8	43	40	0	46	669
8:30 AM	0	164	52	32	295	0	9	6	41	40	0	55	694
8:45 AM	0	176	36	24	297	0	13	6	31	43	0	53	679
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	1830	360	337	2982	0	128	106	333	404	0	517	6997
APPROACH %'s :	0.00%	83.56%	16.44%	10.15%	89.85%	0.00%	22.57%	18.69%	58.73%	43.87%	0.00%	56.13%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	694	154	128	1179	0	43	45	162	149	0	199	2753
PEAK HR FACTOR :		0.977			0.942			0.919			0.916		0.967

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-019 **Day:** Thursday

City: Los Angeles **Date:** 11/19/2015

TOTALS

PM

NS/EW Streets:	Alameda St			Alameda St			Aliso St_Commercial St			Aliso St_Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	1	1	3	0	2	1	1	1	0	1	
3:00 PM	0	234	77	36	173	0	81	25	26	22	0	40	714
3:15 PM	0	248	74	34	158	0	98	18	17	23	0	40	710
3:30 PM	0	267	43	40	167	0	96	20	14	23	0	34	704
3:45 PM	0	279	31	38	207	0	87	12	12	14	0	50	730
4:00 PM	0	293	46	24	180	0	78	16	8	30	0	43	718
4:15 PM	0	297	44	34	176	0	89	15	13	21	0	33	722
4:30 PM	0	276	25	30	162	0	100	15	20	32	0	39	699
4:45 PM	0	285	29	27	150	0	96	18	14	36	0	39	694
5:00 PM	0	254	35	27	148	0	93	8	10	21	0	40	636
5:15 PM	0	266	26	32	178	0	77	6	8	17	0	42	652
5:30 PM	0	253	31	32	146	0	96	18	4	10	0	40	630
5:45 PM	0	256	30	36	138	0	72	9	8	26	0	33	608
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	3208	491	390	1983	0	1063	180	154	275	0	473	8217
APPROACH %'s :	0.00%	86.73%	13.27%	16.43%	83.57%	0.00%	76.09%	12.88%	11.02%	36.76%	0.00%	63.24%	
PEAK HR START TIME :	330 PM												TOTAL
PEAK HR VOL :	0	1136	164	136	730	0	350	63	47	88	0	160	2874
PEAK HR FACTOR :		0.953			0.884			0.885			0.849		0.984

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-019

Day: Thursday

CARS

City: Los Angeles

Date: 11/19/2015

AM

NS/EW Streets:	Alameda St			Alameda St			Aliso St_Commercial St			Aliso St_Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	1	1	3	0	2	1	1	1	0	1	
6:00 AM	0	64	18	22	128	0	5	9	15	31	0	27	319
6:15 AM	0	105	19	17	156	0	3	3	15	36	0	30	384
6:30 AM	0	118	21	15	160	0	4	5	18	24	0	35	400
6:45 AM	0	117	24	27	234	0	5	6	20	21	0	31	485
7:00 AM	0	139	27	24	263	0	3	12	18	26	0	46	558
7:15 AM	0	143	30	34	237	0	4	8	19	24	0	37	536
7:30 AM	0	169	20	31	259	0	5	9	30	33	0	41	597
7:45 AM	0	165	36	33	301	0	1	16	38	25	0	44	659
8:00 AM	0	155	39	28	271	0	5	14	38	37	0	42	629
8:15 AM	0	160	19	33	270	0	4	8	40	37	0	40	611
8:30 AM	0	145	49	29	282	0	3	6	41	36	0	51	642
8:45 AM	0	157	32	22	276	0	3	6	30	43	0	46	615
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	1637	334	315	2837	0	45	102	322	373	0	470	6435
APPROACH %'s :	0.00%	83.05%	16.95%	9.99%	90.01%	0.00%	9.59%	21.75%	68.66%	44.25%	0.00%	55.75%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	625	143	123	1124	0	13	44	157	135	0	177	2541
PEAK HR FACTOR :		0.955			0.933			0.939			0.897		0.964

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-019 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/19/2015

PM

NS/EW Streets:	Alameda St			Alameda St			Aliso St_Commercial St			Aliso St_Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	1	1	3	0	2	1	1	1	0	1	
3:00 PM	0	225	73	36	162	0	76	25	24	22	0	38	681
3:15 PM	0	240	70	33	145	0	91	18	15	23	0	40	675
3:30 PM	0	256	40	35	158	0	89	16	13	21	0	34	662
3:45 PM	0	273	30	38	194	0	76	12	10	13	0	50	696
4:00 PM	0	283	45	24	170	0	70	13	6	29	0	43	683
4:15 PM	0	290	43	32	166	0	74	14	13	21	0	33	686
4:30 PM	0	265	25	28	152	0	83	15	19	31	0	37	655
4:45 PM	0	276	29	26	143	0	80	18	14	36	0	39	661
5:00 PM	0	248	34	27	140	0	75	7	10	17	0	40	598
5:15 PM	0	263	25	31	169	0	59	5	8	17	0	41	618
5:30 PM	0	248	29	32	141	0	78	17	4	9	0	39	597
5:45 PM	0	252	30	36	132	0	55	9	8	26	0	31	579
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	3119	473	378	1872	0	906	169	144	265	0	465	7791
APPROACH %'s :	0.00%	86.83%	13.17%	16.80%	83.20%	0.00%	74.32%	13.86%	11.81%	36.30%	0.00%	63.70%	
PEAK HR START TIME :	330 PM												TOTAL
PEAK HR VOL :	0	1102	158	129	688	0	309	55	42	84	0	160	2727
PEAK HR FACTOR :		0.946			0.880			0.860			0.847		0.980

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Vignes St_US-101 NB Ramps

East/West Ramirez St

Day: Thursday Date: November 19, 2015 Weather: SUNNY

Hours: 6-9 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	64	164	97	234
BIKES	1	13	11	15
BUSES	61	214	460	259

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	112	6.00	212	8.15	80	7.15	162	7.15
PM PK 15 MIN	152	16.15	196	17.15	86	16.15	219	16.00
AM PK HOUR	323	7.45	813	7.30	274	7.00	612	7.15
PM PK HOUR	576	16.00	697	17.00	300	17.00	807	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	32	117	145	294
7-8	41	118	94	253
8-9	27	185	86	298
15-16	30	273	60	363
16-17	47	463	66	576
17-18	35	301	77	413
TOTAL	212	1457	528	2197

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	213	109	158	480
7-8	354	130	213	697
8-9	403	149	220	772
15-16	287	171	105	563
16-17	292	213	119	624
17-18	340	222	135	697
TOTAL	1889	994	950	3833

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
774	3	0	57	0
950	0	0	31	1
1070	4	0	29	0
926	1	0	86	0
1200	0	0	68	0
1110	0	0	44	0
6030	8	0	315	1

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	116	71	52	239
7-8	135	71	68	274
8-9	100	65	66	231
15-16	117	63	43	223
16-17	134	77	75	286
17-18	171	63	66	300
TOTAL	773	410	370	1553

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	106	92	237	435
7-8	87	132	386	605
8-9	107	125	321	553
15-16	158	90	337	585
16-17	164	113	509	786
17-18	198	113	496	807
TOTAL	820	665	2286	3771

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
674	0	0	6	0
879	1	0	6	0
784	5	0	10	0
808	2	0	15	0
1072	2	0	11	0
1107	5	0	14	0
5324	15	0	62	0

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Vignes St_US-101 NB Ramps and Ramirez St , Los Angeles

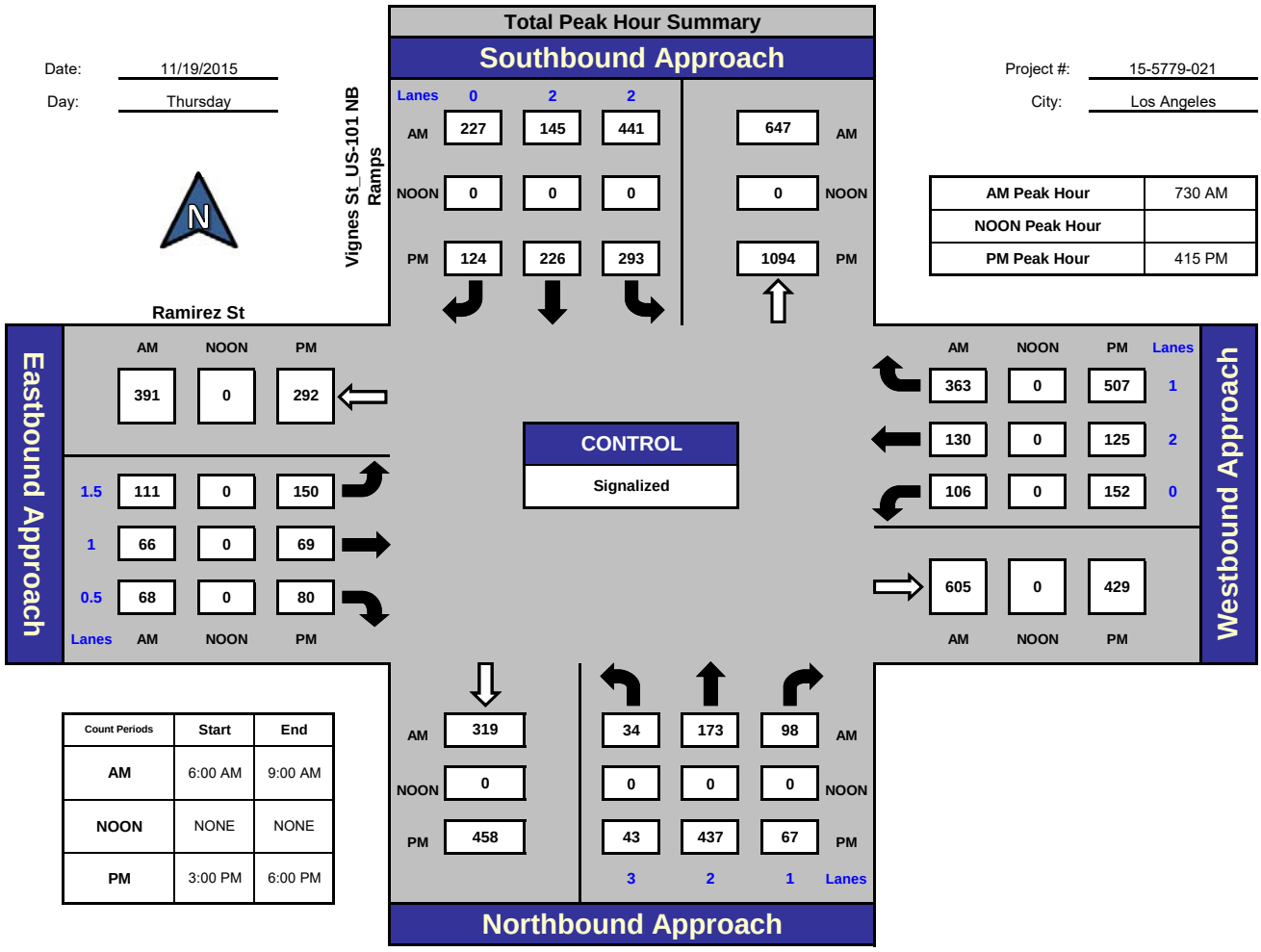
Date: 11/19/2015

Day: Thursday

Project #: 15-5779-021

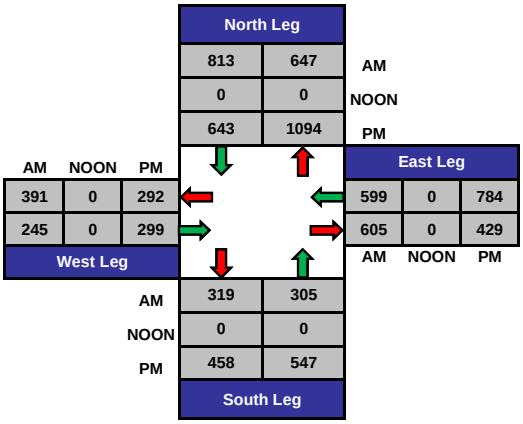
City: Los Angeles

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	415 PM

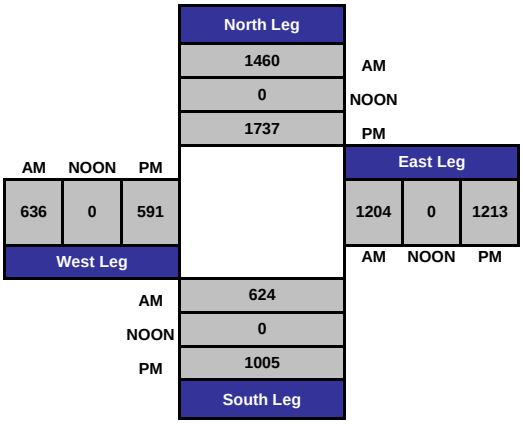


Count Periods	Start	End
AM	6:00 AM	9:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-021

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/19/2015

AM

NS/EW Streets:	Vignes St_US-101 NB Ramps			Vignes St_US-101 NB Ramps			Ramirez St			Ramirez St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	3	2	1	2	2	0	1.5	1	0.5	0	2	1	
6:00 AM	13	42	57	44	29	34	36	21	12	15	21	54	378
6:15 AM	6	29	37	58	30	43	23	20	14	38	20	55	373
6:30 AM	8	21	27	54	20	34	32	16	13	24	30	63	342
6:45 AM	5	25	24	57	30	47	25	14	13	29	21	65	355
7:00 AM	11	21	20	68	27	39	39	15	13	27	25	83	388
7:15 AM	7	16	31	76	31	66	41	24	15	17	37	108	469
7:30 AM	11	31	16	101	47	51	30	22	18	22	37	97	483
7:45 AM	12	50	27	109	25	57	25	10	22	21	33	98	489
8:00 AM	7	49	33	118	34	59	29	17	14	29	29	84	502
8:15 AM	4	43	22	113	39	60	27	17	14	34	31	84	488
8:30 AM	4	56	16	91	42	49	21	18	18	22	34	78	449
8:45 AM	12	37	15	81	34	52	23	13	20	22	31	75	415
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	100	420	325	970	388	591	351	207	186	300	349	944	5131
APPROACH %'s :	11.83%	49.70%	38.46%	49.77%	19.91%	30.32%	47.18%	27.82%	25.00%	18.83%	21.91%	59.26%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	34	173	98	441	145	227	111	66	68	106	130	363	1962
PEAK HR FACTOR :		0.857			0.959			0.875			0.960		0.977

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-021

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/19/2015

PM

NS/EW Streets:	Vignes St_US-101 NB Ramps			Vignes St_US-101 NB Ramps			Ramirez St			Ramirez St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	3	2	1	2	2	0	1.5	1	0.5	0	2	1	
3:00 PM	9	61	12	76	39	27	26	12	12	37	24	79	414
3:15 PM	9	46	18	70	44	22	26	20	8	31	25	68	387
3:30 PM	3	93	15	79	48	32	34	13	11	51	23	92	494
3:45 PM	9	73	15	62	40	24	31	18	12	39	18	98	439
4:00 PM	16	112	20	66	48	25	31	21	15	63	20	136	573
4:15 PM	8	132	12	79	47	34	38	25	23	36	37	114	585
4:30 PM	13	114	14	90	71	34	38	15	21	37	31	139	617
4:45 PM	10	105	20	57	47	26	27	16	16	28	25	120	497
5:00 PM	12	86	21	67	61	30	47	13	20	51	32	134	574
5:15 PM	11	64	14	103	50	43	49	18	9	56	26	116	559
5:30 PM	9	73	23	95	61	32	33	21	24	49	25	126	571
5:45 PM	3	78	19	75	50	30	42	11	13	42	30	120	513
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	112	1037	203	919	606	359	422	203	184	520	316	1342	6223
APPROACH %'s :	8.28%	76.70%	15.01%	48.78%	32.17%	19.06%	52.16%	25.09%	22.74%	23.88%	14.51%	61.62%	
PEAK HR START TIME :	415 PM												TOTAL
PEAK HR VOL :	43	437	67	293	226	124	150	69	80	152	125	507	2273
PEAK HR FACTOR :		0.900			0.824			0.869			0.903		0.921

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-021 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/19/2015

AM

NS/EW Streets:	Vignes St_US-101 NB Ramps			Vignes St_US-101 NB Ramps			Ramirez St			Ramirez St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	3	2	1	2	2	0	1.5	1	0.5	0	2	1	
6:00 AM	9	40	57	36	25	29	26	19	6	15	12	46	320
6:15 AM	5	29	37	50	29	29	12	11	8	34	13	50	307
6:30 AM	6	21	27	53	17	28	24	12	7	23	19	60	297
6:45 AM	3	23	23	54	28	33	17	8	1	23	8	64	285
7:00 AM	7	21	20	66	18	29	28	7	3	26	13	77	315
7:15 AM	5	16	30	66	27	58	34	14	4	15	21	102	392
7:30 AM	8	28	16	91	45	44	21	14	5	21	20	91	404
7:45 AM	9	46	26	102	24	46	16	7	12	20	20	94	422
8:00 AM	6	46	32	112	32	54	19	8	3	26	12	77	427
8:15 AM	2	42	21	110	34	48	17	9	4	30	16	79	412
8:30 AM	1	53	15	87	39	43	13	11	7	21	18	67	375
8:45 AM	10	37	14	75	31	46	19	8	7	20	18	63	348
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	71	402	318	902	349	487	246	128	67	274	190	870	4304
APPROACH %'s :	8.98%	50.82%	40.20%	51.90%	20.08%	28.02%	55.78%	29.02%	15.19%	20.54%	14.24%	65.22%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	25	162	95	415	135	192	73	38	24	97	68	341	1665
PEAK HR FACTOR :		0.839			0.937			0.844			0.944		0.975

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-021 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/19/2015

PM

NS/EW Streets:	Vignes St_US-101 NB Ramps			Vignes St_US-101 NB Ramps			Ramirez St			Ramirez St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	3	2	1	2	2	0	1.5	1	0.5	0	2	1	
3:00 PM	7	60	10	68	37	23	19	8	5	35	13	77	362
3:15 PM	6	44	15	66	43	14	18	12	7	31	15	61	332
3:30 PM	2	89	13	72	47	26	25	8	5	51	11	83	432
3:45 PM	7	71	15	56	40	19	24	8	7	38	9	91	385
4:00 PM	10	110	19	60	47	16	27	13	9	60	15	129	515
4:15 PM	7	128	11	67	47	28	31	13	13	36	18	106	505
4:30 PM	10	114	14	88	69	24	28	11	13	37	18	131	557
4:45 PM	6	102	19	54	47	20	20	7	8	28	14	113	438
5:00 PM	9	83	21	63	59	21	41	8	11	50	21	128	515
5:15 PM	6	63	14	98	49	33	38	14	1	56	21	107	500
5:30 PM	7	71	22	92	61	24	31	11	14	49	19	108	509
5:45 PM	2	76	18	71	48	20	30	9	8	42	20	103	447
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	79	1011	191	855	594	268	332	122	101	513	194	1237	5497
APPROACH %'s :	6.17%	78.92%	14.91%	49.80%	34.60%	15.61%	59.82%	21.98%	18.20%	26.39%	9.98%	63.63%	
PEAK HR START TIME :	415 PM												TOTAL
PEAK HR VOL :	32	427	65	272	222	93	120	39	45	151	71	478	2015
PEAK HR FACTOR :		0.897			0.811			0.850			0.879		0.904

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Alameda St (South)

East/West Los Angeles St

Day: Thursday Date: November 19, 2015 Weather: SUNNY

Hours: 6-9 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	214	311	27	0
BIKES	24	27	31	14
BUSES	40	48	60	0

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	162	8.15	289	7.45	49	7.45	0	0.00
PM PK 15 MIN	162	15.00	278	15.45	153	17.30	1	16.15
AM PK HOUR	628	8.00	1125	7.45	172	7.45	0	0.00
PM PK HOUR	627	15.00	1058	15.00	599	17.00	1	16.15

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	0	270	141	411
7-8	0	460	125	585
8-9	0	531	97	628
15-16	0	563	64	627
16-17	0	504	78	582
17-18	0	408	72	480
TOTAL	0	2736	577	3313

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	50	838	0	888
7-8	52	1038	0	1090
8-9	61	1054	0	1115
15-16	54	1004	0	1058
16-17	89	839	0	928
17-18	60	814	0	874
TOTAL	366	5587	0	5953

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
1299	38	0	1	0
1675	67	1	1	0
1743	72	0	0	0
1685	97	1	0	0
1510	92	2	0	0
1354	53	2	0	0
9266	419	6	2	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	38	48	17	103
7-8	78	55	15	148
8-9	95	50	17	162
15-16	235	55	81	371
16-17	328	79	77	484
17-18	409	83	107	599
TOTAL	1183	370	314	1867

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	0	0	0	0
7-8	0	0	0	0
8-9	0	0	0	0
15-16	0	0	0	0
16-17	0	0	1	1
17-18	0	0	0	0
TOTAL	0	0	1	1

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
103	14	0	17	0
148	12	0	26	0
162	16	1	30	0
371	25	0	23	1
485	23	1	30	1
599	17	0	40	0
1868	107	2	166	2

ITM Peak Hour Summary

Prepared by:

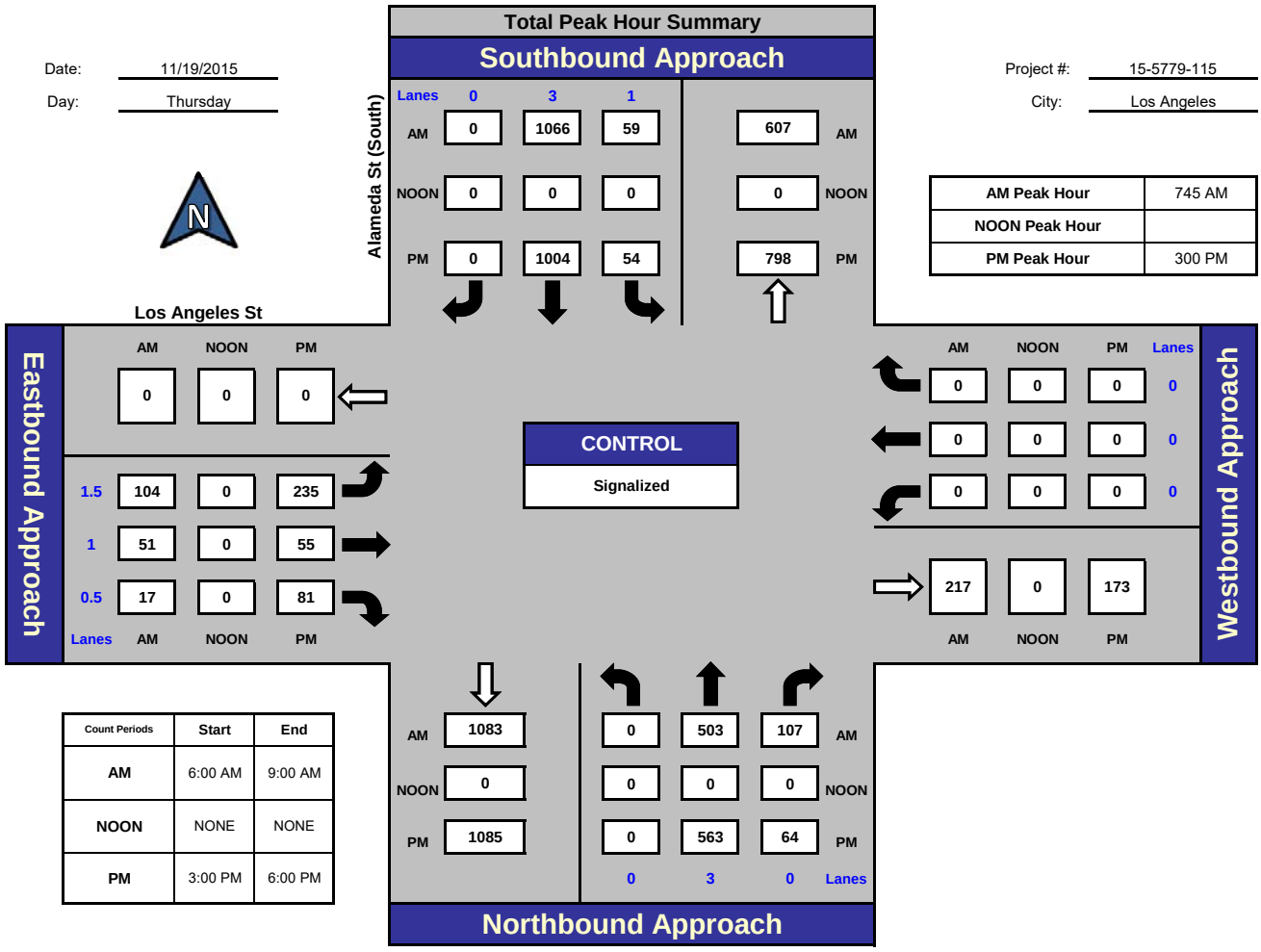
National Data & Surveying Services

Alameda St (South) and Los Angeles St , Los Angeles

Date: 11/19/2015
Day: Thursday

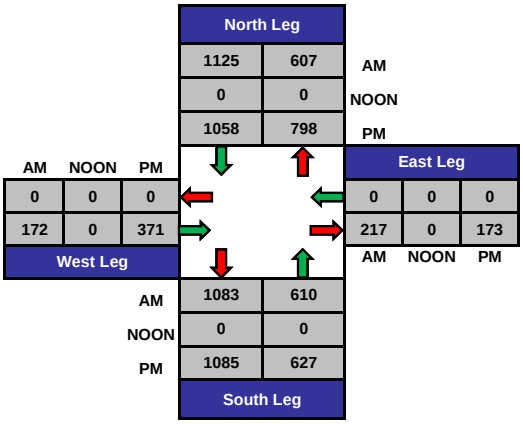
Project #: 15-5779-115
City: Los Angeles

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	300 PM

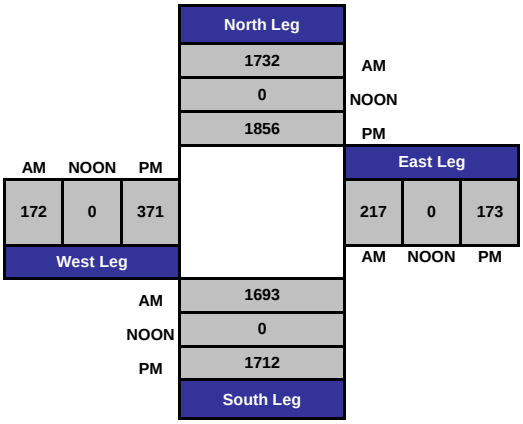


Count Periods	Start	End
AM	6:00 AM	9:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-115

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/19/2015

AM

NS/EW Streets:	Alameda St (South)			Alameda St (South)			Los Angeles St			Los Angeles St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	1	3	0	1.5	1	0.5	0	0	0	
6:00 AM	0	53	38	12	161	0	9	7	2	0	0	0	282
6:15 AM	0	50	48	9	200	0	7	16	3	0	0	0	333
6:30 AM	0	83	29	18	222	0	11	7	3	0	0	0	373
6:45 AM	0	84	26	11	255	0	11	18	9	0	0	0	414
7:00 AM	0	105	32	12	261	0	13	11	2	0	0	0	436
7:15 AM	0	117	37	16	248	0	19	14	2	0	0	0	453
7:30 AM	0	125	26	10	254	0	18	15	5	0	0	0	453
7:45 AM	0	113	30	14	275	0	28	15	6	0	0	0	481
8:00 AM	0	120	26	15	262	0	28	11	3	0	0	0	465
8:15 AM	0	133	29	17	270	0	23	13	5	0	0	0	490
8:30 AM	0	137	22	13	259	0	25	12	3	0	0	0	471
8:45 AM	0	141	20	16	263	0	19	14	6	0	0	0	479
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	1261	363	163	2930	0	211	153	49	0	0	0	5130
APPROACH %'s :	0.00%	77.65%	22.35%	5.27%	94.73%	0.00%	51.09%	37.05%	11.86%	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	503	107	59	1066	0	104	51	17	0	0	0	1907
PEAK HR FACTOR :		0.941			0.973			0.878			0.000		0.973

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-115

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/19/2015

PM

NS/EW Streets:	Alameda St (South)			Alameda St (South)			Los Angeles St			Los Angeles St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	1	3	0	1.5	1	0.5	0	0	0	
3:00 PM	0	143	19	14	261	0	57	14	10	0	0	0	518
3:15 PM	0	142	15	11	238	0	49	11	28	0	0	0	494
3:30 PM	0	142	17	8	248	0	62	18	28	0	0	0	523
3:45 PM	0	136	13	21	257	0	67	12	15	0	0	0	521
4:00 PM	0	139	12	23	225	0	74	20	10	0	0	0	503
4:15 PM	0	127	25	23	200	0	79	16	18	0	0	1	489
4:30 PM	0	124	21	16	217	0	87	24	25	0	0	0	514
4:45 PM	0	114	20	27	197	0	88	19	24	0	0	0	489
5:00 PM	0	96	19	13	208	0	97	18	29	0	0	0	480
5:15 PM	0	100	14	12	244	0	101	18	30	0	0	0	519
5:30 PM	0	108	22	17	178	0	113	22	18	0	0	0	478
5:45 PM	0	104	17	18	184	0	98	25	30	0	0	0	476
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	1475	214	203	2657	0	972	217	265	0	0	1	6004
APPROACH %'s :	0.00%	87.33%	12.67%	7.10%	92.90%	0.00%	66.85%	14.92%	18.23%	0.00%	0.00%	100.00%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	0	563	64	54	1004	0	235	55	81	0	0	0	2056
PEAK HR FACTOR :		0.968			0.951			0.859			0.000		0.983

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-115 **Day:** Thursday

CARS

City: Los Angeles **Date:** 11/19/2015

AM

NS/EW Streets:	Alameda St (South)			Alameda St (South)			Los Angeles St			Los Angeles St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	1	3	0	1.5	1	0.5	0	0	0	
6:00 AM	0	46	38	12	112	0	7	7	2	0	0	0	224
6:15 AM	0	40	48	9	157	0	5	15	3	0	0	0	277
6:30 AM	0	73	29	18	198	0	8	7	3	0	0	0	336
6:45 AM	0	74	26	11	240	0	7	18	9	0	0	0	385
7:00 AM	0	94	32	12	251	0	10	11	2	0	0	0	412
7:15 AM	0	107	37	16	239	0	14	14	2	0	0	0	429
7:30 AM	0	107	26	10	239	0	15	15	5	0	0	0	417
7:45 AM	0	103	28	14	263	0	25	15	6	0	0	0	454
8:00 AM	0	106	26	15	246	0	22	11	3	0	0	0	429
8:15 AM	0	111	29	17	255	0	19	13	5	0	0	0	449
8:30 AM	0	115	22	13	242	0	19	12	3	0	0	0	426
8:45 AM	0	117	20	16	246	0	17	14	6	0	0	0	436
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	1093	361	163	2688	0	168	152	49	0	0	0	4674
APPROACH %'s :	0.00%	75.17%	24.83%	5.72%	94.28%	0.00%	45.53%	41.19%	13.28%				
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	435	105	59	1006	0	85	51	17	0	0	0	1758
PEAK HR FACTOR :		0.964			0.961			0.832			0.000		0.968

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-115

Day: Thursday

CARS

City: Los Angeles

Date: 11/19/2015

PM

NS/EW Streets:	Alameda St (South)			Alameda St (South)			Los Angeles St			Los Angeles St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	1	3	0	1.5	1	0.5	0	0	0	
3:00 PM	0	133	19	14	243	0	54	14	10	0	0	0	487
3:15 PM	0	134	15	11	225	0	45	11	28	0	0	0	469
3:30 PM	0	133	17	8	237	0	58	17	28	0	0	0	498
3:45 PM	0	131	13	21	243	0	61	12	15	0	0	0	496
4:00 PM	0	131	12	23	216	0	71	18	10	0	0	0	481
4:15 PM	0	121	25	23	190	0	75	16	18	0	0	1	469
4:30 PM	0	113	21	16	211	0	84	24	25	0	0	0	494
4:45 PM	0	111	20	27	192	0	86	18	24	0	0	0	478
5:00 PM	0	90	19	13	199	0	94	18	29	0	0	0	462
5:15 PM	0	97	13	12	234	0	100	18	30	0	0	0	504
5:30 PM	0	101	22	17	175	0	111	22	18	0	0	0	466
5:45 PM	0	97	17	18	175	0	94	25	30	0	0	0	456
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	1392	213	203	2540	0	933	213	265	0	0	1	5760
APPROACH %'s :	0.00%	86.73%	13.27%	7.40%	92.60%	0.00%	66.12%	15.10%	18.78%	0.00%	0.00%	100.00%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	0	531	64	54	948	0	218	54	81	0	0	0	1950
PEAK HR FACTOR :		0.979			0.949			0.857			0.000		0.979

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Vignes St

East/West Bauchet St

Day: Thursday Date: November 19, 2015 Weather: SUNNY

Hours: 6-9 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	220	104	18	43
BIKES	14	11	1	3
BUSES	67	17	0	80

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	209	7.30	146	7.45	9	8.30	103	6.00
PM PK 15 MIN	274	17.45	128	16.30	13	16.30	128	15.00
AM PK HOUR	756	7.30	479	7.30	18	6.00	312	6.00
PM PK HOUR	998	17.00	438	17.00	38	16.00	393	15.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	22	262	342	626
7-8	17	517	172	706
8-9	26	501	156	683
15-16	29	526	64	619
16-17	25	844	64	933
17-18	23	920	55	998
TOTAL	142	3570	853	4565

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	122	145	18	285
7-8	59	378	5	442
8-9	47	306	16	369
15-16	33	329	11	373
16-17	18	341	15	374
17-18	28	405	5	438
TOTAL	307	1904	70	2281

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
911	31	0	18	2
1148	17	0	7	1
1052	26	1	9	1
992	71	2	19	0
1307	74	0	17	0
1436	39	0	5	0
6846	258	3	75	4

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	0	8	10	18
7-8	5	3	9	17
8-9	1	5	7	13
15-16	12	5	19	36
16-17	19	4	15	38
17-18	11	5	19	35
TOTAL	48	30	79	157

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	247	5	60	312
7-8	95	5	29	129
8-9	96	5	22	123
15-16	263	12	118	393
16-17	211	15	99	325
17-18	134	6	62	202
TOTAL	1046	48	390	1484

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
330	11	1	4	0
146	11	0	1	0
136	7	0	8	0
429	7	0	7	0
363	8	0	3	0
237	1	0	0	0
1641	45	1	23	0

ITM Peak Hour Summary

Prepared by:

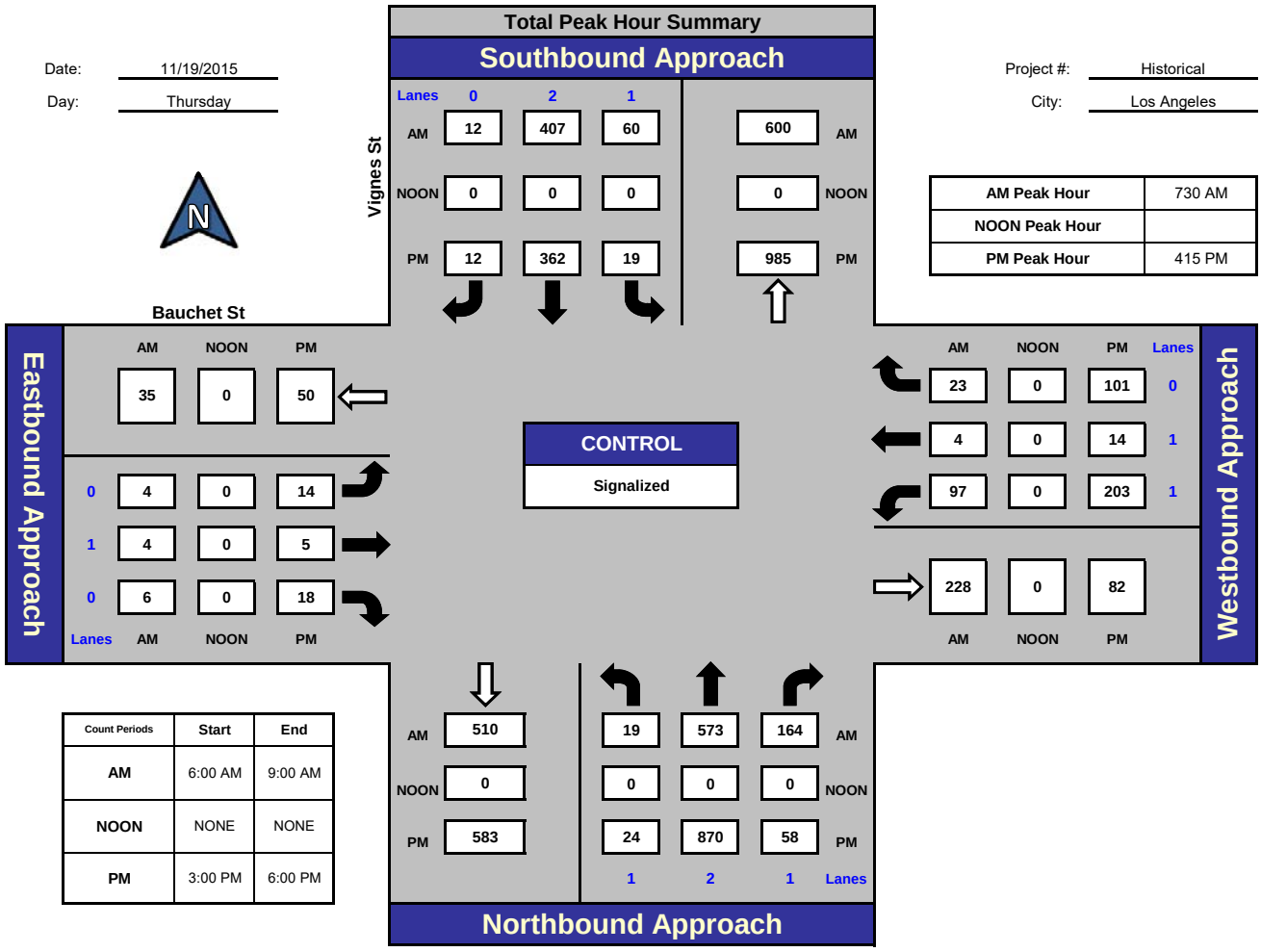
National Data & Surveying Services

Vignes St and Bauchet St , Los Angeles

Date: 11/19/2015
Day: Thursday

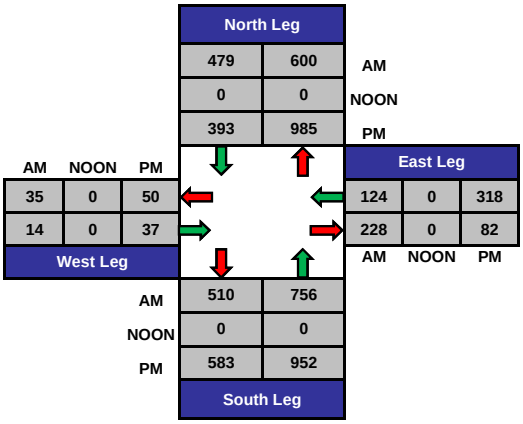
Project #: Historical
City: Los Angeles

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	415 PM

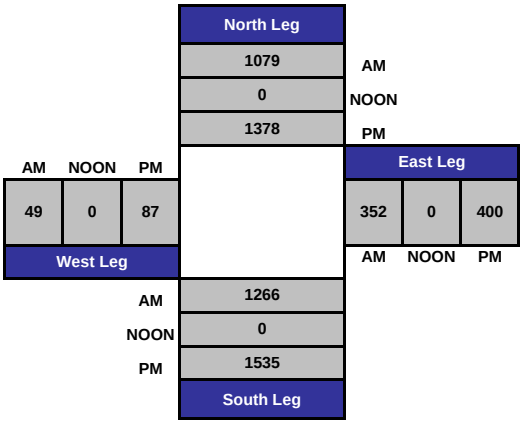


Count Periods	Start	End
AM	6:00 AM	9:00 AM
NOON	NONE	NONE
PM	3:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: Historical

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/19/2015

AM

NS/EW Streets:	Vignes St			Vignes St			Bauchet St			Bauchet St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	0	0	1	0	1	1	0	
6:00 AM	8	60	114	39	25	3	0	3	2	87	0	16	357
6:15 AM	3	54	118	38	31	8	0	1	3	72	1	20	349
6:30 AM	3	61	53	24	38	4	0	2	5	43	2	14	249
6:45 AM	8	87	57	21	51	3	0	2	0	45	2	10	286
7:00 AM	4	96	49	18	76	1	1	0	0	25	0	9	279
7:15 AM	4	112	38	9	71	1	0	0	3	24	2	10	274
7:30 AM	3	161	45	14	103	3	1	2	4	24	2	6	368
7:45 AM	6	148	40	18	128	0	3	1	2	22	1	4	373
8:00 AM	8	154	36	16	94	3	0	0	0	27	0	7	345
8:15 AM	2	110	43	12	82	6	0	1	0	24	1	6	287
8:30 AM	9	117	38	9	72	5	1	2	6	27	1	5	292
8:45 AM	7	120	39	10	58	2	0	2	1	18	3	4	264
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	65	1280	670	228	829	39	6	16	26	438	15	111	3723
APPROACH %'s :	3.23%	63.52%	33.25%	20.80%	75.64%	3.56%	12.50%	33.33%	54.17%	77.66%	2.66%	19.68%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	19	573	164	60	407	12	4	4	6	97	4	23	1373
PEAK HR FACTOR :		0.904			0.820			0.500			0.912		0.920

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: Historical

Day: Thursday

TOTALS

City: Los Angeles

Date: 11/19/2015

PM

NS/EW Streets:	Vignes St			Vignes St			Bauchet St			Bauchet St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	0	0	1	0	1	1	0	
3:00 PM	7	113	14	6	78	4	3	1	6	91	3	34	360
3:15 PM	7	120	12	7	81	2	1	1	7	63	2	30	333
3:30 PM	4	147	21	9	103	4	4	2	5	64	5	30	398
3:45 PM	11	146	17	11	67	1	4	1	1	45	2	24	330
4:00 PM	9	208	14	6	73	4	7	0	4	62	2	21	410
4:15 PM	7	194	18	4	88	2	4	0	2	43	5	31	398
4:30 PM	6	240	18	5	117	6	2	4	7	66	6	22	499
4:45 PM	3	202	14	3	63	3	6	0	2	40	2	25	363
5:00 PM	8	234	8	7	94	1	2	1	7	54	1	23	440
5:15 PM	5	197	17	5	111	0	2	1	3	34	2	13	390
5:30 PM	3	236	16	8	99	2	5	2	2	21	2	11	407
5:45 PM	7	253	14	8	101	2	2	1	7	25	1	15	436
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	77	2290	183	79	1075	31	42	14	53	608	33	279	4764
APPROACH %'s :	3.02%	89.80%	7.18%	6.67%	90.72%	2.62%	38.53%	12.84%	48.62%	66.09%	3.59%	30.33%	
PEAK HR START TIME :	415 PM												TOTAL
PEAK HR VOL :	24	870	58	19	362	12	14	5	18	203	14	101	1700
PEAK HR FACTOR :		0.902			0.768			0.712			0.846		0.852

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: Historical

Day: Thursday

CARS

City: Los Angeles

Date: 11/19/2015

AM

NS/EW Streets:	Vignes St			Vignes St			Bauchet St			Bauchet St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	0	0	1	0	1	1	0	
6:00 AM	6	57	113	39	17	3	0	3	1	80	0	16	335
6:15 AM	3	50	114	36	23	6	0	1	2	70	0	20	325
6:30 AM	3	56	52	24	35	4	0	2	2	41	1	14	234
6:45 AM	6	81	55	21	45	2	0	0	0	42	0	8	260
7:00 AM	4	94	46	18	68	1	1	0	0	17	0	6	255
7:15 AM	2	106	36	9	69	0	0	0	2	12	1	6	243
7:30 AM	3	156	43	14	99	3	0	2	2	17	1	4	344
7:45 AM	6	140	38	17	124	0	3	0	1	15	1	4	349
8:00 AM	6	144	34	15	91	3	0	0	0	21	0	5	319
8:15 AM	1	101	40	10	79	6	0	1	0	19	1	6	264
8:30 AM	8	105	33	8	68	3	1	2	6	21	1	5	261
8:45 AM	7	107	37	9	53	2	0	2	1	15	3	3	239
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	55	1197	641	220	771	33	5	13	17	370	9	97	3428
APPROACH %'s :	2.91%	63.23%	33.86%	21.48%	75.29%	3.22%	14.29%	37.14%	48.57%	77.73%	1.89%	20.38%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	16	541	155	56	393	12	3	3	3	72	3	19	1276
PEAK HR FACTOR :		0.881			0.817			0.563			0.904		0.914

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: Historical

Day: Thursday

CARS

City: Los Angeles

Date: 11/19/2015

PM

NS/EW Streets:	Vignes St			Vignes St			Bauchet St			Bauchet St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	0	0	1	0	1	1	0	
3:00 PM	6	107	13	6	73	4	3	1	6	90	3	33	345
3:15 PM	5	106	12	5	78	2	1	1	6	57	2	30	305
3:30 PM	4	133	20	9	98	3	4	2	5	62	5	30	375
3:45 PM	9	134	17	10	64	1	4	1	1	43	2	22	308
4:00 PM	8	201	14	6	67	3	6	0	4	61	2	21	393
4:15 PM	6	186	18	4	83	2	4	0	2	40	5	31	381
4:30 PM	5	235	16	4	114	5	2	4	7	62	5	21	480
4:45 PM	3	190	14	2	63	3	6	0	2	37	2	24	346
5:00 PM	6	223	8	6	93	1	2	1	7	54	1	23	425
5:15 PM	4	182	17	5	109	0	2	1	3	32	2	12	369
5:30 PM	2	213	14	8	95	2	5	2	2	20	2	11	376
5:45 PM	7	233	14	7	99	2	2	1	4	23	1	14	407
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	65	2143	177	72	1036	28	41	14	49	581	32	272	4510
APPROACH %'s :	2.73%	89.85%	7.42%	6.34%	91.20%	2.46%	39.42%	13.46%	47.12%	65.65%	3.62%	30.73%	
PEAK HR START TIME :	415 PM												TOTAL
PEAK HR VOL :	20	834	56	16	353	11	14	5	18	193	13	99	1632
PEAK HR FACTOR :		0.889			0.772			0.712			0.866		0.850

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Center St

East/West Ramirez St

Day: Thursday Date: June 18, 2015 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	151	147	0	18
BIKES	32	24	0	4
BUSES	293	216	0	0

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	128	7.15	135	7.30	0	0.00	30	8.15
PM PK 15 MIN	211	17.30	126	16.00	0	0.00	52	16.00
AM PK HOUR	478	7.00	472	7.00	0	0.00	97	7.30
PM PK HOUR	809	17.00	442	16.00	0	0.00	145	15.30

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	420	58	478
8-9	0	362	60	422
9-10	0	291	59	350
15-16	0	482	58	540
16-17	0	591	28	619
17-18	0	795	14	809
TOTAL	0	2941	277	3218

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	44	428	0	472
8-9	46	349	0	395
9-10	32	331	0	363
15-16	52	363	0	415
16-17	28	414	0	442
17-18	12	383	0	395
TOTAL	214	2268	0	2482

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
950	0	0	0	0
817	0	0	5	0
713	0	0	0	0
955	0	0	1	0
1061	0	0	0	0
1204	0	0	0	0
5700	0	0	6	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	52	0	41	93
8-9	57	0	35	92
9-10	41	0	39	80
15-16	67	0	49	116
16-17	75	0	39	114
17-18	19	0	16	35
TOTAL	311	0	219	530

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
93	0	0	18	0
92	0	0	13	0
80	0	0	9	0
116	0	0	5	0
114	0	0	12	0
35	0	0	11	1
530	0	0	68	1

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Center St and Ramirez St , Los Angeles

Date: 6/18/2015
Day: Thursday

Project #: Historical
City: Los Angeles

AM Peak Hour	700 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Total Peak Hour Summary

Southbound Approach

Lanes	0	2	1		
AM	0	428	44	461	AM
NOON	0	0	0	0	NOON
PM	0	383	12	811	PM

Center St

Ramirez St

Eastbound Approach

	AM	NOON	PM
	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
Lanes	AM	NOON	PM

Westbound Approach

	AM	NOON	PM	Lanes
	41	0	16	0
	0	0	0	1
	52	0	19	1
	102	0	26	
	AM	NOON	PM	

CONTROL

1-Way Stop (SB)

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON		
PM	3:00 PM	6:00 PM

Northbound Approach

AM	480	0	420	58	AM
NOON	0	0	0	0	NOON
PM	402	0	795	14	PM
		0	2	0	Lanes

Total Ins & Outs

	AM	NOON	PM
North Leg	472	0	395
	461	0	811
East Leg	93	0	35
	102	0	26
West Leg	0	0	0
	0	0	0
South Leg	480	0	402
	478	0	809

Total Volume Per Leg

	AM	NOON	PM
North Leg	933	0	1206
East Leg	195	0	61
West Leg	0	0	0
South Leg	958	0	1211

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: Historical

Day: Thursday

TOTALS

City: Los Angeles

Date: 6/18/2015

AM

NS/EW Streets:	Center St			Center St			Ramirez St			Ramirez St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	1	2	0	0	0	0	1	1	0	
7:00 AM	0	105	9	12	93	0	0	0	0	15	0	12	246
7:15 AM	0	108	20	15	88	0	0	0	0	9	0	14	254
7:30 AM	0	109	17	9	126	0	0	0	0	12	0	6	279
7:45 AM	0	98	12	8	121	0	0	0	0	16	0	9	264
8:00 AM	0	96	16	15	82	0	0	0	0	13	0	11	233
8:15 AM	0	97	12	6	98	0	0	0	0	20	0	10	243
8:30 AM	0	82	18	10	84	0	0	0	0	9	0	6	209
8:45 AM	0	87	14	15	85	0	0	0	0	15	0	8	224
9:00 AM	0	70	22	8	82	0	0	0	0	8	0	10	200
9:15 AM	0	78	9	8	86	0	0	0	0	10	0	7	198
9:30 AM	0	70	15	8	88	0	0	0	0	11	0	10	202
9:45 AM	0	73	13	8	75	0	0	0	0	12	0	12	193
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	1073	177	122	1108	0	0	0	0	150	0	115	2745
APPROACH %'s :	0.00%	85.84%	14.16%	9.92%	90.08%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	56.60%	0.00%	43.40%	
PEAK HR START TIME :	700 AM												TOTAL
PEAK HR VOL :	0	420	58	44	428	0	0	0	0	52	0	41	1043
PEAK HR FACTOR :		0.934			0.874			0.000			0.861		0.935

CONTROL : 1-Way Stop (SB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: Historical

Day: Thursday

TOTALS

City: Los Angeles

Date: 6/18/2015

PM

NS/EW Streets:	Center St			Center St			Ramirez St			Ramirez St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	1	2	0	0	0	0	1	1	0	
3:00 PM	0	121	12	17	102	0	0	0	0	13	0	11	276
3:15 PM	0	127	9	14	87	0	0	0	0	16	0	9	262
3:30 PM	0	121	21	12	93	0	0	0	0	18	0	19	284
3:45 PM	0	113	16	9	81	0	0	0	0	20	0	10	249
4:00 PM	0	140	3	10	116	0	0	0	0	36	0	16	321
4:15 PM	0	129	10	8	91	0	0	0	0	18	0	8	264
4:30 PM	0	169	11	6	120	0	0	0	0	16	0	8	330
4:45 PM	0	153	4	4	87	0	0	0	0	5	0	7	260
5:00 PM	0	206	3	5	98	0	0	0	0	10	0	7	329
5:15 PM	0	191	3	4	85	0	0	0	0	3	0	1	287
5:30 PM	0	206	5	2	116	0	0	0	0	4	0	5	338
5:45 PM	0	192	3	1	84	0	0	0	0	2	0	3	285
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	1868	100	92	1160	0	0	0	0	161	0	104	3485
APPROACH %'s :	0.00%	94.92%	5.08%	7.35%	92.65%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	60.75%	0.00%	39.25%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	795	14	12	383	0	0	0	0	19	0	16	1239
PEAK HR FACTOR :		0.959			0.837			0.000			0.515		0.916

CONTROL : 1-Way Stop (SB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: Historical

Day: Thursday

CARS

City: Los Angeles

Date: 6/18/2015

AM

NS/EW Streets:	Center St			Center St			Ramirez St			Ramirez St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	1	2	0	0	0	0	1	1	0	
7:00 AM	0	89	8	11	78	0	0	0	0	15	0	12	213
7:15 AM	0	84	20	15	75	0	0	0	0	8	0	14	216
7:30 AM	0	91	16	8	109	0	0	0	0	11	0	5	240
7:45 AM	0	76	11	8	104	0	0	0	0	16	0	7	222
8:00 AM	0	74	15	14	72	0	0	0	0	12	0	11	198
8:15 AM	0	79	12	6	81	0	0	0	0	19	0	10	207
8:30 AM	0	62	18	9	74	0	0	0	0	8	0	6	177
8:45 AM	0	66	14	15	67	0	0	0	0	14	0	7	183
9:00 AM	0	60	20	6	66	0	0	0	0	8	0	10	170
9:15 AM	0	61	9	8	69	0	0	0	0	9	0	6	162
9:30 AM	0	57	14	8	73	0	0	0	0	9	0	10	171
9:45 AM	0	57	13	7	63	0	0	0	0	10	0	11	161
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	856	170	115	931	0	0	0	0	139	0	109	2320
APPROACH %'s :	0.00%	83.43%	16.57%	10.99%	89.01%	0.00%				56.05%	0.00%	43.95%	
PEAK HR START TIME :	700 AM												TOTAL
PEAK HR VOL :	0	340	55	42	366	0	0	0	0	50	0	38	891
PEAK HR FACTOR :		0.923			0.872			0.000			0.815		0.928

CONTROL : 1-Way Stop (SB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: Historical

Day: Thursday

CARS

City: Los Angeles

Date: 6/18/2015

PM

NS/EW Streets:	Center St			Center St			Ramirez St			Ramirez St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	1	2	0	0	0	0	1	1	0	
3:00 PM	0	108	11	17	88	0	0	0	0	13	0	11	248
3:15 PM	0	110	9	13	69	0	0	0	0	16	0	9	226
3:30 PM	0	104	21	11	78	0	0	0	0	18	0	19	251
3:45 PM	0	104	15	9	64	0	0	0	0	20	0	10	222
4:00 PM	0	120	3	10	98	0	0	0	0	36	0	16	283
4:15 PM	0	110	10	8	74	0	0	0	0	18	0	8	228
4:30 PM	0	159	11	6	104	0	0	0	0	16	0	8	304
4:45 PM	0	128	4	4	75	0	0	0	0	5	0	7	223
5:00 PM	0	181	3	5	86	0	0	0	0	10	0	7	292
5:15 PM	0	172	3	4	73	0	0	0	0	3	0	1	256
5:30 PM	0	180	5	1	102	0	0	0	0	4	0	4	296
5:45 PM	0	175	2	1	73	0	0	0	0	2	0	3	256
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	1651	97	89	984	0	0	0	0	161	0	103	3085
APPROACH %'s :	0.00%	94.45%	5.55%	8.29%	91.71%	0.00%				60.98%	0.00%	39.02%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	708	13	11	334	0	0	0	0	19	0	15	1100
PEAK HR FACTOR :		0.974			0.837			0.000			0.500		0.929

CONTROL : 1-Way Stop (SB)

Appendix B1:
Average Daily Traffic Counts

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Prepared by NDS/ATD

VOLUME

Alameda St N/O Commercial St

Day: Wednesday
Date: 9/9/2015

City: Los Angeles
Project #: CA15_5565_001

DAILY TOTALS	NB	SB	EB	WB	Total
	17,107	15,435	0	0	32,542

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	60		39				99		12:00	198		206				404	
00:15	66		39				105		12:15	186		253				439	
00:30	56		30				86		12:30	205		238				443	
00:45	59	241	27	135			86	376	12:45	184	773	223	920			407	1693
01:00	56		35				91		13:00	191		204				395	
01:15	57		26				83		13:15	196		222				418	
01:30	43		33				76		13:30	205		224				429	
01:45	47	203	26	120			73	323	13:45	212	804	190	840			402	1644
02:00	43		15				58		14:00	238		180				418	
02:15	41		31				72		14:15	266		205				471	
02:30	35		28				63		14:30	265		234				499	
02:45	35	154	17	91			52	245	14:45	289	1058	183	802			472	1860
03:00	16		19				35		15:00	295		192				487	
03:15	26		19				45		15:15	326		195				521	
03:30	23		28				51		15:30	393		232				625	
03:45	34	99	30	96			64	195	15:45	380	1394	205	824			585	2218
04:00	41		30				71		16:00	383		215				598	
04:15	49		46				95		16:15	405		208				613	
04:30	40		47				87		16:30	400		186				586	
04:45	46	176	87	210			133	386	16:45	389	1577	184	793			573	2370
05:00	56		91				147		17:00	364		183				547	
05:15	100		140				240		17:15	367		204				571	
05:30	100		206				306		17:30	373		180				553	
05:45	110	366	192	629			302	995	17:45	384	1488	197	764			581	2252
06:00	128		205				333		18:00	359		187				546	
06:15	140		203				343		18:15	327		198				525	
06:30	187		212				399		18:30	395		178				573	
06:45	200	655	277	897			477	1552	18:45	368	1449	152	715			520	2164
07:00	189		285				474		19:00	288		147				435	
07:15	194		294				488		19:15	263		115				378	
07:30	200		324				524		19:30	226		128				354	
07:45	221	804	340	1243			561	2047	19:45	206	983	111	501			317	1484
08:00	192		318				510		20:00	188		110				298	
08:15	172		314				486		20:15	145		81				226	
08:30	226		321				547		20:30	174		89				263	
08:45	242	832	347	1300			589	2132	20:45	143	650	97	377			240	1027
09:00	223		322				545		21:00	159		104				263	
09:15	173		321				494		21:15	118		94				212	
09:30	162		309				471		21:30	131		91				222	
09:45	176	734	306	1258			482	1992	21:45	120	528	91	380			211	908
10:00	166		268				434		22:00	129		77				206	
10:15	172		298				470		22:15	109		56				165	
10:30	182		227				409		22:30	98		57				155	
10:45	168	688	266	1059			434	1747	22:45	85	421	66	256			151	677
11:00	175		255				430		23:00	96		39				135	
11:15	177		265				442		23:15	79		55				134	
11:30	183		277				460		23:30	72		36				108	
11:45	180	715	258	1055			438	1770	23:45	68	315	40	170			108	485
TOTALS		5667		8093				**13760**	**TOTALS**		11440		7342				**18782**
SPLIT %		41.2%		58.8%				**42.3%**	**SPLIT %**		60.9%		39.1%				**57.7%**

DAILY TOTALS	NB	SB	EB	WB	Total
	17,107	15,435	0	0	32,542

AM Peak Hour	08:30	08:30					**08:30**		**PM Peak Hour**	16:00	12:00					**15:30**		
AM Pk Volume	864	1311					**2175**		**PM Pk Volume**	1577	920					**2421**		
Pk Hr Factor	0.893	0.945					**0.923**		**Pk Hr Factor**	0.973	0.909					**0.968**		
7 - 9 Volume	1636	2543	0	0			**4179**		**4 - 6 Volume**	3065	1557	0	0			**4622**		
7 - 9 Peak Hour	08:00	08:00					**08:00**		**4 - 6 Peak Hour**	16:00	16:00					**16:00**		
7 - 9 Pk Volume	832	1300	0	0			**2132**		**4 - 6 Pk Volume**	1577	793	0	0			**2370**		
Pk Hr Factor	0.860	0.937	0.000	0.000			**0.905**		**Pk Hr Factor**	0.973	0.922	0.000	0.000			**0.967**		

Prepared by NDS/ATD

VOLUME

Hewitt St S/O Commercial St

Day: Wednesday
Date: 9/9/2015

City: Los Angeles
Project #: CA15_5565_003

DAILY TOTALS	NB	SB	EB	WB	Total
	642	821	0	0	1,463

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	3		3				6		12:00	8		24				32	
00:15	2		0				2		12:15	8		29				37	
00:30	1		1				2		12:30	11		15				26	
00:45	1	7	0	4			1	11	12:45	10	37	11	79			21	116
01:00	4		1				5		13:00	6		13				19	
01:15	0		1				1		13:15	11		12				23	
01:30	0		1				1		13:30	13		13				26	
01:45	1	5	0	3			1	8	13:45	7	37	16	54			23	91
02:00	1		3				4		14:00	12		14				26	
02:15	0		0				0		14:15	12		14				26	
02:30	1		0				1		14:30	7		18				25	
02:45	1	3	1	4			2	7	14:45	9	40	22	68			31	108
03:00	0		0				0		15:00	11		14				25	
03:15	0		1				1		15:15	26		17				43	
03:30	0		0				0		15:30	29		18				47	
03:45	0		3	4			3	4	15:45	24	90	14	63			38	153
04:00	0		0				0		16:00	27		7				34	
04:15	0		1				1		16:15	11		4				15	
04:30	0		3				3		16:30	19		6				25	
04:45	1	1	5	9			6	10	16:45	6	63	5	22			11	85
05:00	4		8				12		17:00	6		2				8	
05:15	1		20				21		17:15	5		7				12	
05:30	5		32				37		17:30	7		5				12	
05:45	6	16	46	106			52	122	17:45	5	23	7	21			12	44
06:00	3		39				42		18:00	12		7				19	
06:15	1		34				35		18:15	2		3				5	
06:30	13		34				47		18:30	4		2				6	
06:45	20	37	20	127			40	164	18:45	3	21	4	16			7	37
07:00	20		17				37		19:00	5		0				5	
07:15	16		12				28		19:15	6		3				9	
07:30	8		9				17		19:30	5		3				8	
07:45	7	51	9	47			16	98	19:45	2	18	1	7			3	25
08:00	6		15				21		20:00	1		4				5	
08:15	6		8				14		20:15	2		0				2	
08:30	13		12				25		20:30	0		5				5	
08:45	12	37	11	46			23	83	20:45	1	4	5	14			6	18
09:00	12		5				17		21:00	6		3				9	
09:15	11		6				17		21:15	1		2				3	
09:30	14		6				20		21:30	1		5				6	
09:45	8	45	6	23			14	68	21:45	2	10	1	11			3	21
10:00	14		12				26		22:00	0		5				5	
10:15	7		10				17		22:15	4		3				7	
10:30	9		11				20		22:30	2		1				3	
10:45	10	40	13	46			23	86	22:45	3	9	1	10			4	19
11:00	10		6				16		23:00	5		1				6	
11:15	6		7				13		23:15	3		2				5	
11:30	10		8				18		23:30	1		0				1	
11:45	12	38	11	32			23	70	23:45	1	10	2	5			3	15
TOTALS		280		451				**731**	**TOTALS**		362		370				**732**
SPLIT %		38.3%		61.7%				**50.0%**	**SPLIT %**		49.5%		50.5%				**50.0%**

DAILY TOTALS	NB	SB	EB	WB	Total
	642	821	0	0	1,463

AM Peak Hour	06:30	05:45					**05:45**		**PM Peak Hour**	15:15	12:00					**15:15**		
AM Pk Volume	69	153					**176**		**PM Pk Volume**	106	79					**162**		
Pk Hr Factor	0.863	0.832					**0.846**		**Pk Hr Factor**	0.914	0.681					**0.862**		
7 - 9 Volume	88	93	0	0			**181**		**4 - 6 Volume**	86	43	0	0			**129**		
7 - 9 Peak Hour	07:00	07:00					**07:00**		**4 - 6 Peak Hour**	16:00	16:00					**16:00**		
7 - 9 Pk Volume	51	47	0	0			**98**		**4 - 6 Pk Volume**	63	22	0	0			**85**		
Pk Hr Factor	0.638	0.691	0.000	0.000			**0.662**		**Pk Hr Factor**	0.583	0.786	0.000	0.000			**0.625**		

Prepared by NDS/ATD

VOLUME

Commercial St W/O Garey St

Day: Wednesday
Date: 9/9/2015

City: Los Angeles
Project #: CA15_5565_004

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	6,319	5,522	11,841

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			44		16		60		12:00			106		53		159	
00:15			37		17		54		12:15			107		76		183	
00:30			22		21		43		12:30			110		52		162	
00:45			30	133	17	71	47	204	12:45			113	436	75	256	188	692
01:00			43		20		63		13:00			105		72		177	
01:15			37		22		59		13:15			113		77		190	
01:30			29		19		48		13:30			105		64		169	
01:45			14	123	9	70	23	193	13:45			135	458	64	277	199	735
02:00			34		20		54		14:00			136		60		196	
02:15			20		19		39		14:15			116		57		173	
02:30			17		22		39		14:30			131		72		203	
02:45			14	85	14	75	28	160	14:45			128	511	44	233	172	744
03:00			13		19		32		15:00			154		58		212	
03:15			13		19		32		15:15			123		49		172	
03:30			11		8		19		15:30			149		69		218	
03:45			12	49	17	63	29	112	15:45			112	538	47	223	159	761
04:00			8		19		27		16:00			95		61		156	
04:15			12		20		32		16:15			90		60		150	
04:30			13		20		33		16:30			103		68		171	
04:45			7	40	39	98	46	138	16:45			90	378	59	248	149	626
05:00			18		38		56		17:00			89		61		150	
05:15			25		55		80		17:15			82		66		148	
05:30			23		92		115		17:30			65		70		135	
05:45			38	104	118	303	156	407	17:45			76	312	60	257	136	569
06:00			51		107		158		18:00			58		49		107	
06:15			36		76		112		18:15			72		53		125	
06:30			42		84		126		18:30			76		59		135	
06:45			25	154	70	337	95	491	18:45			71	277	49	210	120	487
07:00			38		69		107		19:00			78		46		124	
07:15			56		69		125		19:15			77		57		134	
07:30			56		65		121		19:30			78		37		115	
07:45			50	200	90	293	140	493	19:45			72	305	43	183	115	488
08:00			57		77		134		20:00			72		38		110	
08:15			46		65		111		20:15			65		42		107	
08:30			35		90		125		20:30			89		42		131	
08:45			66	204	149	381	215	585	20:45			57	283	19	141	76	424
09:00			58		203		261		21:00			74		34		108	
09:15			69		191		260		21:15			86		33		119	
09:30			68		196		264		21:30			65		23		88	
09:45			81	276	160	750	241	1026	21:45			67	292	21	111	88	403
10:00			84		185		269		22:00			66		25		91	
10:15			102		135		237		22:15			72		19		91	
10:30			97		105		202		22:30			69		23		92	
10:45			76	359	62	487	138	846	22:45			59	266	28	95	87	361
11:00			59		74		133		23:00			64		41		105	
11:15			78		50		128		23:15			48		15		63	
11:30			94		69		163		23:30			52		14		66	
11:45			90	321	70	263	160	584	23:45			51	215	27	97	78	312
TOTALS				2048		3191		**5239**	**TOTALS**				4271		2331		**6602**
SPLIT %				39.1%		60.9%		**44.2%**	**SPLIT %**				64.7%		35.3%		**55.8%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	6,319	5,522	11,841

AM Peak Hour				11:45		09:00		**09:15**	**PM Peak Hour**				14:45		12:45		**14:45**
AM Pk Volume				413		750		**1034**	**PM Pk Volume**				554		288		**774**
Pk Hr Factor				0.939		0.924		**0.961**	**Pk Hr Factor**				0.899		0.935		**0.888**
7 - 9 Volume	0	0		404		674		**1078**	**4 - 6 Volume**	0	0		690		505		**1195**
7 - 9 Peak Hour				07:15		08:00		**08:00**	**4 - 6 Peak Hour**				16:00		17:00		**16:00**
7 - 9 Pk Volume	0	0		219		381		**585**	**4 - 6 Pk Volume**	0	0		378		257		**626**
Pk Hr Factor	0.000	0.000		0.961		0.639		**0.680**	**Pk Hr Factor**	0.000	0.000		0.917		0.918		**0.915**

Prepared by NDS/ATD

VOLUME

Garey St S/O Commercial St

Day: Wednesday
Date: 9/9/2015

City: Los Angeles
Project #: CA15_5565_005

DAILY TOTALS	NB	SB	EB	WB	Total
	2,084	909	0	0	2,993

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	4		1				5		12:00	32		14				46	
00:15	3		4				7		12:15	36		19				55	
00:30	2		1				3		12:30	28		11				39	
00:45	2	11	2	8			4	19	12:45	34	130	10	54			44	184
01:00	4		1				5		13:00	31		16				47	
01:15	2		1				3		13:15	36		23				59	
01:30	4		1				5		13:30	36		12				48	
01:45	2	12	0	3			2	15	13:45	33	136	9	60			42	196
02:00	2		0				2		14:00	29		9				38	
02:15	0		0				0		14:15	34		6				40	
02:30	0		0				0		14:30	32		10				42	
02:45	3	5	1	1			4	6	14:45	34	129	11	36			45	165
03:00	2		1				3		15:00	40		9				49	
03:15	2		1				3		15:15	48		9				57	
03:30	0		0				0		15:30	61		15				76	
03:45	1	5	1	3			2	8	15:45	55	204	5	38			60	242
04:00	2		4				6		16:00	67		8				75	
04:15	2		6				8		16:15	67		5				72	
04:30	2		0				2		16:30	74		12				86	
04:45	2	8	13	23			15	31	16:45	91	299	10	35			101	334
05:00	2		9				11		17:00	106		8				114	
05:15	2		12				14		17:15	110		8				118	
05:30	5		22				27		17:30	92		6				98	
05:45	9	18	21	64			30	82	17:45	73	381	12	34			85	415
06:00	10		24				34		18:00	64		5				69	
06:15	14		17				31		18:15	27		15				42	
06:30	10		22				32		18:30	27		8				35	
06:45	9	43	30	93			39	136	18:45	18	136	8	36			26	172
07:00	16		16				32		19:00	24		8				32	
07:15	8		21				29		19:15	14		5				19	
07:30	9		14				23		19:30	11		8				19	
07:45	10	43	21	72			31	115	19:45	10	59	2	23			12	82
08:00	12		25				37		20:00	8		6				14	
08:15	9		19				28		20:15	10		2				12	
08:30	12		22				34		20:30	10		7				17	
08:45	14	47	24	90			38	137	20:45	10	38	4	19			14	57
09:00	19		18				37		21:00	6		7				13	
09:15	22		14				36		21:15	5		6				11	
09:30	18		18				36		21:30	4		7				11	
09:45	20	79	22	72			42	151	21:45	9	24	3	23			12	47
10:00	15		9				24		22:00	12		4				16	
10:15	17		12				29		22:15	10		4				14	
10:30	26		15				41		22:30	5		4				9	
10:45	33	91	17	53			50	144	22:45	7	34	5	17			12	51
11:00	20		11				31		23:00	7		2				9	
11:15	35		9				44		23:15	3		2				5	
11:30	36		12				48		23:30	5		1				6	
11:45	43	134	12	44			55	178	23:45	3	18	3	8			6	26
TOTALS		496		526				1022	TOTALS		1588		383				1971
SPLIT %		48.5%		51.5%				34.1%	SPLIT %		80.6%		19.4%				65.9%

DAILY TOTALS	NB	SB	EB	WB	Total
	2,084	909	0	0	2,993

AM Peak Hour	11:30	06:00					11:30		PM Peak Hour	16:45	12:45					16:45		
AM Pk Volume	147	93					204		PM Pk Volume	399	61					431		
Pk Hr Factor	0.855	0.775					0.927		Pk Hr Factor	0.907	0.663					0.913		
7 - 9 Volume	90	162	0	0			252		4 - 6 Volume	680	69	0	0			749		
7 - 9 Peak Hour	08:00	08:00					08:00		4 - 6 Peak Hour	16:45	16:30					16:45		
7 - 9 Pk Volume	47	90	0	0			137		4 - 6 Pk Volume	399	38	0	0			431		
Pk Hr Factor	0.839	0.900	0.000	0.000			0.901		Pk Hr Factor	0.907	0.792	0.000	0.000			0.913		

Prepared by NDS/ATD

VOLUME

Commercial St E/O Garey St

Day: Wednesday
Date: 9/9/2015

City: Los Angeles
Project #: CA15_5565_006

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	4,077	4,350	8,427

AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00			21	13	34	12:00			62	47	109
00:15			19	7	26	12:15			51	50	101
00:30			11	18	29	12:30			46	64	110
00:45			12	63 8 46	20 109	12:45			46	205 62 223	108 428
01:00			18	17	35	13:00			72	92	164
01:15			11	8	19	13:15			56	69	125
01:30			13	15	28	13:30			58	90	148
01:45			7	49 9 49	16 98	13:45			48	234 75 326	123 560
02:00			25	17	42	14:00			57	147	204
02:15			16	15	31	14:15			45	91	136
02:30			19	20	39	14:30			46	110	156
02:45			14	74 6 58	20 132	14:45			33	181 57 405	90 586
03:00			12	9	21	15:00			41	78	119
03:15			9	10	19	15:15			41	58	99
03:30			8	4	12	15:30			65	120	185
03:45			25	54 11 34	36 88	15:45			52	199 53 309	105 508
04:00			17	9	26	16:00			52	108	160
04:15			38	12	50	16:15			48	71	119
04:30			35	23	58	16:30			56	99	155
04:45			48	138 13 57	61 195	16:45			53	209 65 343	118 552
05:00			65	21	86	17:00			53	89	142
05:15			87	23	110	17:15			52	74	126
05:30			75	30	105	17:30			42	69	111
05:45			96	323 47 121	143 444	17:45			49	196 74 306	123 502
06:00			77	48	125	18:00			45	96	141
06:15			66	45	111	18:15			41	64	105
06:30			59	64	123	18:30			39	49	88
06:45			70	272 48 205	118 477	18:45			33	158 46 255	79 413
07:00			51	43	94	19:00			20	43	63
07:15			53	52	105	19:15			21	28	49
07:30			63	54	117	19:30			24	35	59
07:45			51	218 84 233	135 451	19:45			35	100 29 135	64 235
08:00			51	62	113	20:00			30	35	65
08:15			58	49	107	20:15			35	37	72
08:30			60	40	100	20:30			34	37	71
08:45			90	259 48 199	138 458	20:45			35	134 20 129	55 263
09:00			75	49	124	21:00			31	55	86
09:15			76	54	130	21:15			23	18	41
09:30			66	48	114	21:30			24	28	52
09:45			84	301 53 204	137 505	21:45			30	108 32 133	62 241
10:00			74	47	121	22:00			18	38	56
10:15			51	42	93	22:15			36	22	58
10:30			55	42	97	22:30			30	41	71
10:45			50	230 36 167	86 397	22:45			25	109 23 124	48 233
11:00			37	50	87	23:00			20	19	39
11:15			44	60	104	23:15			20	15	35
11:30			40	50	90	23:30			18	20	38
11:45			63	184 59 219	122 403	23:45			21	79 16 70	37 149
TOTALS				2165	1592 3757	TOTALS				1912	2758 4670
SPLIT %				57.6%	42.4% 44.6%	SPLIT %				40.9%	59.1% 55.4%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	4,077	4,350	8,427

AM Peak Hour			05:15	07:15	08:45	PM Peak Hour			13:00	13:45	13:45
AM Pk Volume			335	252	506	PM Pk Volume			234	423	619
Pk Hr Factor			0.872	0.750	0.917	Pk Hr Factor			0.813	0.719	0.759
7 - 9 Volume	0	0	477	432	909	4 - 6 Volume	0	0	405	649	1054
7 - 9 Peak Hour			08:00	07:15	07:30	4 - 6 Peak Hour			16:30	16:00	16:00
7 - 9 Pk Volume	0	0	259	252	472	4 - 6 Pk Volume	0	0	214	343	552
Pk Hr Factor	0.000	0.000	0.719	0.750	0.874	Pk Hr Factor	0.000	0.000	0.955	0.794	0.863

Prepared by NDS/ATD

VOLUME

Vignes St S/O Commercial St

Day: Thursday
Date: 9/17/2015

City: Los Angeles
Project #: CA15_5565_007

DAILY TOTALS	NB	SB	EB	WB	Total
	2,026	1,378	0	0	3,404

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	2		7				9		12:00	16		24				40	
00:15	6		7				13		12:15	23		22				45	
00:30	4		3				7		12:30	21		11				32	
00:45	1	13	3	20			4	33	12:45	27	87	21	78			48	165
01:00	5		8				13		13:00	27		22				49	
01:15	3		2				5		13:15	28		31				59	
01:30	5		3				8		13:30	32		21				53	
01:45	3	16	6	19			9	35	13:45	30	117	20	94			50	211
02:00	5		4				9		14:00	28		21				49	
02:15	2		3				5		14:15	27		22				49	
02:30	2		1				3		14:30	28		16				44	
02:45	2	11	1	9			3	20	14:45	30	113	27	86			57	199
03:00	2		1				3		15:00	33		19				52	
03:15	4		4				8		15:15	33		16				49	
03:30	3		0				3		15:30	40		16				56	
03:45	0	9	1	6			1	15	15:45	32	138	19	70			51	208
04:00	1		4				5		16:00	48		24				72	
04:15	3		9				12		16:15	44		15				59	
04:30	1		2				3		16:30	62		17				79	
04:45	0	5	2	17			2	22	16:45	39	193	15	71			54	264
05:00	2		6				8		17:00	79		14				93	
05:15	3		10				13		17:15	54		21				75	
05:30	6		7				13		17:30	78		11				89	
05:45	11	22	24	47			35	69	17:45	60	271	13	59			73	330
06:00	20		19				39		18:00	76		10				86	
06:15	23		20				43		18:15	63		9				72	
06:30	26		21				47		18:30	42		17				59	
06:45	23	92	23	83			46	175	18:45	32	213	14	50			46	263
07:00	20		23				43		19:00	14		9				23	
07:15	32		25				57		19:15	13		15				28	
07:30	34		25				59		19:30	15		4				19	
07:45	37	123	26	99			63	222	19:45	14	56	10	38			24	94
08:00	30		18				48		20:00	14		6				20	
08:15	28		29				57		20:15	6		8				14	
08:30	24		31				55		20:30	10		16				26	
08:45	34	116	31	109			65	225	20:45	7	37	6	36			13	73
09:00	32		44				76		21:00	18		8				26	
09:15	36		31				67		21:15	4		2				6	
09:30	33		25				58		21:30	3		4				7	
09:45	28	129	38	138			66	267	21:45	2	27	8	22			10	49
10:00	26		24				50		22:00	10		7				17	
10:15	24		29				53		22:15	6		1				7	
10:30	19		19				38		22:30	5		7				12	
10:45	19	88	16	88			35	176	22:45	4	25	10	25			14	50
11:00	19		31				50		23:00	7		4				11	
11:15	27		17				44		23:15	3		6				9	
11:30	26		15				41		23:30	7		8				15	
11:45	31	103	26	89			57	192	23:45	5	22	7	25			12	47
TOTALS		727		724				**1451**	**TOTALS**		1299		654				**1953**
SPLIT %		50.1%		49.9%				**42.6%**	**SPLIT %**		66.5%		33.5%				**57.4%**

DAILY TOTALS	NB	SB	EB	WB	Total
	2,026	1,378	0	0	3,404

AM Peak Hour	08:45	09:00						**09:00**	**PM Peak Hour**	17:30	12:45							**17:00**
AM Pk Volume	135	138						**267**	**PM Pk Volume**	277	95							**330**
Pk Hr Factor	0.938	0.784						**0.878**	**Pk Hr Factor**	0.888	0.766							**0.887**
7 - 9 Volume	239	208	0	0				**447**	**4 - 6 Volume**	464	130	0	0					**594**
7 - 9 Peak Hour	07:15	08:00						**07:15**	**4 - 6 Peak Hour**	17:00	16:00							**17:00**
7 - 9 Pk Volume	133	109	0	0				**227**	**4 - 6 Pk Volume**	271	71	0	0					**330**
Pk Hr Factor	0.899	0.879	0.000	0.000				**0.901**	**Pk Hr Factor**	0.858	0.740	0.000	0.000					**0.887**

Prepared by NDS/ATD

VOLUME

Ducommun St Bet. Vignes St & Center St

Day: Wednesday
Date: 9/9/2015

City: Los Angeles
Project #: CA15_5565_008

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	139	178	317

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			3		0		3		12:00			0		3		3	
00:15			0		0		0		12:15			4		0		4	
00:30			0		0		0		12:30			2		1		3	
00:45			0	3	0		0	3	12:45			2	8	2	6	4	14
01:00			0		0		0		13:00			0		5		5	
01:15			0		1		1		13:15			5		2		7	
01:30			0		1		1		13:30			1		1		2	
01:45			0		0	2	0	2	13:45			2	8	3	11	5	19
02:00			0		1		1		14:00			4		1		5	
02:15			0		1		1		14:15			1		5		6	
02:30			0		1		1		14:30			0		1		1	
02:45			0		1	4	1	4	14:45			2	7	4	11	6	18
03:00			0		0		0		15:00			5		0		5	
03:15			1		0		1		15:15			1		4		5	
03:30			0		1		1		15:30			0		3		3	
03:45			0	1	0	1	0	2	15:45			2	8	1	8	3	16
04:00			0		2		2		16:00			5		2		7	
04:15			0		1		1		16:15			2		8		10	
04:30			1		0		1		16:30			2		3		5	
04:45			2	3	0	3	2	6	16:45			1	10	4	17	5	27
05:00			1		1		2		17:00			3		4		7	
05:15			0		0		0		17:15			0		4		4	
05:30			5		0		5		17:30			0		1		1	
05:45			2	8	3	4	5	12	17:45			1	4	3	12	4	16
06:00			5		0		5		18:00			1		2		3	
06:15			2		1		3		18:15			1		0		1	
06:30			0		3		3		18:30			0		4		4	
06:45			4	11	6	10	10	21	18:45			2	4	3	9	5	13
07:00			1		4		5		19:00			0		0		0	
07:15			2		2		4		19:15			1		2		3	
07:30			2		1		3		19:30			1		1		2	
07:45			4	9	3	10	7	19	19:45			1	3	2	5	3	8
08:00			2		5		7		20:00			1		3		4	
08:15			5		5		10		20:15			0		1		1	
08:30			3		6		9		20:30			1		1		2	
08:45			3	13	3	19	6	32	20:45			0	2	0	5	0	7
09:00			4		0		4		21:00			1		2		3	
09:15			3		3		6		21:15			0		0		0	
09:30			5		4		9		21:30			0		1		1	
09:45			2	14	4	11	6	25	21:45			0	1	0	3	0	4
10:00			3		2		5		22:00			0		0		0	
10:15			1		3		4		22:15			1		0		1	
10:30			2		3		5		22:30			0		1		1	
10:45			4	10	0	8	4	18	22:45			2	3	1	2	3	5
11:00			1		3		4		23:00			1		0		1	
11:15			0		4		4		23:15			0		3		3	
11:30			2		1		3		23:30			1		1		2	
11:45			4	7	4	12	8	19	23:45			0	2	1	5	1	7
TOTALS				79		84		163	TOTALS				60		94		154
SPLIT %				48.5%		51.5%		51.4%	SPLIT %				39.0%		61.0%		48.6%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	139	178	317

AM Peak Hour			08:15	07:45	07:45				PM Peak Hour			13:15	16:15	16:00			
AM Pk Volume			15	19	33				PM Pk Volume			12	19	27			
Pk Hr Factor			0.750	0.792	0.825				Pk Hr Factor			0.600	0.594	0.675			
7 - 9 Volume	0	0	22	29	51				4 - 6 Volume	0	0	14	29	43			
7 - 9 Peak Hour			07:45	07:45	07:45				4 - 6 Peak Hour			16:00	16:15	16:00			
7 - 9 Pk Volume	0	0	14	19	33				4 - 6 Pk Volume	0	0	10	19	27			
Pk Hr Factor	0.000	0.000	0.700	0.792	0.825				Pk Hr Factor	0.000	0.000	0.500	0.594	0.675			

Prepared by NDS/ATD

VOLUME

Jackson St Bet. Vignes St & Center St

Day: Wednesday
Date: 9/9/2015

City: Los Angeles
Project #: CA15_5565_009

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	103	129	232

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00					0		0		0		12:00					1		0		1	
00:15					0		1		1		12:15					4		3		7	
00:30					0		0		0		12:30					0		2		2	
00:45					0		0	1	0	1	12:45					0	5	3	8	3	13
01:00					0		1		1		13:00					2		1		3	
01:15					0		0		0		13:15					0		0		0	
01:30					0		0		0		13:30					5		2		7	
01:45					0		0	1	0	1	13:45					3	10	3	6	6	16
02:00					0		0		0		14:00					6		2		8	
02:15					0		0		0		14:15					1		2		3	
02:30					0		0		0		14:30					2		1		3	
02:45					0		0		0		14:45					2	11	1	6	3	17
03:00					0		0		0		15:00					6		4		10	
03:15					0		1		1		15:15					0		1		1	
03:30					0		0		0		15:30					1		0		1	
03:45					0		0	1	0	1	15:45					1	8	2	7	3	15
04:00					0		0		0		16:00					2		0		2	
04:15					0		0		0		16:15					2		3		5	
04:30					1		0		1		16:30					1		5		6	
04:45					2	3	1	1	3	4	16:45					0	5	1	9	1	14
05:00					2		0		2		17:00					2		3		5	
05:15					0		2		2		17:15					2		2		4	
05:30					0		0		0		17:30					3		5		8	
05:45					0	2	1	3	1	5	17:45					0	7	5	15	5	22
06:00					0		1		1		18:00					2		4		6	
06:15					0		0		0		18:15					0		3		3	
06:30					2		0		2		18:30					0		3		3	
06:45					1	3	1	2	2	5	18:45					0	2	0	10	0	12
07:00					0		1		1		19:00					1		1		2	
07:15					1		1		2		19:15					1		2		3	
07:30					0		2		2		19:30					0		0		0	
07:45					3	4	1	5	4	9	19:45					0	2	0	3	0	5
08:00					4		5		9		20:00					2		0		2	
08:15					1		2		3		20:15					0		0		0	
08:30					3		2		5		20:30					0		1		1	
08:45					0	8	1	10	1	18	20:45					0	2	0	1	0	3
09:00					2		2		4		21:00					1		0		1	
09:15					1		2		3		21:15					0		1		1	
09:30					4		5		9		21:30					0		0		0	
09:45					3	10	5	14	8	24	21:45					0	1	0	1	0	2
10:00					2		4		6		22:00					0		0		0	
10:15					3		3		6		22:15					0		0		0	
10:30					0		2		2		22:30					0		1		1	
10:45					1	6	1	10	2	16	22:45					0		0	1	0	1
11:00					2		5		7		23:00					0		0		0	
11:15					3		2		5		23:15					1		1		2	
11:30					5		4		9		23:30					0		0		0	
11:45					3	13	1	12	4	25	23:45					0	1	1	2	1	3
TOTALS						49		60		109	TOTALS						54		69		123
SPLIT %						45.0%		55.0%		47.0%	SPLIT %						43.9%		56.1%		53.0%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	103	129	232

AM Peak Hour			11:00	09:30	09:30	PM Peak Hour			13:30	17:30	13:30
AM Pk Volume			13	17	29	PM Pk Volume			15	17	24
Pk Hr Factor			0.650	0.850	0.806	Pk Hr Factor			0.625	0.850	0.750
7 - 9 Volume	0	0	12	15	27	4 - 6 Volume	0	0	12	24	36
7 - 9 Peak Hour			07:45	07:30	07:45	4 - 6 Peak Hour			16:45	17:00	17:00
7 - 9 Pk Volume	0	0	11	10	21	4 - 6 Pk Volume	0	0	7	15	22
Pk Hr Factor	0.000	0.000	0.688	0.500	0.583	Pk Hr Factor	0.000	0.000	0.583	0.750	0.688

Prepared by NDS/ATD

VOLUME

Temple St Bet. Vignes St & Center St

Day: Thursday
Date: 9/17/2015

City: Los Angeles
Project #: CA15_5565_010

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	584	592	1,176

AM Period	NB		SB		EB		WB		TOTAL	
00:00					0		1		1	
00:15					0		1		1	
00:30					1		0		1	
00:45					1	2	0	2	1	4
01:00					1		1		2	
01:15					1		1		2	
01:30					1		0		1	
01:45					0	3	0	2	0	5
02:00					0		0		0	
02:15					0		0		0	
02:30					0		3		3	
02:45					1	1	1	4	2	5
03:00					1		0		1	
03:15					1		0		1	
03:30					0		1		1	
03:45					0	2	0	1	0	3
04:00					2		1		3	
04:15					0		0		0	
04:30					0		0		0	
04:45					0	2	1	2	1	4
05:00					3		2		5	
05:15					2		3		5	
05:30					3		4		7	
05:45					4	12	5	14	9	26
06:00					4		3		7	
06:15					5		7		12	
06:30					5		10		15	
06:45					6	20	11	31	17	51
07:00					7		16		23	
07:15					6		20		26	
07:30					4		10		14	
07:45					7	24	9	55	16	79
08:00					10		9		19	
08:15					11		9		20	
08:30					11		18		29	
08:45					11	43	5	41	16	84
09:00					12		9		21	
09:15					10		7		17	
09:30					14		3		17	
09:45					15	51	11	30	26	81
10:00					12		14		26	
10:15					6		11		17	
10:30					10		14		24	
10:45					3	31	18	57	21	88
11:00					9		13		22	
11:15					6		7		13	
11:30					14		16		30	
11:45					8	37	14	50	22	87
TOTALS						228		289		**517**
SPLIT %						44.1%		55.9%		**44.0%**

PM Period	NB		SB		EB		WB		TOTAL	
12:00					8		6		14	
12:15					13		7		20	
12:30					19		5		24	
12:45					10	50	11	29	21	79
13:00					10		6		16	
13:15					15		9		24	
13:30					11		9		20	
13:45					12	48	8	32	20	80
14:00					9		6		15	
14:15					4		4		8	
14:30					11		6		17	
14:45					11	35	8	24	19	59
15:00					5		9		14	
15:15					14		9		23	
15:30					11		11		22	
15:45					9	39	5	34	14	73
16:00					10		12		22	
16:15					12		9		21	
16:30					18		7		25	
16:45					13	53	9	37	22	90
17:00					10		14		24	
17:15					10		16		26	
17:30					6		19		25	
17:45					13	39	6	55	19	94
18:00					12		8		20	
18:15					9		8		17	
18:30					3		12		15	
18:45					11	35	8	36	19	71
19:00					9		10		19	
19:15					6		3		9	
19:30					4		5		9	
19:45					3	22	4	22	7	44
20:00					3		4		7	
20:15					1		2		3	
20:30					5		3		8	
20:45					2	11	1	10	3	21
21:00					3		2		5	
21:15					4		5		9	
21:30					0		0		0	
21:45					3	10	4	11	7	21
22:00					3		5		8	
22:15					4		0		4	
22:30					1		1		2	
22:45					3	11	0	6	3	17
23:00					1		2		3	
23:15					1		1		2	
23:30					1		1		2	
23:45					0	3	3	7	3	10
TOTALS						356		303		**659**
SPLIT %						54.0%		46.0%		**56.0%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	584	592	1,176

AM Peak Hour	09:00	06:30	**09:45**	
AM Pk Volume	51	57	**93**	
Pk Hr Factor	0.850	0.713	**0.894**	
7 - 9 Volume	67	96	**163**	
7 - 9 Peak Hour	08:00	07:00	**07:45**	
7 - 9 Pk Volume	43	55	**84**	
Pk Hr Factor	0.977	0.688	**0.724**	

PM Peak Hour	12:30	16:45	**16:30**	
PM Pk Volume	54	58	**97**	
Pk Hr Factor	0.711	0.763	**0.933**	
4 - 6 Volume	92	92	**184**	
4 - 6 Peak Hour	16:00	16:45	**16:30**	
4 - 6 Pk Volume	53	58	**97**	
Pk Hr Factor	0.736	0.763	**0.933**	

Prepared by NDS/ATD

VOLUME

Center St N/O Commercial St

Day: Wednesday
Date: 9/9/2015

City: Los Angeles
Project #: CA15_5565_011

DAILY TOTALS	NB	SB	EB	WB	Total
	6,916	5,069	0	0	11,985

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	12		23				35		12:00	91		69				160	
00:15	23		12				35		12:15	83		64				147	
00:30	17		11				28		12:30	77		76				153	
00:45	9	61	11	57			20	118	12:45	100	351	86	295			186	646
01:00	11		3				14		13:00	118		70				188	
01:15	7		12				19		13:15	108		63				171	
01:30	14		10				24		13:30	124		84				208	
01:45	8	40	11	36			19	76	13:45	114	464	60	277			174	741
02:00	16		8				24		14:00	144		58				202	
02:15	14		9				23		14:15	104		70				174	
02:30	15		8				23		14:30	136		59				195	
02:45	13	58	8	33			21	91	14:45	112	496	78	265			190	761
03:00	23		6				29		15:00	124		63				187	
03:15	11		11				22		15:15	113		65				178	
03:30	14		10				24		15:30	123		85				208	
03:45	16	64	16	43			32	107	15:45	97	457	60	273			157	730
04:00	15		14				29		16:00	135		60				195	
04:15	16		20				36		16:15	118		70				188	
04:30	25		28				53		16:30	147		74				221	
04:45	42	98	58	120			100	218	16:45	85	485	54	258			139	743
05:00	45		53				98		17:00	109		52				161	
05:15	68		72				140		17:15	92		69				161	
05:30	90		76				166		17:30	115		59				174	
05:45	109	312	88	289			197	601	17:45	81	397	81	261			162	658
06:00	85		102				187		18:00	92		57				149	
06:15	97		90				187		18:15	77		49				126	
06:30	91		62				153		18:30	71		46				117	
06:45	95	368	80	334			175	702	18:45	63	303	43	195			106	498
07:00	109		75				184		19:00	53		35				88	
07:15	116		78				194		19:15	46		38				84	
07:30	131		61				192		19:30	46		61				107	
07:45	146	502	71	285			217	787	19:45	36	181	44	178			80	359
08:00	118		70				188		20:00	36		46				82	
08:15	109		85				194		20:15	30		42				72	
08:30	123		95				218		20:30	30		34				64	
08:45	134	484	96	346			230	830	20:45	31	127	52	174			83	301
09:00	108		123				231		21:00	61		44				105	
09:15	109		88				197		21:15	46		48				94	
09:30	128		87				215		21:30	46		45				91	
09:45	112	457	87	385			199	842	21:45	32	185	49	186			81	371
10:00	129		113				242		22:00	51		31				82	
10:15	105		55				160		22:15	45		31				76	
10:30	76		61				137		22:30	30		41				71	
10:45	88	398	83	312			171	710	22:45	31	157	28	131			59	288
11:00	95		52				147		23:00	25		20				45	
11:15	79		60				139		23:15	28		27				55	
11:30	96		67				163		23:30	23		32				55	
11:45	103	373	63	242			166	615	23:45	22	98	15	94			37	192
TOTALS		3215		2482				**5697**	**TOTALS**		3701		2587				**6288**
SPLIT %		56.4%		43.6%				**47.5%**	**SPLIT %**		58.9%		41.1%				**52.5%**

DAILY TOTALS	NB	SB	EB	WB	Total
	6,916	5,069	0	0	11,985

AM Peak Hour	07:15	08:30						**08:30**	**PM Peak Hour**	13:45	12:45							**14:45**
AM Pk Volume	511	402						**876**	**PM Pk Volume**	498	303							**763**
Pk Hr Factor	0.875	0.817						**0.948**	**Pk Hr Factor**	0.865	0.881							**0.917**
7 - 9 Volume	986	631	0	0				**1617**	**4 - 6 Volume**	882	519	0	0					**1401**
7 - 9 Peak Hour	07:15	08:00						**08:00**	**4 - 6 Peak Hour**	16:00	17:00							**16:00**
7 - 9 Pk Volume	511	346	0	0				**830**	**4 - 6 Pk Volume**	485	261	0	0					**743**
Pk Hr Factor	0.875	0.901	0.000	0.000				**0.902**	**Pk Hr Factor**	0.825	0.806	0.000	0.000					**0.840**

Prepared by NDS/ATD

VOLUME

Center St S/O Commercial St

Day: Wednesday
Date: 9/9/2015

City: Los Angeles
Project #: CA15_5565_012

DAILY TOTALS	NB	SB	EB	WB	Total
	7,595	8,041	0	0	15,636

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	17		23				40		12:00	82		121				203	
00:15	14		23				37		12:15	73		124				197	
00:30	18		18				36		12:30	91		173				264	
00:45	13	62	20	84			33	146	12:45	81	327	141	559			222	886
01:00	13		10				23		13:00	77		157				234	
01:15	13		12				25		13:15	98		141				239	
01:30	15		21				36		13:30	85		186				271	
01:45	19	60	17	60			36	120	13:45	86	346	143	627			229	973
02:00	19		33				52		14:00	106		167				273	
02:15	7		17				24		14:15	72		124				196	
02:30	7		20				27		14:30	146		116				262	
02:45	13	46	16	86			29	132	14:45	107	431	128	535			235	966
03:00	9		10				19		15:00	102		119				221	
03:15	7		8				15		15:15	107		128				235	
03:30	4		11				15		15:30	124		166				290	
03:45	11	31	25	54			36	85	15:45	105	438	136	549			241	987
04:00	6		12				18		16:00	122		159				281	
04:15	16		15				31		16:15	176		169				345	
04:30	23		21				44		16:30	135		166				301	
04:45	13	58	25	73			38	131	16:45	171	604	165	659			336	1263
05:00	20		25				45		17:00	238		138				376	
05:15	26		48				74		17:15	285		189				474	
05:30	41		59				100		17:30	297		151				448	
05:45	37	124	56	188			93	312	17:45	280	1100	142	620			422	1720
06:00	50		52				102		18:00	313		143				456	
06:15	54		68				122		18:15	284		132				416	
06:30	93		67				160		18:30	244		129				373	
06:45	76	273	71	258			147	531	18:45	154	995	129	533			283	1528
07:00	85		81				166		19:00	97		98				195	
07:15	101		84				185		19:15	87		95				182	
07:30	113		100				213		19:30	70		73				143	
07:45	111	410	107	372			218	782	19:45	51	305	77	343			128	648
08:00	115		94				209		20:00	43		67				110	
08:15	114		95				209		20:15	50		59				109	
08:30	89		89				178		20:30	40		64				104	
08:45	106	424	107	385			213	809	20:45	32	165	60	250			92	415
09:00	80		100				180		21:00	30		74				104	
09:15	103		108				211		21:15	37		71				108	
09:30	86		86				172		21:30	36		59				95	
09:45	79	348	118	412			197	760	21:45	35	138	70	274			105	412
10:00	87		94				181		22:00	30		56				86	
10:15	94		76				170		22:15	44		55				99	
10:30	73		94				167		22:30	53		32				85	
10:45	83	337	73	337			156	674	22:45	27	154	53	196			80	350
11:00	80		84				164		23:00	38		41				79	
11:15	85		102				187		23:15	22		25				47	
11:30	70		144				214		23:30	26		19				45	
11:45	82	317	126	456			208	773	23:45	16	102	46	131			62	233
TOTALS		2490		2765				5255	TOTALS		5105		5276				10381
SPLIT %		47.4%		52.6%				33.6%	SPLIT %		49.2%		50.8%				66.4%

DAILY TOTALS	NB	SB	EB	WB	Total
	7,595	8,041	0	0	15,636

AM Peak Hour	07:30	11:45						11:45	PM Peak Hour	17:15	16:00							17:15
AM Pk Volume	453	544						872	PM Pk Volume	1175	659							1800
Pk Hr Factor	0.985	0.786						0.826	Pk Hr Factor	0.938	0.975							0.949
7 - 9 Volume	834	757	0	0				1591	4 - 6 Volume	1704	1279	0	0					2983
7 - 9 Peak Hour	07:30	07:30						07:30	4 - 6 Peak Hour	17:00	16:00							17:00
7 - 9 Pk Volume	453	396	0	0				849	4 - 6 Pk Volume	1100	659	0	0					1720
Pk Hr Factor	0.985	0.925	0.000	0.000				0.974	Pk Hr Factor	0.926	0.975	0.000	0.000					0.907

Prepared by NDS/ATD

VOLUME

Cesar Chavez Ave E/O Alameda St

Day: Wednesday
Date: 9/9/2015

City: Los Angeles
Project #: CA15_5565_013

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	11,981	14,113	26,094

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			37		19		56		12:00			136		162		298	
00:15			46		25		71		12:15			182		170		352	
00:30			39		24		63		12:30			152		142		294	
00:45			27	149	14	82	41	231	12:45			175	645	172	646	347	1291
01:00			24		15		39		13:00			180		154		334	
01:15			30		13		43		13:15			180		154		334	
01:30			24		20		44		13:30			162		164		326	
01:45			13	91	12	60	25	151	13:45			174	696	164	636	338	1332
02:00			27		15		42		14:00			162		145		307	
02:15			28		13		41		14:15			154		163		317	
02:30			28		8		36		14:30			173		179		352	
02:45			30	113	11	47	41	160	14:45			191	680	175	662	366	1342
03:00			18		10		28		15:00			180		142		322	
03:15			15		9		24		15:15			188		170		358	
03:30			19		20		39		15:30			233		190		423	
03:45			34	86	11	50	45	136	15:45			225	826	190	692	415	1518
04:00			26		9		35		16:00			251		188		439	
04:15			46		14		60		16:15			297		210		507	
04:30			41		20		61		16:30			248		232		480	
04:45			64	177	20	63	84	240	16:45			280	1076	203	833	483	1909
05:00			48		32		80		17:00			243		225		468	
05:15			83		57		140		17:15			305		228		533	
05:30			97		84		181		17:30			272		211		483	
05:45			109	337	109	282	218	619	17:45			254	1074	238	902	492	1976
06:00			94		169		263		18:00			229		224		453	
06:15			120		244		364		18:15			226		203		429	
06:30			107		334		441		18:30			157		182		339	
06:45			134	455	356	1103	490	1558	18:45			157	769	148	757	305	1526
07:00			130		396		526		19:00			138		138		276	
07:15			171		359		530		19:15			108		97		205	
07:30			168		352		520		19:30			136		110		246	
07:45			173	642	321	1428	494	2070	19:45			113	495	88	433	201	928
08:00			150		350		500		20:00			105		79		184	
08:15			163		363		526		20:15			100		74		174	
08:30			169		342		511		20:30			102		68		170	
08:45			173	655	332	1387	505	2042	20:45			79	386	55	276	134	662
09:00			166		347		513		21:00			77		68		145	
09:15			152		339		491		21:15			80		53		133	
09:30			143		328		471		21:30			74		68		142	
09:45			142	603	333	1347	475	1950	21:45			84	315	58	247	142	562
10:00			180		305		485		22:00			71		64		135	
10:15			161		300		461		22:15			61		48		109	
10:30			149		287		436		22:30			73		53		126	
10:45			136	626	223	1115	359	1741	22:45			54	259	41	206	95	465
11:00			138		220		358		23:00			62		47		109	
11:15			173		210		383		23:15			47		26		73	
11:30			161		159		320		23:30			49		24		73	
11:45			151	623	151	740	302	1363	23:45			45	203	22	119	67	322
TOTALS				4557		7704		**12261**	**TOTALS**				7424		6409		**13833**
SPLIT %				37.2%		62.8%		**47.0%**	**SPLIT %**				53.7%		46.3%		**53.0%**

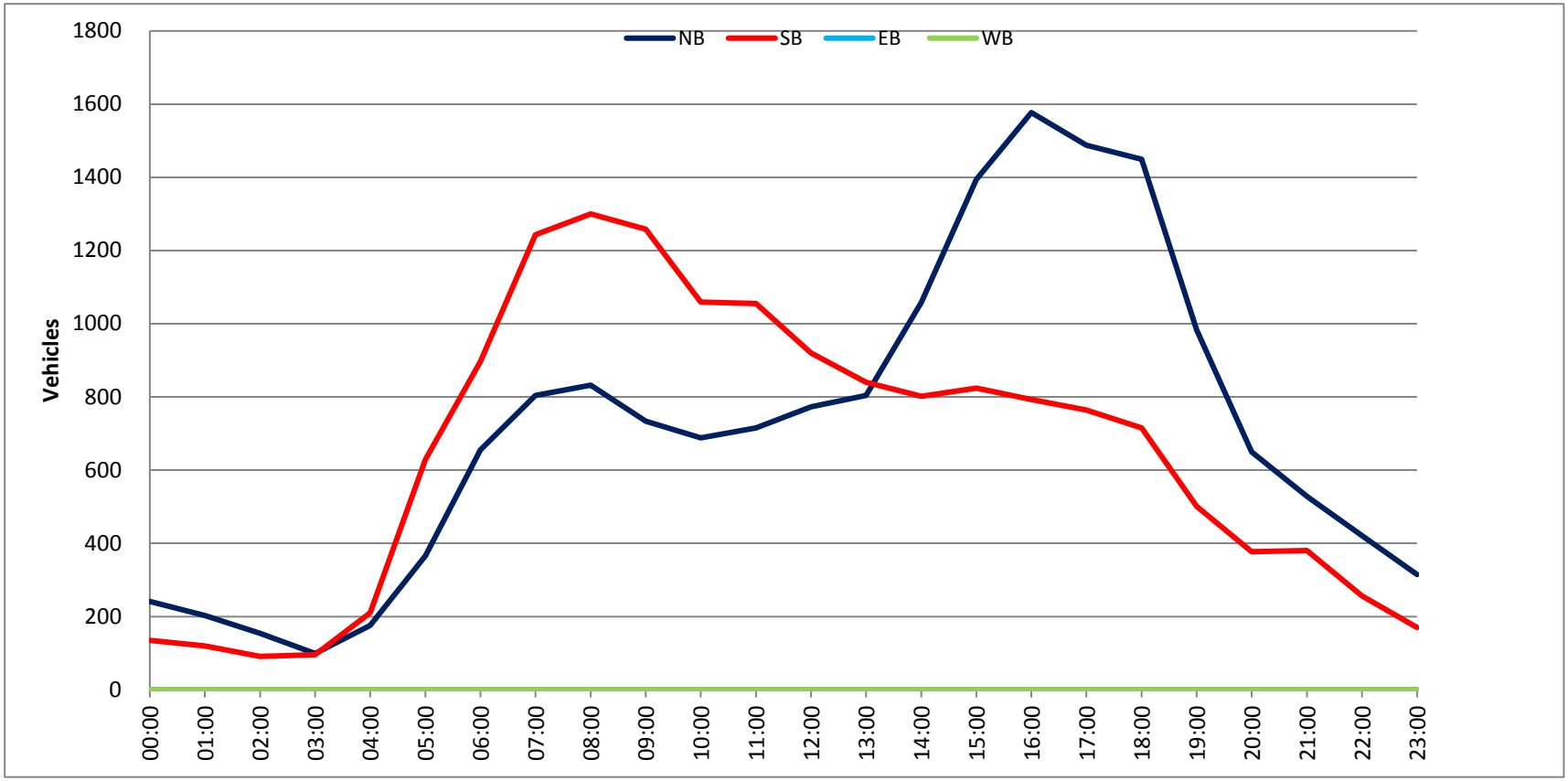
DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	11,981	14,113	26,094

AM Peak Hour			08:15	06:45	**07:00**	**PM Peak Hour**	16:45	17:00	**17:00**
AM Pk Volume			671	1463	**2070**	**PM Pk Volume**	1100	902	**1976**
Pk Hr Factor			0.970	0.924	**0.976**	**Pk Hr Factor**	0.902	0.947	**0.927**
7 - 9 Volume	0	0	1297	2815	**4112**	**4 - 6 Volume**	0	0	2150	1735	**3885**
7 - 9 Peak Hour			07:15	07:00	**07:00**	**4 - 6 Peak Hour**			16:45	17:00	**17:00**
7 - 9 Pk Volume	0	0	662	1428	**2070**	**4 - 6 Pk Volume**	0	0	1100	902	**1976**
Pk Hr Factor	0.000	0.000	0.957	0.902	**0.976**	**Pk Hr Factor**	0.000	0.000	0.902	0.947	**0.927**

Prepared by NDS/ATD

Project #: CA15_5565_001 **City:** Los Angeles

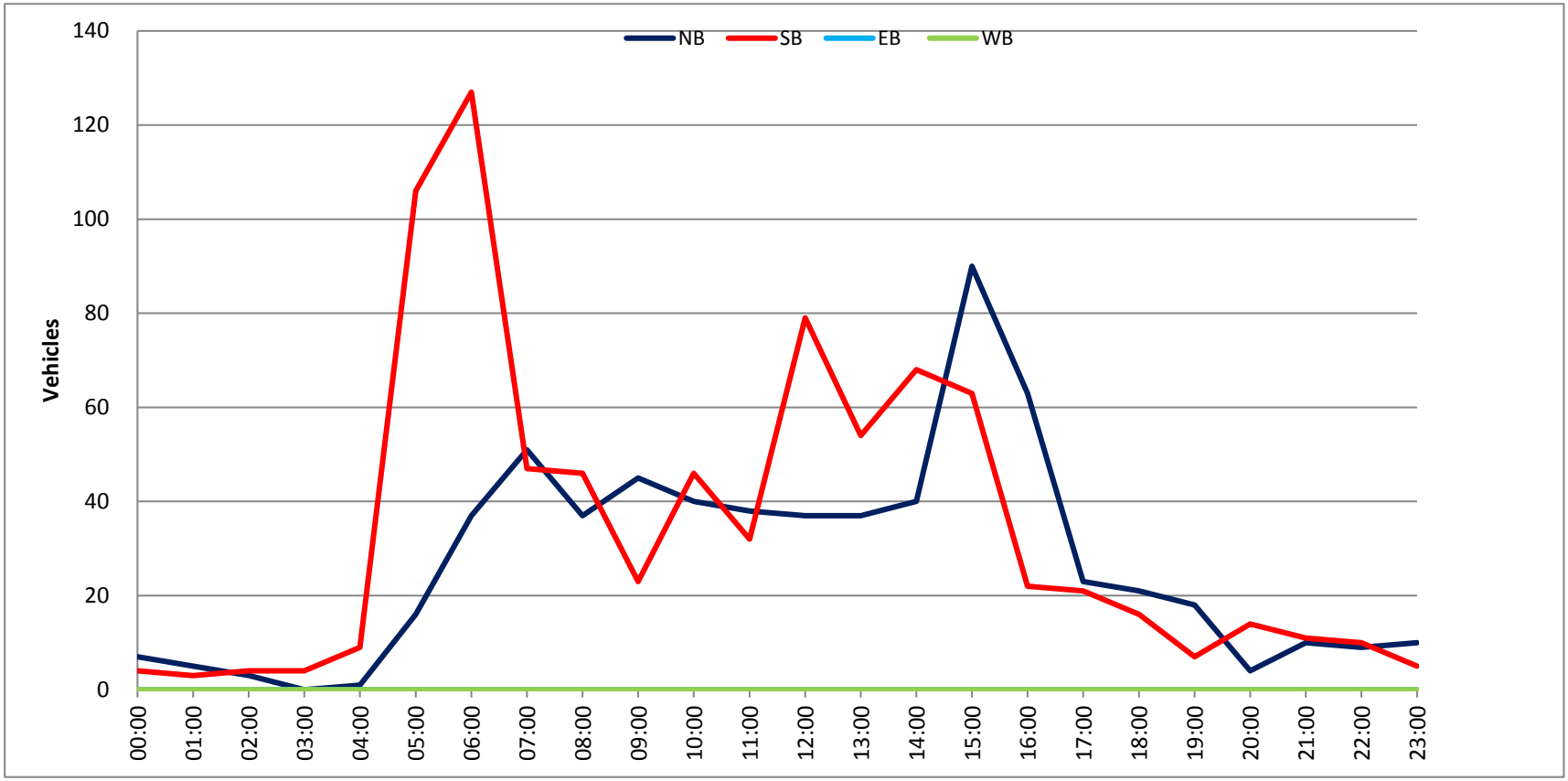
Location: Alameda St N/O Commercial St **Date:** 9/9/2015



Prepared by NDS/ATD

Project #: CA15_5565_003 **City:** Los Angeles

Location: Hewitt St S/O Commercial St **Date:** 9/9/2015



Prepared by NDS/ATD

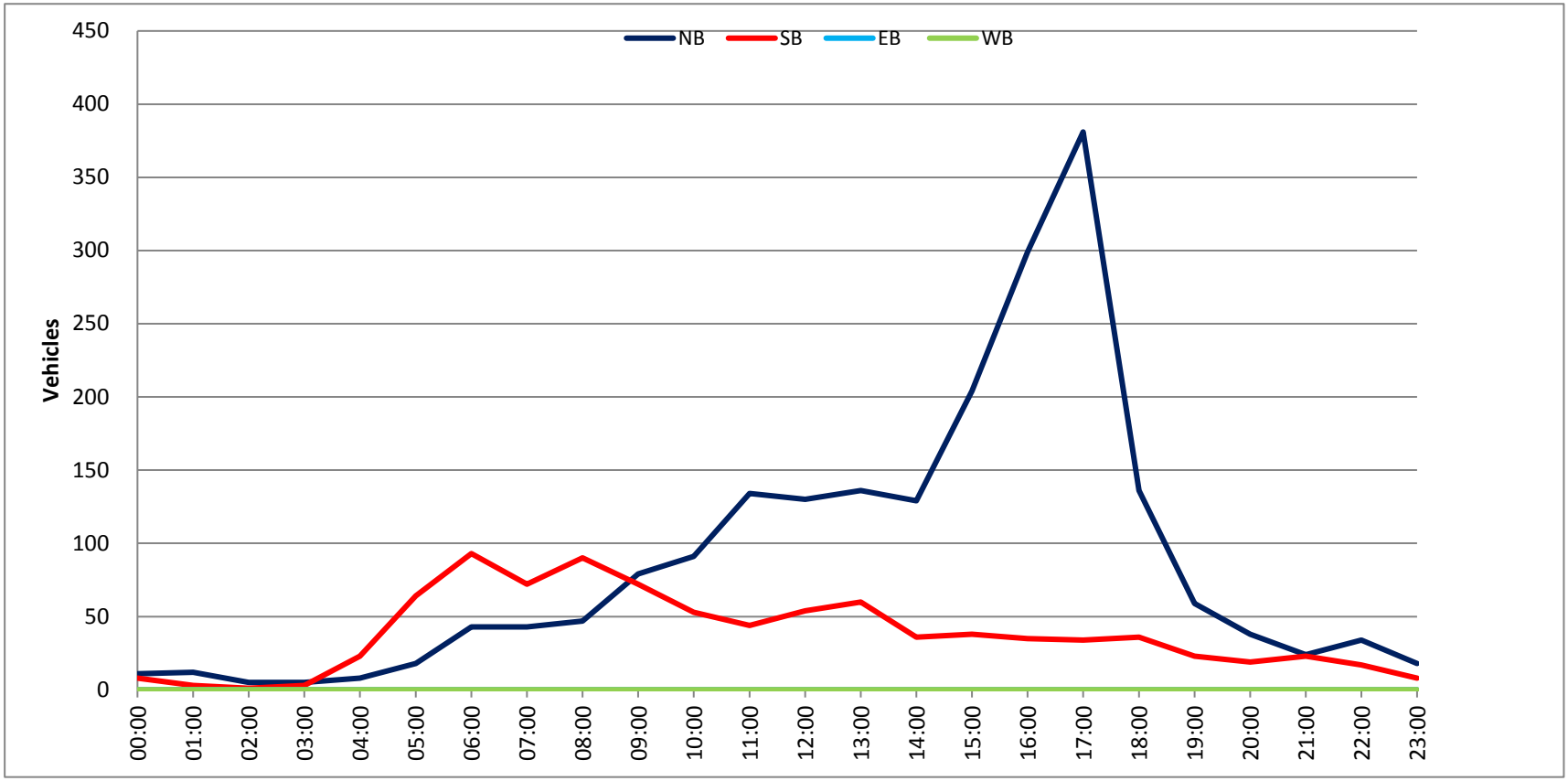
Project #: CA15_5565_004 **City:** Los Angeles

Location: Commercial St W/O Garey St **Date:** 9/9/2015

Prepared by NDS/ATD

Project #: CA15_5565_005 **City:** Los Angeles

Location: Garey St S/O Commercial St **Date:** 9/9/2015



Prepared by NDS/ATD

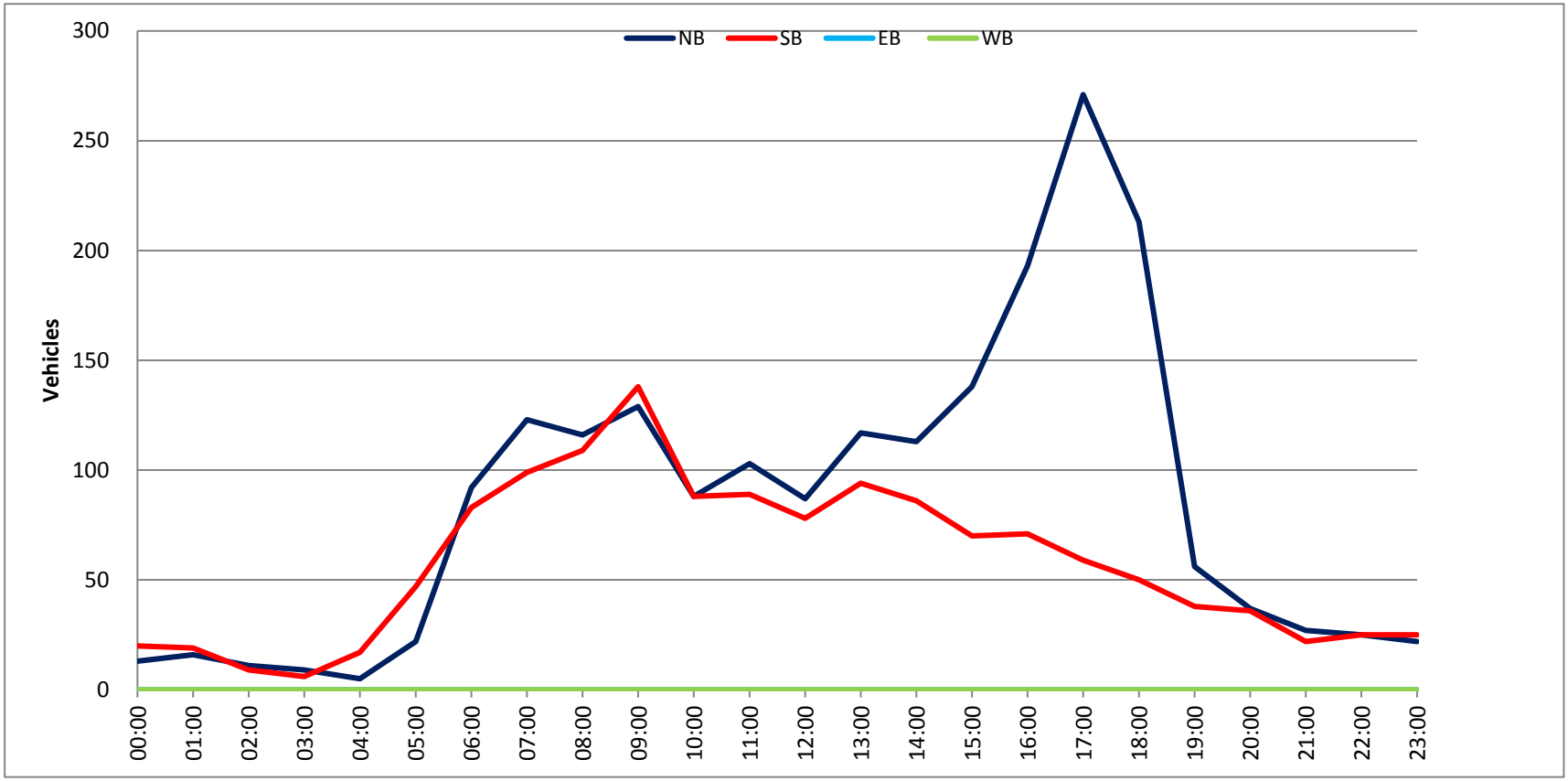
Project #: CA15_5565_006 **City:** Los Angeles

Location: Commercial St E/O Garey St **Date:** 9/9/2015

Prepared by NDS/ATD

Project #: CA15_5565_007 **City:** Los Angeles

Location: Vignes St S/O Commercial St **Date:** 9/17/2015



Prepared by NDS/ATD

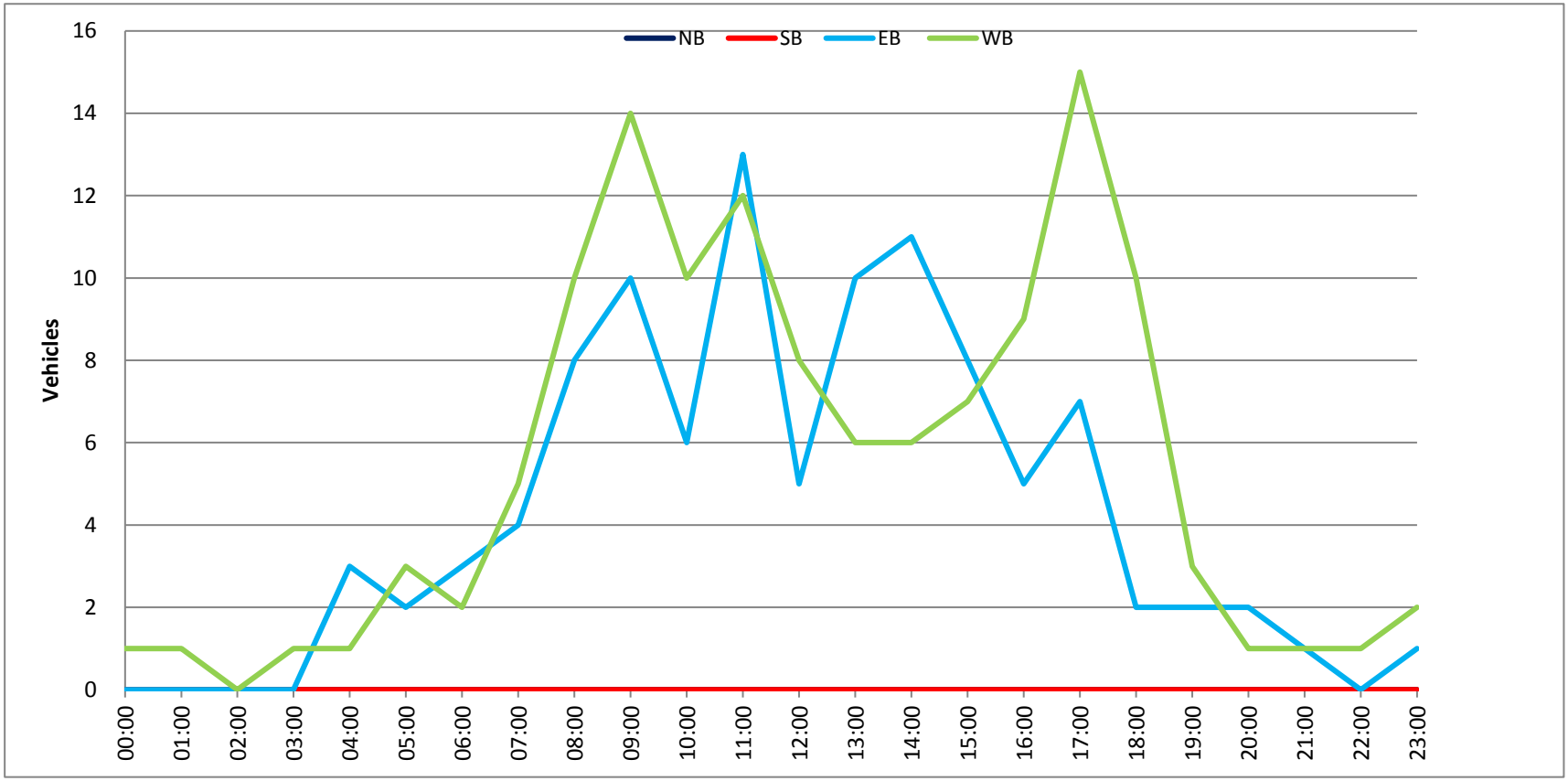
Project #: CA15_5565_008 **City:** Los Angeles

Location: Ducommun St Bet. Vignes St & Center St **Date:** 9/9/2015

Prepared by NDS/ATD

Project #: CA15_5565_009 **City:** Los Angeles

Location: Jackson St Bet. Vignes St & Center St **Date:** 9/9/2015



Prepared by NDS/ATD

Project #: CA15_5565_010 **City:** Los Angeles

Location: Temple St Bet. Vignes St & Center St **Date:** 9/17/2015

Prepared by NDS/ATD

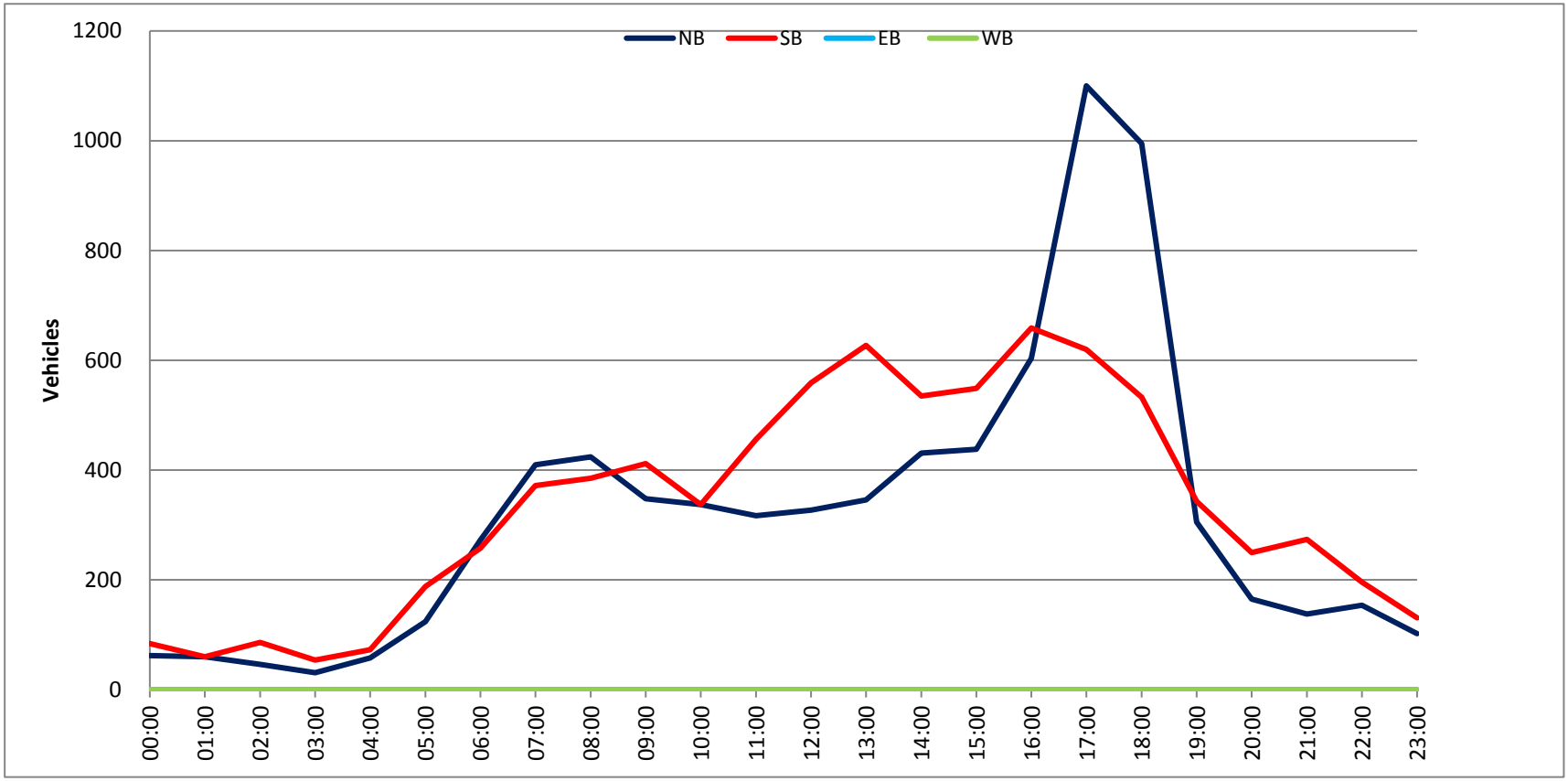
Project #: CA15_5565_011 **City:** Los Angeles

Location: Center St N/O Commercial St **Date:** 9/9/2015

Prepared by NDS/ATD

Project #: CA15_5565_012 **City:** Los Angeles

Location: Center St S/O Commercial St **Date:** 9/9/2015



Prepared by NDS/ATD

Project #: CA15_5565_013 **City:** Los Angeles

Location: Cesar Chavez Ave E/O Alameda St **Date:** 9/9/2015

Appendix C:
Truck/Vehicle Percentage and Turn Movements

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Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-001 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Alameda St			N Alameda St			E Commercial St			E Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	1	1	3	0	2	1	1	1	0	1	
6:00 AM	0	3	0	0	0	0	3	0	0	0	0	0	6
6:15 AM	0	7	0	0	2	0	3	0	0	0	0	0	12
6:30 AM	0	3	0	0	2	0	6	1	0	0	0	0	12
6:45 AM	0	1	1	0	3	0	5	0	0	0	0	0	10
7:00 AM	0	2	0	0	3	0	3	0	0	1	0	0	9
7:15 AM	0	2	1	0	2	0	6	1	0	0	0	0	12
7:30 AM	0	1	2	0	2	0	9	1	1	0	0	0	16
7:45 AM	0	4	0	0	1	0	9	0	0	2	0	0	16
8:00 AM	0	0	3	0	4	0	5	1	0	0	0	0	13
8:15 AM	0	6	2	0	0	0	7	0	0	0	0	0	15
8:30 AM	0	2	1	0	2	0	8	0	0	0	0	0	13
8:45 AM	0	1	0	0	2	0	6	1	0	0	0	0	10
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	32	10	0	23	0	70	5	1	3	0	0	144
APPROACH %'s :	0.00%	76.19%	23.81%	0.00%	100.00%	0.00%	92.11%	6.58%	1.32%	100.00%	0.00%	0.00%	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	0	9	6	0	8	0	26	2	0	0	0	0	51
PEAK HR FACTOR :		0.469			0.500			0.875			0.000		0.850

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-001 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Alameda St			N Alameda St			E Commercial St			E Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	1	1	3	0	2	1	1	1	0	1	
3:00 PM	0	2	0	0	4	0	3	0	2	0	0	0	11
3:15 PM	0	1	0	0	1	0	9	1	0	0	0	0	12
3:30 PM	0	1	0	0	2	0	8	1	1	1	0	0	14
3:45 PM	0	1	0	0	0	0	9	0	0	0	0	0	10
4:00 PM	0	0	0	0	1	0	10	1	0	0	0	0	12
4:15 PM	0	2	0	0	3	0	13	1	1	1	0	0	21
4:30 PM	0	2	0	0	3	0	16	0	0	0	0	0	21
4:45 PM	0	0	0	0	7	0	13	0	0	0	0	0	20
5:00 PM	0	1	0	0	2	0	15	4	0	0	0	0	22
5:15 PM	0	3	0	0	6	0	12	0	0	0	0	0	21
5:30 PM	0	0	0	0	3	0	21	0	0	0	0	0	24
5:45 PM	0	1	0	0	1	0	18	2	0	0	0	0	22
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	14	0	0	33	0	147	10	4	2	0	0	210
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	91.30%	6.21%	2.48%	100.00%	0.00%	0.00%	
PEAK HR START TIME :	400 PM												TOTAL
PEAK HR VOL :	0	4	0	0	14	0	52	2	1	1	0	0	74
PEAK HR FACTOR :		0.500			0.500			0.859			0.250		0.881

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-001 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Alameda St			N Alameda St			E Commercial St			E Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	1	1	3	0	2	1	1	1	0	1	
6:00 AM	0	14	1	0	10	0	0	0	1	4	0	0	30
6:15 AM	0	12	1	1	10	0	0	0	0	1	0	0	25
6:30 AM	0	9	2	5	5	0	0	0	0	1	0	2	24
6:45 AM	0	10	1	0	7	0	0	1	0	0	0	1	20
7:00 AM	0	21	0	2	6	0	0	0	0	1	0	1	31
7:15 AM	0	17	2	2	12	0	0	0	2	1	0	2	38
7:30 AM	0	16	0	5	9	0	1	0	0	1	0	7	39
7:45 AM	0	16	1	2	7	0	0	0	1	0	0	4	31
8:00 AM	0	9	3	0	6	0	0	0	1	4	0	4	27
8:15 AM	0	22	2	1	11	0	0	0	0	1	0	4	41
8:30 AM	0	15	1	1	6	0	0	0	1	1	0	10	35
8:45 AM	0	17	3	3	15	0	0	0	0	3	0	6	47
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	178	17	22	104	0	1	1	6	18	0	41	388
APPROACH %'s :	0.00%	91.28%	8.72%	17.46%	82.54%	0.00%	12.50%	12.50%	75.00%	30.51%	0.00%	69.49%	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	0	63	9	5	38	0	0	0	2	9	0	24	150
PEAK HR FACTOR :		0.750			0.597			0.500			0.750		0.798

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-001 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Alameda St			N Alameda St			E Commercial St			E Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	1	1	3	0	2	1	1	1	0	1	
3:00 PM	0	5	3	1	8	0	0	0	1	2	0	0	20
3:15 PM	0	7	2	6	5	0	0	2	0	3	0	1	26
3:30 PM	0	7	2	2	10	0	0	5	1	4	0	0	31
3:45 PM	0	5	0	0	4	0	1	0	1	1	0	0	12
4:00 PM	0	4	0	2	7	0	0	0	0	1	0	2	16
4:15 PM	0	8	1	0	6	0	1	0	1	1	0	1	19
4:30 PM	0	6	0	0	7	0	1	0	0	2	0	1	17
4:45 PM	0	8	1	0	2	0	2	0	1	0	0	0	14
5:00 PM	0	5	1	2	4	0	0	0	0	0	0	1	13
5:15 PM	0	1	0	1	2	0	0	0	0	2	0	0	6
5:30 PM	0	3	0	1	3	0	3	0	0	1	0	2	13
5:45 PM	0	4	0	0	4	0	5	0	0	0	0	0	13
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	63	10	15	62	0	13	7	5	17	0	8	200
APPROACH %'s :	0.00%	86.30%	13.70%	19.48%	80.52%	0.00%	52.00%	28.00%	20.00%	68.00%	0.00%	32.00%	
PEAK HR START TIME :	400 PM												TOTAL
PEAK HR VOL :	0	26	2	2	22	0	4	0	2	4	0	4	66
PEAK HR FACTOR :		0.778			0.667			0.500			0.667		0.868

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-002

Day: Thursday

BUSES

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	N Garey St			N Garey St			E Commercial St			E Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	1	1	2	1	0	1	2	0	
6:00 AM	0	0	0	2	1	0	0	0	0	0	0	0	3
6:15 AM	0	0	0	0	1	0	0	0	0	0	0	2	3
6:30 AM	0	0	0	4	0	0	0	1	0	0	0	0	5
6:45 AM	0	0	0	3	1	0	0	1	0	0	0	0	5
7:00 AM	0	0	0	4	1	0	0	0	0	0	0	2	7
7:15 AM	0	0	0	2	1	0	0	2	0	0	0	2	7
7:30 AM	0	0	0	3	0	0	2	1	0	0	0	0	6
7:45 AM	0	0	0	3	0	0	0	0	0	0	1	1	5
8:00 AM	0	0	0	2	1	0	1	3	0	0	0	1	8
8:15 AM	0	0	0	4	0	0	0	2	0	0	2	2	10
8:30 AM	0	0	0	4	0	0	0	1	0	0	0	0	5
8:45 AM	0	0	0	3	0	0	0	1	0	0	0	1	5
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	34	6	0	3	12	0	0	3	11	69
APPROACH %'s :				85.00%	15.00%	0.00%	20.00%	80.00%	0.00%	0.00%	21.43%	78.57%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	0	0	12	1	0	3	6	0	0	3	4	29
PEAK HR FACTOR :	0.000			0.813			0.563			0.438			0.725

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-002 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Garey St			N Garey St			E Commercial St			E Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	1	1	2	1	0	1	2	0	
3:00 PM	0	0	0	2	0	0	0	0	0	0	0	0	2
3:15 PM	0	0	0	4	1	0	0	1	0	0	0	0	6
3:30 PM	0	0	0	1	1	0	0	1	0	0	1	0	4
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	2	2
4:00 PM	0	0	0	2	0	0	0	1	0	1	0	0	4
4:15 PM	0	0	0	3	0	1	0	0	1	0	0	1	6
4:30 PM	0	0	0	3	2	0	0	0	0	0	0	2	7
4:45 PM	0	0	0	2	0	0	0	0	0	0	0	1	3
5:00 PM	0	0	0	2	0	0	0	4	0	1	0	0	7
5:15 PM	0	0	0	2	0	0	0	0	0	0	0	1	3
5:30 PM	0	0	0	1	0	0	0	0	0	0	0	1	2
5:45 PM	0	0	0	4	0	0	0	2	0	0	1	1	8
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	26	4	1	0	9	1	2	2	9	54
APPROACH %'s :				83.87%	12.90%	3.23%	0.00%	90.00%	10.00%	15.38%	15.38%	69.23%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	0	0	0	9	2	0	0	4	0	1	0	4	20
PEAK HR FACTOR :	0.000			0.550			0.250			0.625			0.714

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-002 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Garey St			N Garey St			E Commercial St			E Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	1	1	2	1	0	1	2	0	
6:00 AM	0	0	0	2	0	5	1	0	0	0	0	1	9
6:15 AM	0	0	0	2	0	2	2	0	0	0	1	3	10
6:30 AM	0	0	0	4	0	2	5	1	0	0	1	1	14
6:45 AM	1	0	0	4	0	0	1	0	0	0	0	1	7
7:00 AM	1	1	1	3	0	0	0	2	0	0	2	0	10
7:15 AM	0	0	0	5	0	0	0	2	0	0	0	2	9
7:30 AM	1	1	1	3	1	1	4	1	0	0	1	3	17
7:45 AM	0	3	0	3	0	1	2	1	0	0	1	4	15
8:00 AM	1	0	0	7	0	5	3	0	0	0	2	3	21
8:15 AM	0	0	0	3	0	2	1	3	0	0	2	2	13
8:30 AM	1	0	0	6	0	9	2	0	0	0	2	1	21
8:45 AM	0	3	0	5	0	7	6	1	0	0	5	2	29
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	5	8	2	47	1	34	27	11	0	0	17	23	175
APPROACH %'s :	33.33%	53.33%	13.33%	57.32%	1.22%	41.46%	71.05%	28.95%	0.00%	0.00%	42.50%	57.50%	

PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	2	4	1	16	1	9	10	5	0	0	6	12	66
PEAK HR FACTOR :		0.583			0.542			0.750			0.900		0.786

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-002 | **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles | **Date:** 11/5/2015

PM

NS/EW Streets:	N Garey St			N Garey St			E Commercial St			E Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	1	1	2	1	0	1	2	0	
3:00 PM	0	2	0	3	1	4	2	1	0	0	1	1	15
3:15 PM	0	1	0	1	1	2	3	1	0	0	2	1	12
3:30 PM	0	0	0	2	0	4	5	2	0	0	2	2	17
3:45 PM	0	0	0	3	0	1	0	0	0	0	1	0	5
4:00 PM	0	0	0	4	0	3	1	0	0	0	0	3	11
4:15 PM	0	0	0	3	0	1	1	0	0	0	0	4	9
4:30 PM	0	1	1	4	0	2	0	0	0	0	0	1	9
4:45 PM	0	0	0	1	0	2	1	0	0	0	0	2	6
5:00 PM	0	1	0	2	0	1	3	1	0	0	0	2	10
5:15 PM	0	0	0	4	0	1	2	0	0	0	0	2	9
5:30 PM	0	0	0	6	0	2	1	0	0	0	0	1	10
5:45 PM	0	1	0	3	0	0	0	0	0	0	0	2	6
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	6	1	36	2	23	19	5	0	0	6	21	119
APPROACH %'s :	0.00%	85.71%	14.29%	59.02%	3.28%	37.70%	79.17%	20.83%	0.00%	0.00%	22.22%	77.78%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	0	2	1	11	0	6	6	1	0	0	0	7	34
PEAK HR FACTOR :		0.375			0.708			0.438			0.875		0.850

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-003 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Vignes St			N Vignes St			E Commercial St			E Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	0	1	0	0	0	0	1	0	1	1	0	
6:00 AM	0	0	4	0	0	0	0	3	0	2	0	0	9
6:15 AM	0	0	3	0	0	0	0	0	0	4	2	0	9
6:30 AM	0	0	2	0	0	0	0	5	0	2	0	0	9
6:45 AM	0	0	4	0	0	0	0	4	0	4	0	0	12
7:00 AM	0	0	5	0	0	0	0	3	0	2	3	0	13
7:15 AM	0	0	5	0	0	0	0	5	0	5	1	0	16
7:30 AM	0	0	2	0	0	0	0	2	1	3	0	0	8
7:45 AM	0	0	7	0	0	0	0	4	0	2	2	0	15
8:00 AM	0	0	4	0	0	0	0	4	0	3	2	0	13
8:15 AM	0	0	2	0	0	0	0	6	0	3	3	0	14
8:30 AM	0	0	5	0	0	0	0	4	1	4	0	0	14
8:45 AM	0	0	4	0	0	0	0	4	0	3	1	0	12
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	47	0	0	0	0	44	2	37	14	0	144
APPROACH %'s :	0.00%	0.00%	100.00%				0.00%	95.65%	4.35%	72.55%	27.45%	0.00%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	0	15	0	0	0	0	16	1	11	7	0	50
PEAK HR FACTOR :		0.536			0.000			0.708			0.750		0.833

CONTROL : 3-Way Stop (NB,EB,WB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-003 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Vignes St			N Vignes St			E Commercial St			E Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	0	1	0	0	0	0	1	0	1	1	0	
3:00 PM	0	0	4	0	0	0	0	2	0	2	0	0	8
3:15 PM	0	0	2	0	0	0	0	5	0	3	0	0	10
3:30 PM	0	0	3	0	0	0	0	2	0	3	1	0	9
3:45 PM	0	0	6	0	0	0	0	0	0	4	3	0	13
4:00 PM	0	0	1	0	0	0	0	3	0	2	0	0	6
4:15 PM	0	0	4	0	0	0	0	3	0	5	1	0	13
4:30 PM	0	0	2	0	0	0	0	2	0	1	2	0	7
4:45 PM	0	0	4	0	0	0	0	3	0	2	2	0	11
5:00 PM	0	0	3	0	0	0	0	5	0	4	0	0	12
5:15 PM	0	0	1	0	0	0	0	3	0	2	1	0	7
5:30 PM	0	0	2	0	0	0	0	1	0	2	1	0	6
5:45 PM	0	0	1	0	0	0	0	6	0	1	2	0	10
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	33	0	0	0	0	35	0	31	13	0	112
APPROACH %'s :	0.00%	0.00%	100.00%				0.00%	100.00%	0.00%	70.45%	29.55%	0.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	0	7	0	0	0	0	15	0	9	4	0	35
PEAK HR FACTOR :	0.583			0.000			0.625			0.813			0.729

CONTROL : 3-Way Stop (NB,EB,WB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-003 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Vignes St			N Vignes St			E Commercial St			E Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	0	1	0	0	0	0	1	0	1	1	0	
6:00 AM	0	0	0	0	0	0	0	4	0	0	2	0	6
6:15 AM	1	0	1	0	0	0	0	2	0	0	3	0	7
6:30 AM	1	0	0	0	0	0	0	4	0	0	1	0	6
6:45 AM	0	0	1	0	0	0	0	4	0	0	1	0	6
7:00 AM	0	0	0	0	0	0	0	4	2	0	2	0	8
7:15 AM	0	0	0	0	0	0	0	7	0	6	2	0	15
7:30 AM	1	0	0	0	0	0	0	4	1	2	3	0	11
7:45 AM	0	0	2	0	0	0	0	4	0	0	5	0	11
8:00 AM	0	0	1	0	0	0	0	7	0	2	6	0	16
8:15 AM	1	0	0	0	0	0	0	5	0	0	1	0	7
8:30 AM	0	0	1	0	0	0	0	6	0	2	3	0	12
8:45 AM	2	0	2	0	0	0	0	6	0	0	5	0	15
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	6	0	8	0	0	0	0	57	3	12	34	0	120
APPROACH %'s :	42.86%	0.00%	57.14%				0.00%	95.00%	5.00%	26.09%	73.91%	0.00%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	2	0	3	0	0	0	0	20	1	4	15	0	45
PEAK HR FACTOR :	0.625			0.000			0.750			0.594			0.703

CONTROL : 3-Way Stop (NB,EB,WB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-003 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Vignes St			N Vignes St			E Commercial St			E Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	0	1	0	0	0	0	1	0	1	1	0	
3:00 PM	0	0	0	0	0	0	0	4	0	0	4	0	8
3:15 PM	0	0	0	0	0	0	0	2	0	1	2	0	5
3:30 PM	0	0	3	0	0	0	0	4	0	0	3	0	10
3:45 PM	0	0	1	0	0	0	0	2	1	1	1	0	6
4:00 PM	0	0	1	0	0	0	0	4	0	0	2	0	7
4:15 PM	0	0	2	0	0	0	0	3	0	1	4	0	10
4:30 PM	0	0	1	0	0	0	0	5	0	2	0	0	8
4:45 PM	0	0	4	0	0	0	0	1	0	1	2	0	8
5:00 PM	0	0	2	0	0	0	0	3	0	0	2	0	7
5:15 PM	0	0	0	0	0	0	0	4	0	0	2	0	6
5:30 PM	0	0	4	0	0	0	0	6	0	0	1	0	11
5:45 PM	1	0	4	0	0	0	0	3	0	0	3	0	11
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	0	22	0	0	0	0	41	1	6	26	0	97
APPROACH %'s :	4.35%	0.00%	95.65%				0.00%	97.62%	2.38%	18.75%	81.25%	0.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	1	0	10	0	0	0	0	16	0	0	8	0	35
PEAK HR FACTOR :	0.550			0.000			0.667			0.667			0.795

CONTROL : 3-Way Stop (NB,EB,WB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-004 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	Center St			Center St			E Commercial St			E Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	1	1	0	1	0	0	1	0	
6:00 AM	0	6	0	0	2	3	7	0	0	0	0	0	18
6:15 AM	0	4	0	0	3	5	3	0	0	0	0	0	15
6:30 AM	0	4	0	0	3	3	7	0	0	0	0	0	17
6:45 AM	0	5	0	0	2	3	7	0	1	0	0	0	18
7:00 AM	0	4	0	0	6	6	7	0	1	0	0	0	24
7:15 AM	0	7	0	0	5	6	10	0	0	0	0	0	28
7:30 AM	0	12	0	0	7	2	4	0	0	0	0	0	25
7:45 AM	0	4	0	0	2	4	10	0	1	0	0	0	21
8:00 AM	0	5	0	0	4	5	6	0	2	0	0	0	22
8:15 AM	0	8	0	0	5	7	6	0	1	0	0	0	27
8:30 AM	0	4	0	0	3	3	10	0	0	0	0	0	20
8:45 AM	0	6	0	0	5	4	8	0	0	0	0	0	23
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	69	0	0	47	51	85	0	6	0	0	0	258
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	47.96%	52.04%	93.41%	0.00%	6.59%				
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	29	0	0	18	18	26	0	4	0	0	0	95
PEAK HR FACTOR :		0.604			0.750			0.682			0.000		0.880

CONTROL : 4-Way Stop

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-004

Day: Thursday

BUSES

City: Los Angeles

Date: 11/5/2015

PM

NS/EW Streets:	Center St			Center St			E Commercial St			E Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	1	1	0	1	0	0	1	0	
3:00 PM	0	4	0	0	4	2	4	0	1	0	0	0	15
3:15 PM	0	6	0	0	5	3	7	0	1	0	0	0	22
3:30 PM	0	6	0	0	4	5	5	0	0	0	0	0	20
3:45 PM	0	2	0	0	5	6	6	0	0	0	0	0	19
4:00 PM	0	5	0	0	2	2	2	0	1	0	0	0	12
4:15 PM	0	9	0	0	9	6	7	0	1	0	0	0	32
4:30 PM	0	7	0	0	6	3	3	0	0	0	0	0	19
4:45 PM	0	8	0	0	2	4	7	0	1	0	0	0	22
5:00 PM	0	4	0	0	0	4	8	0	0	0	0	0	16
5:15 PM	0	1	0	0	4	3	4	0	0	0	0	0	12
5:30 PM	0	4	0	0	3	4	2	0	0	0	0	0	13
5:45 PM	0	3	0	0	0	2	8	0	0	0	0	0	13
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	59	0	0	44	44	63	0	5	0	0	0	215
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	50.00%	50.00%	92.65%	0.00%	7.35%				
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	0	20	0	0	12	14	22	0	1	0	0	0	69
PEAK HR FACTOR :		0.625			0.722			0.719			0.000		0.784

CONTROL : 4-Way Stop

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-004 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	Center St			Center St			E Commercial St			E Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	1	1	0	1	0	0	1	0	
6:00 AM	1	1	0	0	1	0	3	1	0	0	1	0	8
6:15 AM	0	2	0	0	4	3	2	0	1	0	1	0	13
6:30 AM	0	4	0	0	2	1	1	0	2	0	0	0	10
6:45 AM	0	3	0	1	5	1	3	0	1	2	0	0	16
7:00 AM	2	6	0	0	0	2	4	0	0	1	0	0	15
7:15 AM	2	4	0	0	4	0	8	1	1	0	4	0	24
7:30 AM	3	10	1	0	3	3	3	1	0	0	1	0	25
7:45 AM	2	5	1	0	3	2	6	0	1	1	1	0	22
8:00 AM	3	4	0	0	6	3	7	0	1	0	0	0	24
8:15 AM	2	5	1	0	5	0	6	1	0	0	1	0	21
8:30 AM	1	6	1	1	6	3	5	0	0	0	0	0	23
8:45 AM	1	7	0	1	10	4	8	0	1	0	0	0	32
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	17	57	4	3	49	22	56	4	8	4	9	0	233
APPROACH %'s :	21.79%	73.08%	5.13%	4.05%	66.22%	29.73%	82.35%	5.88%	11.76%	30.77%	69.23%	0.00%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	10	24	3	0	17	8	22	2	2	1	3	0	92
PEAK HR FACTOR :		0.661			0.694			0.813			0.500		0.920

CONTROL : 4-Way Stop

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-004 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	Center St			Center St			E Commercial St			E Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	1	1	0	1	0	0	1	0	
3:00 PM	0	2	0	0	1	0	2	0	2	0	1	0	8
3:15 PM	0	5	0	0	4	2	0	0	1	0	1	0	13
3:30 PM	1	9	2	0	2	4	6	2	0	1	0	0	27
3:45 PM	0	12	0	0	3	1	1	1	1	2	1	0	22
4:00 PM	0	8	0	0	6	2	7	0	0	1	0	1	25
4:15 PM	1	3	0	0	7	3	4	0	0	0	0	0	18
4:30 PM	1	5	3	0	3	2	6	1	1	0	0	0	22
4:45 PM	1	7	0	0	2	3	4	0	0	0	0	0	17
5:00 PM	0	8	0	0	2	2	3	1	0	0	0	0	16
5:15 PM	0	13	0	0	2	2	6	0	0	0	0	0	23
5:30 PM	0	11	0	0	3	1	7	0	0	1	0	0	23
5:45 PM	0	9	0	0	4	2	10	0	0	0	0	0	25
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	4	92	5	0	39	24	56	5	5	5	3	1	239
APPROACH %'s :	3.96%	91.09%	4.95%	0.00%	61.90%	38.10%	84.85%	7.58%	7.58%	55.56%	33.33%	11.11%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	2	33	3	0	9	9	19	2	1	0	0	0	78
PEAK HR FACTOR :		0.731			0.900			0.688			0.000		0.848

CONTROL : 4-Way Stop

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-005 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Alameda St			N Alameda St			E Temple St			E Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	1	1	2	0	1	2	0	
6:00 AM	0	2	0	0	0	0	0	5	0	0	5	0	12
6:15 AM	0	6	0	0	0	2	1	5	0	0	4	0	18
6:30 AM	0	2	0	0	0	2	1	5	0	0	5	0	15
6:45 AM	0	1	0	0	1	2	1	7	0	0	5	0	17
7:00 AM	0	2	0	0	1	2	1	7	0	0	6	0	19
7:15 AM	0	1	0	0	3	0	1	10	0	0	5	0	20
7:30 AM	0	2	0	0	1	2	2	4	0	0	5	0	16
7:45 AM	1	1	0	0	2	1	2	10	0	0	4	0	21
8:00 AM	0	2	0	0	3	1	2	7	1	0	7	0	23
8:15 AM	0	2	0	0	0	0	4	6	0	0	3	1	16
8:30 AM	0	1	0	0	1	1	2	4	0	0	5	0	14
8:45 AM	0	1	0	0	1	0	1	6	1	0	6	0	16
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	23	0	0	13	13	18	76	2	0	60	1	207
APPROACH %'s :	4.17%	95.83%	0.00%	0.00%	50.00%	50.00%	18.75%	79.17%	2.08%	0.00%	98.36%	1.64%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	1	6	0	0	6	3	10	27	1	0	19	1	74
PEAK HR FACTOR :		0.875			0.563			0.792			0.714		0.804

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-005 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Alameda St			N Alameda St			E Temple St			E Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	1	1	2	0	1	2	0	
3:00 PM	0	0	0	0	2	4	1	5	0	0	5	0	17
3:15 PM	0	0	0	0	0	1	1	6	0	0	5	0	13
3:30 PM	0	1	0	0	0	3	0	3	0	0	4	0	11
3:45 PM	0	1	0	0	0	1	0	8	1	0	10	0	21
4:00 PM	0	0	0	0	1	0	0	5	0	0	5	0	11
4:15 PM	0	1	0	0	1	3	2	4	1	0	7	0	19
4:30 PM	1	1	0	0	1	3	0	2	0	0	6	0	14
4:45 PM	1	0	0	0	2	4	0	6	0	0	6	0	19
5:00 PM	0	1	0	0	1	3	1	7	1	0	6	0	20
5:15 PM	0	0	0	0	1	5	1	4	0	0	8	0	19
5:30 PM	0	1	0	0	0	2	0	2	0	0	3	0	8
5:45 PM	0	0	0	0	0	2	1	3	0	0	3	0	9
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	2	6	0	0	9	31	7	55	3	0	68	0	181
APPROACH %'s :	25.00%	75.00%	0.00%	0.00%	22.50%	77.50%	10.77%	84.62%	4.62%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	400 PM												TOTAL
PEAK HR VOL :	2	2	0	0	5	10	2	17	1	0	24	0	63
PEAK HR FACTOR :		0.500			0.625			0.714			0.857		0.829

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-005 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Alameda St			N Alameda St			E Temple St			E Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	1	1	2	0	1	2	0	
6:00 AM	1	14	0	0	15	1	0	0	1	0	1	0	33
6:15 AM	0	10	0	0	7	1	0	0	1	0	0	0	19
6:30 AM	0	13	0	0	4	0	0	0	1	0	1	0	19
6:45 AM	1	10	0	0	6	2	1	0	2	1	2	0	25
7:00 AM	2	21	0	0	2	2	1	0	0	0	1	0	29
7:15 AM	0	14	0	0	12	1	0	0	1	1	2	2	33
7:30 AM	2	19	0	1	11	1	0	2	0	0	2	0	38
7:45 AM	1	12	0	0	7	1	2	1	0	0	3	0	27
8:00 AM	3	17	0	0	11	3	0	0	0	0	4	0	38
8:15 AM	1	22	0	0	12	4	2	3	0	1	1	0	46
8:30 AM	4	10	0	0	7	2	1	1	1	0	2	1	29
8:45 AM	2	19	0	1	9	4	3	4	0	0	1	0	43
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	17	181	0	2	103	22	10	11	7	3	20	3	379
APPROACH %'s :	8.59%	91.41%	0.00%	1.57%	81.10%	17.32%	35.71%	39.29%	25.00%	11.54%	76.92%	11.54%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	9	61	0	0	37	10	5	5	1	1	10	1	140
PEAK HR FACTOR :		0.761			0.734			0.550			0.750		0.761

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-005 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Alameda St			N Alameda St			E Temple St			E Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	1	1	2	0	1	2	0	
3:00 PM	1	6	0	0	7	4	0	0	4	0	1	0	23
3:15 PM	0	7	0	0	6	1	0	1	0	0	1	0	16
3:30 PM	0	6	0	0	16	0	1	2	5	1	0	0	31
3:45 PM	0	8	0	0	5	1	0	2	1	1	1	0	19
4:00 PM	0	7	0	1	8	0	0	0	2	0	0	0	18
4:15 PM	2	8	0	1	5	1	0	2	4	1	0	1	25
4:30 PM	0	5	0	0	8	2	0	4	0	0	0	0	19
4:45 PM	1	10	0	0	0	1	1	2	0	0	2	0	17
5:00 PM	0	3	0	0	3	0	0	3	1	0	0	0	10
5:15 PM	0	2	0	0	3	2	0	1	6	0	0	0	14
5:30 PM	0	3	0	0	5	0	1	2	4	0	0	0	15
5:45 PM	1	4	0	0	4	2	0	0	4	0	0	0	15
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	5	69	0	2	70	14	3	19	31	3	5	1	222
APPROACH %'s :	6.76%	93.24%	0.00%	2.33%	81.40%	16.28%	5.66%	35.85%	58.49%	33.33%	55.56%	11.11%	
PEAK HR START TIME :	400 PM												TOTAL
PEAK HR VOL :	3	30	0	2	21	4	1	8	6	1	2	1	79
PEAK HR FACTOR :		0.750			0.675			0.625			0.500		0.790

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-006 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Vignes St			N Vignes St			E Temple St			E Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	1	0	1	0	
6:00 AM	0	0	0	0	0	2	5	0	0	0	0	0	7
6:15 AM	0	0	0	0	0	4	4	0	1	0	0	0	9
6:30 AM	1	0	0	0	0	2	3	0	0	0	0	0	6
6:45 AM	0	0	0	0	0	3	7	1	1	0	0	0	12
7:00 AM	1	0	0	0	0	3	6	0	1	0	0	0	11
7:15 AM	0	0	0	0	0	4	7	1	0	0	0	0	12
7:30 AM	1	0	0	0	0	3	4	1	0	0	0	0	9
7:45 AM	0	0	0	0	0	3	8	0	1	0	0	0	12
8:00 AM	1	0	0	0	0	3	5	0	1	0	0	0	10
8:15 AM	0	0	0	0	0	3	6	0	1	0	0	0	10
8:30 AM	0	0	0	0	0	3	4	0	0	0	0	0	7
8:45 AM	1	0	0	0	0	3	4	0	0	0	0	0	8
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	5	0	0	0	0	36	63	3	6	0	0	0	113
APPROACH %'s :	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	87.50%	4.17%	8.33%				
PEAK HR START TIME :	645 AM												TOTAL
PEAK HR VOL :	2	0	0	0	0	13	24	3	2	0	0	0	44
PEAK HR FACTOR :	0.500			0.813			0.806			0.000			0.917

CONTROL : 4-Way Stop

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-006

Day: Thursday

BUSES

City: Los Angeles

Date: 11/5/2015

PM

NS/EW Streets:	N Vignes St			N Vignes St			E Temple St			E Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	1	0	1	0	
3:00 PM	1	0	0	0	0	3	6	0	0	0	0	0	10
3:15 PM	0	0	0	0	0	3	5	0	1	0	1	0	10
3:30 PM	1	0	0	0	0	2	2	0	0	0	0	0	5
3:45 PM	0	0	0	0	0	5	9	0	0	0	0	0	14
4:00 PM	1	1	0	0	0	1	3	0	2	0	0	0	8
4:15 PM	1	0	0	0	0	5	5	0	0	0	1	0	12
4:30 PM	0	1	0	0	0	1	2	0	0	0	0	0	4
4:45 PM	1	0	0	0	0	1	6	0	0	0	1	0	9
5:00 PM	0	0	0	0	0	4	6	0	2	0	0	0	12
5:15 PM	1	0	0	0	0	3	4	0	0	0	0	0	8
5:30 PM	0	0	0	0	0	2	2	0	0	0	0	0	4
5:45 PM	1	0	0	0	0	1	2	0	1	0	0	0	5
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	7	2	0	0	0	31	52	0	6	0	3	0	101
APPROACH %'s :	77.78%	22.22%	0.00%	0.00%	0.00%	100.00%	89.66%	0.00%	10.34%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	2	0	0	0	0	10	14	0	3	0	0	0	29
PEAK HR FACTOR :	0.500			0.625			0.531			0.000			0.604

CONTROL : 4-Way Stop

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-006

Day: Thursday

HEAVY TRUCKS

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	N Vignes St			N Vignes St			E Temple St			E Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	1	0	1	0	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	2
6:30 AM	0	1	0	0	1	0	0	0	0	0	2	0	4
6:45 AM	0	2	0	0	0	0	2	0	0	0	1	0	5
7:00 AM	1	0	0	0	2	0	1	0	0	0	0	0	4
7:15 AM	1	1	0	0	5	1	2	0	2	0	1	0	13
7:30 AM	1	1	0	0	1	2	0	0	2	0	0	0	7
7:45 AM	0	0	1	1	1	1	1	0	1	0	1	0	7
8:00 AM	2	1	0	0	0	1	0	0	1	0	0	0	5
8:15 AM	1	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	6	0	0	0	1	0	1	0	3	0	2	0	13
8:45 AM	0	2	0	0	0	0	3	0	1	0	0	0	6
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	12	9	1	1	12	5	10	0	10	0	7	0	67
APPROACH %'s :	54.55%	40.91%	4.55%	5.56%	66.67%	27.78%	50.00%	0.00%	50.00%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	645 AM												TOTAL
PEAK HR VOL :	3	4	0	0	8	3	5	0	4	0	2	0	29
PEAK HR FACTOR :		0.875			0.458			0.563			0.500		0.558

CONTROL : 4-Way Stop

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-006

Day: Thursday

HEAVY TRUCKS

City: Los Angeles

Date: 11/5/2015

PM

NS/EW Streets:	N Vignes St			N Vignes St			E Temple St			E Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	1	0	1	0	
3:00 PM	2	1	0	0	0	0	0	0	2	0	1	0	6
3:15 PM	5	0	0	0	0	1	0	1	0	0	0	0	7
3:30 PM	0	2	0	0	0	0	2	1	0	0	0	0	5
3:45 PM	0	1	0	0	1	0	3	0	0	0	1	0	6
4:00 PM	0	0	0	0	0	0	0	1	1	0	0	0	2
4:15 PM	0	1	0	0	0	0	0	0	1	0	0	0	2
4:30 PM	0	0	0	1	3	0	2	2	0	0	0	1	9
4:45 PM	0	5	0	0	0	2	0	1	0	0	1	0	9
5:00 PM	0	0	0	0	0	1	1	0	1	0	0	0	3
5:15 PM	2	0	0	0	0	0	0	0	1	0	0	0	3
5:30 PM	1	2	0	0	0	0	1	0	1	0	0	0	5
5:45 PM	0	5	0	0	0	0	0	0	0	0	0	0	5
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	10	17	0	1	4	4	9	6	7	0	3	1	62
APPROACH %'s :	37.04%	62.96%	0.00%	11.11%	44.44%	44.44%	40.91%	27.27%	31.82%	0.00%	75.00%	25.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	3	7	0	0	0	1	2	0	3	0	0	0	16
PEAK HR FACTOR :		0.500			0.250			0.625			0.000		0.800

CONTROL : 4-Way Stop

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-007 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Alameda St			N Alameda St			E 1st St			E 1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	1	1	2	0	0	2	1	
6:00 AM	0	2	0	0	1	0	0	1	0	0	0	0	4
6:15 AM	0	6	0	0	0	0	0	3	0	0	0	0	9
6:30 AM	0	2	0	0	0	0	0	2	0	0	0	0	4
6:45 AM	0	1	0	0	0	1	0	2	1	0	1	0	6
7:00 AM	0	2	0	0	1	0	0	0	0	0	1	0	4
7:15 AM	0	1	0	0	3	0	0	0	0	0	0	0	4
7:30 AM	0	2	0	0	1	0	0	0	0	0	0	0	3
7:45 AM	0	3	0	0	2	0	0	0	0	0	0	0	5
8:00 AM	0	1	0	0	4	0	0	0	0	0	0	0	5
8:15 AM	0	2	0	0	0	0	0	0	0	0	0	0	2
8:30 AM	0	2	0	0	1	0	0	0	0	0	1	0	4
8:45 AM	0	0	0	0	1	1	0	0	0	0	1	0	3
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	24	0	0	14	2	0	8	1	0	4	0	53
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	87.50%	12.50%	0.00%	88.89%	11.11%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	8	0	0	7	0	0	0	0	0	0	0	15
PEAK HR FACTOR :		0.667			0.438			0.000			0.000		0.750

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-007 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Alameda St			N Alameda St			E 1st St			E 1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	1	1	2	0	0	2	1	
3:00 PM	0	0	0	0	1	3	0	3	0	0	0	0	7
3:15 PM	0	0	0	0	0	0	0	2	0	0	0	0	2
3:30 PM	0	2	0	0	0	0	0	2	0	0	0	0	4
3:45 PM	0	1	0	0	1	0	0	3	0	0	0	0	5
4:00 PM	1	0	1	0	0	1	0	2	1	0	0	0	6
4:15 PM	0	1	0	0	2	0	0	3	0	0	0	0	6
4:30 PM	0	1	1	0	0	1	1	1	1	0	0	0	6
4:45 PM	0	0	0	0	1	1	1	2	1	0	0	0	6
5:00 PM	0	0	0	0	1	1	1	3	0	0	0	0	6
5:15 PM	0	0	0	0	0	0	0	2	0	0	0	0	2
5:30 PM	0	0	0	0	0	1	1	1	0	0	0	0	3
5:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	5	2	0	6	8	4	25	3	0	0	0	54
APPROACH %'s :	12.50%	62.50%	25.00%	0.00%	42.86%	57.14%	12.50%	78.13%	9.38%				
PEAK HR START TIME :	400 PM												TOTAL
PEAK HR VOL :	1	2	2	0	3	3	2	8	3	0	0	0	24
PEAK HR FACTOR :		0.625			0.750			0.813			0.000		1.000

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-007

Day: Thursday

HEAVY TRUCKS

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	N Alameda St			N Alameda St			E 1st St			E 1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	1	1	2	0	0	2	1	
6:00 AM	0	14	0	0	15	3	1	1	0	0	0	0	34
6:15 AM	0	10	2	0	5	1	3	0	0	0	2	0	23
6:30 AM	1	12	3	0	6	2	0	2	1	0	1	0	28
6:45 AM	0	7	0	0	5	1	3	0	0	0	4	1	21
7:00 AM	0	23	1	0	4	0	0	0	0	0	2	0	30
7:15 AM	0	16	0	1	11	1	0	2	1	0	5	0	37
7:30 AM	0	19	6	0	12	0	1	0	0	1	5	0	44
7:45 AM	0	15	1	0	6	2	0	1	2	0	3	0	30
8:00 AM	0	18	2	0	11	0	0	0	0	0	1	0	32
8:15 AM	0	24	0	0	10	3	2	0	0	0	2	0	41
8:30 AM	0	13	0	0	9	0	0	0	1	0	2	0	25
8:45 AM	0	17	2	0	7	1	0	1	0	0	1	0	29
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	188	17	1	101	14	10	7	5	1	28	1	374
APPROACH %'s :	0.49%	91.26%	8.25%	0.86%	87.07%	12.07%	45.45%	31.82%	22.73%	3.33%	93.33%	3.33%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	76	9	0	39	5	3	1	2	1	11	0	147
PEAK HR FACTOR :		0.850			0.846			0.500			0.500		0.835

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-007 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Alameda St			N Alameda St			E 1st St			E 1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	1	1	2	0	0	2	1	
3:00 PM	0	3	1	0	10	2	2	0	2	0	1	1	22
3:15 PM	2	5	2	0	5	0	1	3	1	0	0	0	19
3:30 PM	0	7	0	2	12	5	1	1	0	0	1	0	29
3:45 PM	0	4	1	0	4	0	1	0	0	0	3	0	13
4:00 PM	1	8	0	0	4	5	2	1	0	0	1	0	22
4:15 PM	2	5	0	0	9	2	0	1	0	0	2	0	21
4:30 PM	1	7	0	0	7	1	1	0	0	0	0	0	17
4:45 PM	0	5	3	0	1	1	4	0	0	0	0	0	14
5:00 PM	1	2	2	0	4	1	0	0	0	0	1	0	11
5:15 PM	1	4	0	0	8	0	0	3	0	0	0	0	16
5:30 PM	0	1	0	0	9	0	0	1	1	0	0	0	12
5:45 PM	0	8	1	0	10	0	1	1	0	0	1	0	22
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	8	59	10	2	83	17	13	11	4	0	10	1	218
APPROACH %'s :	10.39%	76.62%	12.99%	1.96%	81.37%	16.67%	46.43%	39.29%	14.29%	0.00%	90.91%	9.09%	
PEAK HR START TIME :	400 PM												TOTAL
PEAK HR VOL :	4	25	3	0	21	9	7	2	0	0	3	0	74
PEAK HR FACTOR :		0.889			0.682			0.563			0.375		0.841

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-008 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Vignes St			N Vignes St			E 1st St			E 1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0.5	1.5	1	0.5	1	0.5	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	1
6:30 AM	0	0	0	0	0	0	0	0	0	0	1	1	2
6:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	1
7:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	1
7:45 AM	0	0	0	1	0	0	0	1	0	0	0	0	2
8:00 AM	0	0	0	1	0	0	0	0	0	0	0	1	2
8:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	2	1	3
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	5	0	0	0	1	0	0	5	5	16
APPROACH %'s :				100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	50.00%	50.00%	
PEAK HR START TIME :	645 AM												TOTAL
PEAK HR VOL :	0	0	0	1	0	0	0	0	0	0	1	2	4
PEAK HR FACTOR :		0.000			0.250			0.000			0.750		1.000

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-008

Day: Thursday

BUSES

City: Los Angeles

Date: 11/5/2015

PM

NS/EW Streets:	N Vignes St			N Vignes St			E 1st St			E 1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0.5	1.5	1	0.5	1	0.5	
3:00 PM	0	0	0	0	0	0	0	1	0	0	0	1	2
3:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	1
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	1
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
4:00 PM	0	0	0	1	0	0	1	0	0	0	0	1	3
4:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	2
4:30 PM	0	0	0	0	0	0	1	0	0	0	0	1	2
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	2	3
5:00 PM	0	0	0	2	0	0	0	1	0	0	0	0	3
5:15 PM	0	0	0	0	0	0	0	1	0	0	0	1	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	1	0	0	0	0	0	0	0	1	2
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	5	0	0	2	4	1	0	0	9	21
APPROACH %'s :				100.00%	0.00%	0.00%	28.57%	57.14%	14.29%	0.00%	0.00%	100.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	0	0	3	0	0	0	2	0	0	0	2	7
PEAK HR FACTOR :	0.000			0.375			0.500			0.500			0.583

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-008 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Vignes St			N Vignes St			E 1st St			E 1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0.5	1.5	1	0.5	1	0.5	
6:00 AM	0	0	0	0	0	0	0	1	0	0	2	0	3
6:15 AM	0	0	0	0	1	0	0	2	0	0	2	1	6
6:30 AM	0	0	0	0	0	1	0	3	0	0	2	1	7
6:45 AM	0	0	0	0	0	0	1	2	0	0	4	3	10
7:00 AM	0	0	0	0	3	0	0	1	1	2	1	2	10
7:15 AM	1	1	1	2	0	1	0	1	1	1	6	0	15
7:30 AM	0	0	0	2	2	1	0	5	1	0	3	1	15
7:45 AM	0	0	0	1	0	0	0	2	0	0	3	2	8
8:00 AM	0	0	2	1	0	1	0	2	0	3	0	4	13
8:15 AM	1	1	1	0	0	0	1	1	0	2	1	0	8
8:30 AM	0	0	0	0	1	0	0	0	2	2	4	4	13
8:45 AM	0	1	1	0	1	0	1	1	0	1	0	1	7
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	2	3	5	6	8	4	3	21	5	11	28	19	115
APPROACH %'s :	20.00%	30.00%	50.00%	33.33%	44.44%	22.22%	10.34%	72.41%	17.24%	18.97%	48.28%	32.76%	
PEAK HR START TIME :	645 AM												TOTAL
PEAK HR VOL :	1	1	1	4	5	2	1	9	3	3	14	6	50
PEAK HR FACTOR :		0.250			0.550			0.542			0.821		0.833

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-008 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Vignes St			N Vignes St			E 1st St			E 1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0.5	1.5	1	0.5	1	0.5	
3:00 PM	0	1	0	0	1	0	1	1	0	0	2	1	7
3:15 PM	1	0	1	0	0	0	3	3	1	0	0	2	11
3:30 PM	0	0	0	0	0	0	1	0	2	0	0	1	4
3:45 PM	0	0	0	0	0	0	1	1	0	0	3	0	5
4:00 PM	0	0	0	0	0	0	0	1	0	0	2	1	4
4:15 PM	0	1	0	0	0	0	0	1	0	0	2	0	4
4:30 PM	0	0	0	0	1	0	0	1	0	1	0	0	3
4:45 PM	0	3	1	0	0	0	2	0	1	0	0	0	7
5:00 PM	0	0	1	0	0	0	0	0	1	0	1	0	3
5:15 PM	0	2	1	0	0	0	2	1	0	1	0	0	7
5:30 PM	0	1	0	0	1	0	1	0	0	0	0	1	4
5:45 PM	0	3	0	0	0	0	1	1	0	0	1	0	6
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	11	4	0	3	0	12	10	5	2	11	6	65
APPROACH %'s :	6.25%	68.75%	25.00%	0.00%	100.00%	0.00%	44.44%	37.04%	18.52%	10.53%	57.89%	31.58%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	6	2	0	1	0	4	2	1	1	2	1	20
PEAK HR FACTOR :		0.667			0.250			0.583			1.000		0.714

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-020

Day: Thursday

BUSES

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	N Alameda St			N Alameda St			Arcadia St/El Monte Busway			Arcadia St/El Monte Busway			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	0	3	0	0	0	0	1.5	2	0.5	
6:00 AM	0	6	0	0	0	0	0	0	0	0	11	0	17
6:15 AM	0	10	0	0	2	1	0	0	0	0	18	0	31
6:30 AM	0	8	0	0	0	0	0	0	0	2	14	2	26
6:45 AM	0	7	0	0	1	0	0	0	0	2	18	0	28
7:00 AM	0	5	0	0	1	0	0	0	0	3	20	2	31
7:15 AM	0	6	0	0	0	0	0	0	0	1	22	1	30
7:30 AM	0	12	0	0	1	0	0	0	0	1	15	1	30
7:45 AM	1	10	0	0	2	0	0	0	0	0	18	0	31
8:00 AM	0	7	0	0	2	0	0	0	0	1	22	0	32
8:15 AM	0	11	0	0	0	0	0	0	0	0	15	3	29
8:30 AM	0	12	0	0	1	0	0	0	0	1	14	1	29
8:45 AM	0	6	0	0	1	0	0	0	0	1	13	1	22
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	100	0	0	11	1	0	0	0	12	200	11	336
APPROACH %'s :	0.99%	99.01%	0.00%	0.00%	91.67%	8.33%				5.38%	89.69%	4.93%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	1	40	0	0	5	0	0	0	0	2	69	4	121
PEAK HR FACTOR :		0.854			0.625			0.000			0.815		0.945

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-020

Day: Thursday

BUSES

City: Los Angeles

Date: 11/5/2015

PM

NS/EW Streets:	N Alameda St			N Alameda St			Arcadia St/El Monte Busway			Arcadia St/El Monte Busway			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	0	3	0	0	0	0	1.5	2	0.5	
3:00 PM	0	4	0	0	2	0	0	0	0	3	5	3	17
3:15 PM	0	10	0	0	1	0	0	0	0	0	9	1	21
3:30 PM	0	9	0	0	2	0	0	0	0	1	15	2	29
3:45 PM	0	8	0	0	1	1	0	0	0	0	14	0	24
4:00 PM	0	9	0	0	1	0	0	0	0	1	11	1	23
4:15 PM	0	16	0	0	1	0	0	0	0	1	14	2	34
4:30 PM	0	19	0	0	0	1	0	0	0	3	12	1	36
4:45 PM	0	14	0	0	2	0	0	0	0	3	15	0	34
5:00 PM	0	17	0	0	1	0	0	0	0	3	11	2	34
5:15 PM	0	17	0	0	2	0	0	0	0	4	15	0	38
5:30 PM	0	18	0	0	0	1	0	0	0	2	12	0	33
5:45 PM	0	18	0	0	1	1	0	0	0	0	10	2	32
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	159	0	0	14	4	0	0	0	21	143	14	355
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	77.78%	22.22%				11.80%	80.34%	7.87%	
PEAK HR START TIME :	415 PM												TOTAL
PEAK HR VOL :	0	66	0	0	4	1	0	0	0	10	52	5	138
PEAK HR FACTOR :		0.868			0.625			0.000			0.931		0.958

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-020 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Alameda St			N Alameda St			Arcadia St/El Monte Busway			Arcadia St/El Monte Busway			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	0	3	0	0	0	0	1.5	2	0.5	
6:00 AM	0	14	0	0	8	0	0	0	0	4	6	3	35
6:15 AM	0	11	0	0	7	0	0	0	0	1	2	1	22
6:30 AM	0	12	0	0	7	0	0	0	0	0	6	4	29
6:45 AM	0	10	0	0	4	0	0	0	0	1	9	1	25
7:00 AM	1	23	0	0	6	0	0	0	0	0	6	4	40
7:15 AM	1	18	0	0	8	0	0	0	0	4	8	6	45
7:30 AM	1	23	0	0	14	1	0	0	0	0	5	3	47
7:45 AM	2	21	0	0	11	1	0	0	0	0	6	4	45
8:00 AM	2	15	0	0	8	0	0	0	0	1	4	1	31
8:15 AM	4	17	0	0	13	1	0	0	0	2	2	3	42
8:30 AM	1	22	0	0	12	1	0	0	0	0	3	3	42
8:45 AM	2	21	0	0	9	2	0	0	0	5	5	0	44
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	14	207	0	0	107	6	0	0	0	18	62	33	447
APPROACH %'s :	6.33%	93.67%	0.00%	0.00%	94.69%	5.31%				15.93%	54.87%	29.20%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	9	75	0	0	44	3	0	0	0	3	15	11	160
PEAK HR FACTOR :		0.913			0.839			0.000			0.725		0.889

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-020 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Alameda St			N Alameda St			Arcadia St/El Monte Busway			Arcadia St/El Monte Busway			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	0	3	0	0	0	0	1.5	2	0.5	
3:00 PM	0	3	0	0	8	1	0	0	0	0	0	0	12
3:15 PM	1	7	0	0	9	0	0	0	0	2	2	1	22
3:30 PM	0	7	0	0	6	0	0	0	0	4	2	4	23
3:45 PM	0	6	0	0	4	0	0	0	0	2	0	3	15
4:00 PM	0	7	0	0	6	0	0	0	0	0	0	2	15
4:15 PM	0	10	0	0	5	0	0	0	0	1	1	5	22
4:30 PM	0	8	0	0	4	1	0	0	0	1	1	0	15
4:45 PM	0	11	0	0	2	0	0	0	0	3	2	0	18
5:00 PM	0	7	0	0	5	0	0	0	0	1	3	0	16
5:15 PM	0	3	0	0	3	0	0	0	0	0	5	2	13
5:30 PM	0	5	0	0	5	0	0	0	0	0	3	1	14
5:45 PM	0	9	0	0	4	1	0	0	0	1	2	1	18
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	83	0	0	61	3	0	0	0	15	21	19	203
APPROACH %'s :	1.19%	98.81%	0.00%	0.00%	95.31%	4.69%				27.27%	38.18%	34.55%	
PEAK HR START TIME :	415 PM												TOTAL
PEAK HR VOL :	0	36	0	0	16	1	0	0	0	6	7	5	71
PEAK HR FACTOR :		0.818			0.850			0.000			0.643		0.807

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-010 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Alameda St			N Alameda St			N Los Angeles St (South)			N Los Angeles St (South)			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	1	3	0	1.5	1	0.5	0	0	0	
6:00 AM	0	4	0	0	0	0	2	0	0	0	0	0	6
6:15 AM	0	8	0	0	3	0	3	0	0	0	0	0	14
6:30 AM	0	2	0	0	1	0	2	0	0	0	0	0	5
6:45 AM	0	3	0	0	2	0	3	0	0	0	0	0	8
7:00 AM	0	2	0	0	2	0	3	0	0	0	0	0	7
7:15 AM	0	1	0	0	1	0	3	0	0	0	0	0	5
7:30 AM	0	2	0	0	1	0	3	0	0	0	0	0	6
7:45 AM	0	1	1	0	2	0	2	0	0	0	0	0	6
8:00 AM	0	0	0	0	3	0	4	0	0	0	0	0	7
8:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	1
8:30 AM	0	3	0	0	2	0	3	0	0	0	0	0	8
8:45 AM	0	1	0	0	1	0	3	0	0	0	0	0	5
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	27	1	0	18	0	32	0	0	0	0	0	78
APPROACH %'s :	0.00%	96.43%	3.57%	0.00%	100.00%	0.00%	100.00%	0.00%	0.00%				
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	0	4	0	0	6	0	11	0	0	0	0	0	21
PEAK HR FACTOR :		0.333			0.500			0.688			0.000		0.656

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-010 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Alameda St			N Alameda St			N Los Angeles St (South)			N Los Angeles St (South)			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	1	3	0	1.5	1	0.5	0	0	0	
3:00 PM	0	2	0	0	2	0	2	0	0	0	0	0	6
3:15 PM	0	0	0	0	1	0	1	1	0	0	0	0	3
3:30 PM	0	1	0	0	3	0	3	0	0	0	0	0	7
3:45 PM	0	0	0	0	2	0	3	0	0	0	0	0	5
4:00 PM	0	0	0	0	1	0	3	1	0	0	0	0	5
4:15 PM	0	0	0	0	1	0	3	0	0	0	0	0	4
4:30 PM	0	3	0	0	1	0	1	0	0	0	0	0	5
4:45 PM	0	0	0	0	3	0	2	0	0	0	0	0	5
5:00 PM	0	0	0	0	1	0	4	0	0	0	0	0	5
5:15 PM	0	2	0	0	2	0	2	0	0	0	0	0	6
5:30 PM	0	0	0	0	1	0	1	0	0	0	0	0	2
5:45 PM	0	0	0	0	2	0	1	0	0	0	0	0	3
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	8	0	0	20	0	26	2	0	0	0	0	56
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	92.86%	7.14%	0.00%				

PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	2	0	0	6	0	8	0	0	0	0	0	16
PEAK HR FACTOR :		0.250			0.750			0.500			0.000		0.667

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-010 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Alameda St			N Alameda St			N Los Angeles St (South)			N Los Angeles St (South)			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	1	3	0	1.5	1	0.5	0	0	0	
6:00 AM	0	9	0	0	42	0	0	0	0	0	0	0	51
6:15 AM	0	6	0	0	35	0	0	0	0	0	0	0	41
6:30 AM	0	8	0	0	17	0	0	0	0	0	0	0	25
6:45 AM	0	7	0	0	11	0	1	0	0	0	0	0	19
7:00 AM	0	9	0	0	9	0	0	0	0	0	0	0	18
7:15 AM	0	10	1	0	10	0	1	0	0	0	0	0	22
7:30 AM	0	17	0	0	18	0	1	0	0	0	0	0	36
7:45 AM	0	17	0	0	11	0	1	0	0	0	0	0	29
8:00 AM	0	11	0	0	13	0	0	0	0	0	0	0	24
8:15 AM	0	12	1	0	19	0	0	0	0	0	0	0	32
8:30 AM	0	20	0	1	11	0	0	1	0	0	0	0	33
8:45 AM	0	18	0	1	16	0	2	0	0	0	0	0	37
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	144	2	2	212	0	6	1	0	0	0	0	367
APPROACH %'s :	0.00%	98.63%	1.37%	0.93%	99.07%	0.00%	85.71%	14.29%	0.00%				
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	0	61	1	2	59	0	2	1	0	0	0	0	126
PEAK HR FACTOR :		0.775			0.803			0.375			0.000		0.851

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-010 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Alameda St			N Alameda St			N Los Angeles St (South)			N Los Angeles St (South)			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	1	3	0	1.5	1	0.5	0	0	0	
3:00 PM	0	1	0	0	15	0	2	0	0	0	0	0	18
3:15 PM	0	3	0	0	14	0	0	0	0	0	0	0	17
3:30 PM	0	4	0	0	6	0	1	0	0	0	0	0	11
3:45 PM	0	4	0	0	4	0	2	0	0	0	0	0	10
4:00 PM	0	6	0	0	9	0	1	0	0	0	0	0	16
4:15 PM	0	12	0	0	5	0	0	0	0	0	0	0	17
4:30 PM	0	4	0	0	7	0	0	0	1	0	0	0	12
4:45 PM	0	7	0	0	3	0	2	0	0	0	0	0	12
5:00 PM	0	5	0	0	6	0	4	0	0	0	0	0	15
5:15 PM	0	4	0	0	4	0	2	0	0	0	0	0	10
5:30 PM	0	3	0	0	7	0	3	0	0	0	0	0	13
5:45 PM	0	5	0	0	9	0	1	0	0	0	0	0	15
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	58	0	0	89	0	18	0	1	0	0	0	166
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	94.74%	0.00%	5.26%				
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	17	0	0	26	0	10	0	0	0	0	0	53
PEAK HR FACTOR :		0.850			0.722			0.625			0.000		0.883

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-011 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Alameda St			N Alameda St			East Cesar E Chavez Ave			East Cesar E Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	1	2	0	1	2	1	1	3	0	
6:00 AM	4	3	1	1	0	0	0	8	0	1	14	0	32
6:15 AM	1	6	1	0	5	1	0	6	0	2	12	0	34
6:30 AM	3	3	0	0	4	1	0	8	0	0	20	1	40
6:45 AM	0	4	3	1	4	1	0	10	0	1	17	0	41
7:00 AM	1	2	2	0	3	1	0	15	1	1	17	1	44
7:15 AM	1	2	0	1	4	1	0	15	0	1	11	1	37
7:30 AM	1	2	3	0	2	0	0	8	1	0	16	2	35
7:45 AM	0	1	1	1	3	1	0	8	1	1	11	0	28
8:00 AM	1	2	1	0	3	2	0	15	1	2	12	1	40
8:15 AM	0	1	1	1	3	1	0	12	0	0	14	0	33
8:30 AM	0	2	4	0	0	0	0	13	2	1	13	1	36
8:45 AM	1	1	1	1	4	0	0	13	0	2	15	0	38
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	13	29	18	6	35	9	0	131	6	12	172	7	438
APPROACH %'s :	21.67%	48.33%	30.00%	12.00%	70.00%	18.00%	0.00%	95.62%	4.38%	6.28%	90.05%	3.66%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	2	6	6	2	11	4	0	43	3	3	53	3	136
PEAK HR FACTOR :		0.583			0.850			0.719			0.819		0.850

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-011 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Alameda St			N Alameda St			East Cesar E Chavez Ave			East Cesar E Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	1	2	0	1	2	1	1	3	0	
3:00 PM	0	3	1	0	1	1	0	10	0	1	12	1	30
3:15 PM	0	2	1	2	3	1	0	7	0	0	10	1	27
3:30 PM	1	3	1	0	3	0	0	10	0	1	9	2	30
3:45 PM	0	1	1	1	3	1	0	10	1	3	9	1	31
4:00 PM	2	3	1	1	3	3	2	15	0	0	10	1	41
4:15 PM	0	1	0	2	4	0	1	12	2	1	12	0	35
4:30 PM	0	1	0	0	2	2	0	12	0	2	9	1	29
4:45 PM	3	2	1	0	2	1	1	15	0	1	8	0	34
5:00 PM	0	2	0	1	3	1	0	16	1	4	15	1	44
5:15 PM	0	2	1	1	3	0	0	13	0	2	9	2	33
5:30 PM	0	1	1	0	3	2	0	11	0	0	11	2	31
5:45 PM	0	1	0	0	3	0	0	13	0	3	5	0	25
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	6	22	8	8	33	12	4	144	4	18	119	12	390
APPROACH %'s :	16.67%	61.11%	22.22%	15.09%	62.26%	22.64%	2.63%	94.74%	2.63%	12.08%	79.87%	8.05%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	6	2	2	12	3	0	53	1	9	40	5	133
PEAK HR FACTOR :		0.667			0.850			0.794			0.675		0.756

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-011 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Alameda St			N Alameda St			East Cesar E Chavez Ave			East Cesar E Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	1	2	0	1	2	1	1	3	0	
6:00 AM	3	6	1	2	41	1	0	2	0	0	2	3	61
6:15 AM	1	4	1	0	36	4	0	2	0	1	3	0	52
6:30 AM	2	3	1	2	15	1	1	4	0	0	3	0	32
6:45 AM	1	7	1	0	12	2	3	3	1	0	1	4	35
7:00 AM	0	9	1	0	5	1	0	2	0	0	6	0	24
7:15 AM	1	7	1	1	10	0	0	5	2	0	6	1	34
7:30 AM	1	14	2	1	13	1	1	4	1	2	2	0	42
7:45 AM	2	12	3	0	9	0	0	4	1	2	4	1	38
8:00 AM	2	8	1	0	12	1	1	6	2	0	3	0	36
8:15 AM	1	10	2	0	16	0	2	3	1	1	7	1	44
8:30 AM	2	15	0	0	16	0	1	5	1	0	4	0	44
8:45 AM	4	18	0	1	12	0	2	2	2	0	1	4	46
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	20	113	14	7	197	11	11	42	11	6	42	14	488
APPROACH %'s :	13.61%	76.87%	9.52%	3.26%	91.63%	5.12%	17.19%	65.63%	17.19%	9.68%	67.74%	22.58%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	6	44	8	1	50	2	4	17	5	5	16	2	160
PEAK HR FACTOR :		0.853			0.828			0.722			0.639		0.909

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-011 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Alameda St			N Alameda St			East Cesar E Chavez Ave			East Cesar E Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	1	2	0	1	2	1	1	3	0	
3:00 PM	1	10	0	0	17	1	1	8	1	0	2	0	41
3:15 PM	1	7	2	0	13	0	1	4	0	0	1	0	29
3:30 PM	0	6	0	2	8	0	1	5	1	1	1	0	25
3:45 PM	0	4	1	1	6	0	2	6	0	0	0	1	21
4:00 PM	1	7	4	1	6	1	1	4	0	1	2	0	28
4:15 PM	0	6	0	0	5	2	0	7	1	0	1	1	23
4:30 PM	0	5	0	0	7	1	0	7	0	0	0	2	22
4:45 PM	0	3	1	1	1	0	2	3	0	1	0	0	12
5:00 PM	0	3	0	0	3	0	1	6	2	1	0	0	16
5:15 PM	0	2	0	1	5	3	2	4	0	0	1	1	19
5:30 PM	1	3	1	0	2	0	0	4	1	1	0	0	13
5:45 PM	0	6	0	0	2	0	0	8	0	0	1	0	17
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	4	62	9	6	75	8	11	66	6	5	9	5	266
APPROACH %'s :	5.33%	82.67%	12.00%	6.74%	84.27%	8.99%	13.25%	79.52%	7.23%	26.32%	47.37%	26.32%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	1	14	1	1	12	3	3	22	3	2	2	1	65
PEAK HR FACTOR :		0.667			0.444			0.778			0.625		0.855

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-012 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Alameda St			N Alameda St			N Vignes St_Alpine St			N Vignes St_Alpine St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	3	0	1	2	0	1	2	1	
6:00 AM	0	2	0	0	2	2	1	0	0	0	0	0	7
6:15 AM	0	4	0	3	2	2	2	0	0	0	0	1	14
6:30 AM	0	2	0	2	1	3	2	0	0	0	0	1	11
6:45 AM	0	3	0	1	4	2	1	0	0	0	0	4	15
7:00 AM	0	2	0	1	2	4	2	1	0	0	1	0	13
7:15 AM	0	1	0	0	2	2	2	0	0	0	0	2	9
7:30 AM	0	3	0	0	0	3	2	0	0	0	0	0	8
7:45 AM	0	0	0	0	2	2	2	0	0	0	2	0	8
8:00 AM	0	1	0	0	2	1	1	0	0	0	0	3	8
8:15 AM	0	2	0	0	3	4	2	0	0	0	1	1	13
8:30 AM	0	2	0	0	0	2	1	0	0	0	0	0	5
8:45 AM	0	1	0	0	0	2	2	0	0	0	0	0	5
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	23	0	7	20	29	20	1	0	0	4	12	116
APPROACH %'s :	0.00%	100.00%	0.00%	12.50%	35.71%	51.79%	95.24%	4.76%	0.00%	0.00%	25.00%	75.00%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	6	0	0	7	10	7	0	0	0	3	4	37
PEAK HR FACTOR :		0.500			0.607			0.875			0.583		0.712

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-012 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Alameda St			N Alameda St			N Vignes St_Alpine St			N Vignes St_Alpine St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	3	0	1	2	0	1	2	1	
3:00 PM	0	6	0	0	4	1	2	0	0	0	0	1	14
3:15 PM	0	1	0	0	2	2	1	0	0	0	0	2	8
3:30 PM	0	8	0	1	2	1	2	0	0	0	0	0	14
3:45 PM	0	1	0	0	2	3	1	0	0	0	0	2	9
4:00 PM	0	3	0	1	3	2	2	0	0	0	1	0	12
4:15 PM	0	3	0	0	2	1	1	0	0	0	0	2	9
4:30 PM	0	4	0	1	1	3	2	0	0	0	1	0	12
4:45 PM	0	2	0	0	1	1	0	0	0	0	0	0	4
5:00 PM	0	3	0	0	2	2	3	0	0	0	0	0	10
5:15 PM	0	1	0	0	1	3	1	0	0	0	0	2	8
5:30 PM	0	4	0	1	2	2	1	0	0	0	0	0	10
5:45 PM	1	6	0	0	1	1	0	0	0	0	0	1	10
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	42	0	4	23	22	16	0	0	0	2	10	120
APPROACH %'s :	2.33%	97.67%	0.00%	8.16%	46.94%	44.90%	100.00%	0.00%	0.00%	0.00%	16.67%	83.33%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	1	14	0	1	6	8	5	0	0	0	0	3	38
PEAK HR FACTOR :		0.536			0.750			0.417			0.375		0.950

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-012 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Alameda St			N Alameda St			N Vignes St_Alpine St			N Vignes St_Alpine St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	3	0	1	2	0	1	2	1	
6:00 AM	1	6	0	0	38	2	0	0	0	0	0	0	47
6:15 AM	0	1	1	0	33	0	0	0	0	1	0	1	37
6:30 AM	0	1	0	0	14	1	1	2	1	0	2	0	22
6:45 AM	1	6	0	1	7	0	0	0	0	2	4	2	23
7:00 AM	1	4	0	0	2	0	0	1	0	0	4	1	13
7:15 AM	0	7	0	0	7	1	0	1	1	1	2	0	20
7:30 AM	1	5	0	0	6	0	1	1	0	0	5	4	23
7:45 AM	0	7	0	1	3	0	0	1	0	0	3	1	16
8:00 AM	1	3	1	0	6	0	1	1	0	0	5	0	18
8:15 AM	1	6	1	1	4	0	1	1	0	2	3	1	21
8:30 AM	0	13	0	1	9	1	2	2	0	0	5	0	33
8:45 AM	1	17	0	0	6	1	0	2	0	1	6	0	34
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	7	76	3	4	135	6	6	12	2	7	39	10	307
APPROACH %'s :	8.14%	88.37%	3.49%	2.76%	93.10%	4.14%	30.00%	60.00%	10.00%	12.50%	69.64%	17.86%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	3	21	2	2	19	0	3	4	0	2	16	6	78
PEAK HR FACTOR :		0.813			0.875			0.875			0.667		0.848

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-012 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Alameda St			N Alameda St			N Vignes St_Alpine St			N Vignes St_Alpine St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	3	0	1	2	0	1	2	1	
3:00 PM	1	2	0	0	7	0	1	1	0	0	0	0	12
3:15 PM	1	4	0	1	6	0	0	1	1	2	3	2	21
3:30 PM	0	2	0	0	1	0	0	2	0	1	0	1	7
3:45 PM	0	8	0	0	0	0	2	0	0	0	4	1	15
4:00 PM	0	4	0	2	6	0	1	3	0	0	5	2	23
4:15 PM	0	10	1	2	4	0	1	2	0	0	1	1	22
4:30 PM	0	10	0	0	2	0	1	1	0	0	1	3	18
4:45 PM	0	6	0	0	2	0	2	0	0	0	1	3	14
5:00 PM	0	7	0	0	3	0	2	1	0	0	1	0	14
5:15 PM	0	5	0	0	2	0	0	3	0	2	1	0	13
5:30 PM	0	9	0	1	1	0	0	2	1	0	0	2	16
5:45 PM	0	5	2	0	0	0	0	0	1	1	0	1	10
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	2	72	3	6	34	0	10	16	3	6	17	16	185
APPROACH %'s :	2.60%	93.51%	3.90%	15.00%	85.00%	0.00%	34.48%	55.17%	10.34%	15.38%	43.59%	41.03%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	26	2	1	6	0	2	6	2	3	2	3	53
PEAK HR FACTOR :		0.778			0.583			0.833			0.667		0.828

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-013 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Vignes St			N Vignes St			East Cesar E Chavez Ave			East Cesar E Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	0	1	2	1	1	2	1	
6:00 AM	7	5	1	0	1	0	0	7	3	4	9	0	37
6:15 AM	7	1	0	0	4	0	1	3	3	4	7	0	30
6:30 AM	10	0	2	0	1	2	1	5	1	6	9	0	37
6:45 AM	6	2	0	1	5	0	3	6	6	3	11	0	43
7:00 AM	9	0	0	6	5	3	1	5	10	5	9	0	53
7:15 AM	5	1	0	3	5	1	4	7	6	2	9	0	43
7:30 AM	6	1	3	1	2	2	1	5	5	0	6	1	33
7:45 AM	6	1	2	4	2	0	0	5	4	2	8	0	34
8:00 AM	6	1	1	2	1	3	3	6	8	2	9	1	43
8:15 AM	5	1	2	1	3	0	2	4	8	2	7	1	36
8:30 AM	3	3	1	1	1	2	1	9	6	0	9	0	36
8:45 AM	6	1	4	0	0	0	1	7	8	1	9	1	38
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	76	17	16	19	30	13	18	69	68	31	102	4	463
APPROACH %'s :	69.72%	15.60%	14.68%	30.65%	48.39%	20.97%	11.61%	44.52%	43.87%	22.63%	74.45%	2.92%	
PEAK HR START TIME :	700 AM												TOTAL
PEAK HR VOL :	26	3	5	14	14	6	6	22	25	9	32	1	163
PEAK HR FACTOR :		0.850			0.607			0.779			0.750		0.769

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-013 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Vignes St			N Vignes St			East Cesar E Chavez Ave			East Cesar E Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	0	1	2	1	1	2	1	
3:00 PM	5	2	0	1	0	2	1	8	3	2	4	0	28
3:15 PM	7	1	1	1	2	1	2	5	6	3	7	0	36
3:30 PM	5	1	2	0	0	1	0	5	6	3	4	0	27
3:45 PM	4	2	0	1	1	0	1	9	2	1	8	1	30
4:00 PM	6	0	0	0	0	2	2	9	6	2	7	0	34
4:15 PM	7	2	0	2	1	2	0	6	8	0	2	0	30
4:30 PM	5	0	1	0	2	2	1	6	8	0	6	0	31
4:45 PM	9	1	2	0	0	1	0	8	5	0	6	0	32
5:00 PM	6	0	0	0	2	1	3	5	4	2	1	1	25
5:15 PM	4	3	2	0	1	1	1	6	11	1	6	0	36
5:30 PM	4	0	0	0	0	1	2	4	6	0	7	0	24
5:45 PM	6	2	0	0	2	1	1	8	3	0	4	1	28
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	68	14	8	5	11	15	14	79	68	14	62	3	361
APPROACH %'s :	75.56%	15.56%	8.89%	16.13%	35.48%	48.39%	8.70%	49.07%	42.24%	17.72%	78.48%	3.80%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	24	4	5	0	5	5	5	25	28	3	19	1	124
PEAK HR FACTOR :		0.688			0.625			0.806			0.821		0.861

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-013 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Vignes St			N Vignes St			East Cesar E Chavez Ave			East Cesar E Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	0	1	2	1	1	2	1	
6:00 AM	2	1	0	4	3	0	0	3	2	0	3	0	18
6:15 AM	0	0	2	3	6	1	0	2	1	1	4	3	23
6:30 AM	1	3	0	1	2	0	2	2	2	1	3	1	18
6:45 AM	0	5	1	3	6	0	0	0	1	2	7	4	29
7:00 AM	4	5	2	4	4	0	0	0	2	0	3	0	24
7:15 AM	1	2	2	1	5	0	1	5	2	2	6	0	27
7:30 AM	2	10	3	1	2	3	0	2	2	0	1	2	28
7:45 AM	1	5	1	0	4	3	1	3	1	3	4	2	28
8:00 AM	1	6	2	0	4	0	0	5	3	3	2	5	31
8:15 AM	2	6	3	3	4	0	0	2	4	2	6	2	34
8:30 AM	1	14	0	2	8	0	0	2	2	2	1	4	36
8:45 AM	1	5	2	3	12	1	0	2	2	2	2	1	33
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	16	62	18	25	60	8	4	28	24	18	42	24	329
APPROACH %'s :	16.67%	64.58%	18.75%	26.88%	64.52%	8.60%	7.14%	50.00%	42.86%	21.43%	50.00%	28.57%	
PEAK HR START TIME :	700 AM												TOTAL
PEAK HR VOL :	8	22	8	6	15	6	2	10	7	5	14	4	107
PEAK HR FACTOR :		0.633			0.844			0.594			0.639		0.955

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-013 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Vignes St			N Vignes St			East Cesar E Chavez Ave			East Cesar E Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	0	1	2	1	1	2	1	
3:00 PM	1	4	1	2	1	0	0	4	3	0	1	1	18
3:15 PM	0	13	1	0	4	0	0	4	3	1	1	2	29
3:30 PM	1	11	2	1	3	0	0	5	2	0	0	2	27
3:45 PM	0	7	0	0	5	0	0	3	1	1	2	0	19
4:00 PM	0	18	1	2	5	0	2	8	4	0	3	1	44
4:15 PM	2	5	0	1	6	0	0	5	3	1	1	1	25
4:30 PM	1	9	1	0	3	0	0	1	1	1	0	2	19
4:45 PM	0	15	0	0	3	0	0	1	2	0	0	2	23
5:00 PM	0	11	0	0	2	0	0	2	3	1	0	1	20
5:15 PM	2	14	1	0	2	0	0	0	0	2	1	1	23
5:30 PM	0	17	1	1	2	0	0	3	3	0	1	3	31
5:45 PM	1	17	0	0	2	0	0	1	3	3	0	2	29
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	8	141	8	7	38	0	2	37	28	10	10	18	307
APPROACH %'s :	5.10%	89.81%	5.10%	15.56%	84.44%	0.00%	2.99%	55.22%	41.79%	26.32%	26.32%	47.37%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	3	49	2	0	10	0	0	4	6	4	1	6	85
PEAK HR FACTOR :		0.794			0.833			0.500			0.688		0.924

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-014

Day: Thursday

BUSES

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	N Vignes St			N Vignes St			Ramirez St			Ramirez St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	3	2	1	2	2	0	1.5	1	0.5	1	1	1	
6:00 AM	1	0	0	0	2	6	9	4	2	0	11	3	38
6:15 AM	3	0	0	0	2	8	7	8	3	0	5	1	37
6:30 AM	2	1	0	0	0	8	11	6	5	0	11	1	45
6:45 AM	1	0	0	1	4	10	7	5	8	0	11	0	47
7:00 AM	4	0	0	2	4	13	7	9	9	0	10	2	60
7:15 AM	2	0	0	1	5	8	6	11	6	1	16	0	56
7:30 AM	2	0	0	0	3	4	8	8	7	0	13	3	48
7:45 AM	4	0	0	1	2	5	7	5	9	0	11	1	45
8:00 AM	3	0	0	1	3	6	9	9	5	0	13	0	49
8:15 AM	1	0	0	2	3	9	7	9	8	0	14	0	53
8:30 AM	3	1	0	1	2	3	5	5	7	0	11	2	40
8:45 AM	2	0	0	0	1	9	9	10	7	1	13	1	53
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	28	2	0	9	31	89	92	89	76	2	139	14	571
APPROACH %'s :	93.33%	6.67%	0.00%	6.98%	24.03%	68.99%	35.80%	34.63%	29.57%	1.29%	89.68%	9.03%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	10	0	0	4	11	24	31	31	29	0	51	4	195
PEAK HR FACTOR :		0.625			0.696			0.948			0.859		0.920

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-014 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Vignes St			N Vignes St			Ramirez St			Ramirez St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	3	2	1	2	2	0	1.5	1	0.5	1	1	1	
3:00 PM	3	0	0	0	1	5	6	6	5	1	7	1	35
3:15 PM	0	0	0	1	3	6	8	7	2	0	11	1	39
3:30 PM	2	2	0	2	0	7	7	7	3	0	12	0	42
3:45 PM	1	0	1	0	1	4	5	10	2	0	6	0	30
4:00 PM	2	0	0	0	0	8	6	5	4	0	9	0	34
4:15 PM	1	0	0	1	2	6	8	13	3	0	13	1	48
4:30 PM	4	0	1	2	1	7	7	6	7	0	10	2	47
4:45 PM	4	1	0	0	0	5	8	6	5	0	14	0	43
5:00 PM	0	0	0	0	0	8	8	5	8	0	13	0	42
5:15 PM	1	1	1	0	1	11	5	5	9	0	3	1	38
5:30 PM	1	0	0	0	0	7	4	8	6	0	7	0	33
5:45 PM	2	0	1	0	0	4	8	0	4	0	10	0	29
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	21	4	4	6	9	78	80	78	58	1	115	6	460
APPROACH %'s :	72.41%	13.79%	13.79%	6.45%	9.68%	83.87%	37.04%	36.11%	26.85%	0.82%	94.26%	4.92%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	9	2	2	2	2	31	28	22	29	0	40	3	170
PEAK HR FACTOR :		0.650			0.729			0.940			0.768		0.904

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-014 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Vignes St			N Vignes St			Ramirez St			Ramirez St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	3	2	1	2	2	0	1.5	1	0.5	1	1	1	
6:00 AM	0	0	0	1	2	2	0	0	3	0	1	6	15
6:15 AM	0	0	1	6	0	2	1	0	2	3	2	2	19
6:30 AM	0	1	0	3	0	0	0	0	3	7	1	2	17
6:45 AM	0	1	0	2	4	4	1	0	2	1	2	5	22
7:00 AM	0	1	4	2	3	1	2	0	3	0	2	8	26
7:15 AM	0	1	0	5	1	4	0	0	5	0	4	6	26
7:30 AM	0	0	0	3	0	0	2	0	2	1	1	11	20
7:45 AM	0	0	1	4	2	4	1	0	4	1	2	6	25
8:00 AM	0	0	1	7	0	2	1	0	4	0	4	7	26
8:15 AM	0	2	0	4	1	5	3	0	4	1	2	6	28
8:30 AM	0	1	1	8	4	1	1	0	3	0	3	10	32
8:45 AM	0	1	1	9	4	3	2	1	3	3	2	7	36
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	8	9	54	21	28	14	1	38	17	26	76	292
APPROACH %'s :	0.00%	47.06%	52.94%	52.43%	20.39%	27.18%	26.42%	1.89%	71.70%	14.29%	21.85%	63.87%	

PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	2	2	18	3	11	7	0	14	3	9	30	99
PEAK HR FACTOR :		0.500			0.800			0.750			0.808		0.884

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-014 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Vignes St			N Vignes St			Ramirez St			Ramirez St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	3	2	1	2	2	0	1.5	1	0.5	1	1	1	
3:00 PM	0	2	0	1	0	2	1	0	1	3	2	1	13
3:15 PM	0	10	2	3	1	4	0	1	4	0	0	4	29
3:30 PM	1	4	1	3	0	2	0	1	2	0	1	13	28
3:45 PM	0	2	1	5	1	1	0	0	2	1	1	7	21
4:00 PM	2	2	0	5	0	4	1	0	3	0	2	13	32
4:15 PM	2	2	1	9	0	1	0	2	4	0	1	5	27
4:30 PM	0	2	0	3	0	3	0	0	1	0	2	9	20
4:45 PM	1	1	0	3	0	2	1	1	2	0	0	10	21
5:00 PM	1	4	0	4	0	1	0	1	3	0	3	9	26
5:15 PM	4	2	0	1	1	3	1	2	5	1	3	14	37
5:30 PM	2	2	0	4	0	1	1	1	1	0	1	17	30
5:45 PM	0	0	0	3	0	5	1	1	1	3	0	14	28
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	13	33	5	44	3	29	6	10	29	8	16	116	312
APPROACH %'s :	25.49%	64.71%	9.80%	57.89%	3.95%	38.16%	13.33%	22.22%	64.44%	5.71%	11.43%	82.86%	

PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	6	9	0	11	1	9	2	4	11	1	8	42	104
PEAK HR FACTOR :		0.625			0.875			0.531			0.708		0.703

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-015

Day: Thursday

BUSES

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	N Vignes St			N Vignes St			N Main St			N Main St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	1	2	0	1	2	0	1	2	0	
6:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
6:15 AM	0	0	0	0	0	0	0	2	0	0	1	1	4
6:30 AM	0	1	0	0	0	1	0	2	0	0	0	0	4
6:45 AM	0	1	0	0	0	1	0	2	0	0	3	0	7
7:00 AM	0	0	0	0	0	0	0	2	0	0	1	0	3
7:15 AM	0	1	0	0	0	0	0	0	0	0	2	0	3
7:30 AM	0	1	0	0	0	0	0	0	0	0	0	1	2
7:45 AM	0	1	0	1	0	0	0	0	0	0	2	0	4
8:00 AM	0	1	0	0	0	0	0	0	0	0	3	0	4
8:15 AM	0	1	1	0	0	0	0	0	0	0	2	0	4
8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	1	1	0	0	0	0	0	0	0	0	0	2
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	10	2	1	0	2	0	8	0	0	14	2	39
APPROACH %'s :	0.00%	83.33%	16.67%	33.33%	0.00%	66.67%	0.00%	100.00%	0.00%	0.00%	87.50%	12.50%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	4	1	1	0	0	0	0	0	0	7	1	14
PEAK HR FACTOR :		0.625			0.250			0.000			0.667		0.875

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-015

Day: Thursday

BUSES

City: Los Angeles

Date: 11/5/2015

PM

NS/EW Streets:	N Vignes St			N Vignes St			N Main St			N Main St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	1	2	0	1	2	0	1	2	0	
3:00 PM	0	1	0	0	0	0	0	0	0	0	1	0	2
3:15 PM	0	1	0	0	0	0	0	0	0	0	2	0	3
3:30 PM	0	1	0	0	0	0	0	1	0	0	0	0	2
3:45 PM	0	2	0	0	0	0	0	0	0	0	2	1	5
4:00 PM	0	1	0	0	0	0	0	1	0	0	1	0	3
4:15 PM	0	1	0	0	0	0	0	0	0	0	2	0	3
4:30 PM	0	1	0	0	0	0	0	1	0	0	1	0	3
4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	2	1	3
5:30 PM	0	2	0	0	0	0	0	1	0	0	0	0	3
5:45 PM	0	1	0	0	0	0	0	0	0	0	1	0	2
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	14	0	0	0	0	0	4	0	0	12	2	32
APPROACH %'s :	0.00%	100.00%	0.00%				0.00%	100.00%	0.00%	0.00%	85.71%	14.29%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	5	0	0	0	0	0	1	0	0	3	1	10
PEAK HR FACTOR :		0.625			0.000			0.250			0.333		0.833

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-015 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Vignes St			N Vignes St			N Main St			N Main St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	1	2	0	1	2	0	1	2	0	
6:00 AM	0	2	1	5	4	0	0	0	0	0	0	1	13
6:15 AM	0	3	1	9	5	1	0	0	1	0	1	1	22
6:30 AM	0	3	0	1	4	2	2	0	0	0	1	1	14
6:45 AM	0	8	0	7	3	3	0	1	0	0	6	3	31
7:00 AM	0	4	1	3	4	1	1	2	0	0	3	2	21
7:15 AM	0	2	0	4	4	1	0	1	0	0	1	1	14
7:30 AM	0	7	1	1	4	2	0	0	0	0	6	3	24
7:45 AM	0	6	0	3	3	2	0	2	0	0	2	3	21
8:00 AM	0	4	0	1	8	4	2	0	0	0	2	6	27
8:15 AM	0	4	0	2	6	3	0	0	0	0	2	8	25
8:30 AM	0	14	0	5	10	4	2	2	0	0	3	15	55
8:45 AM	0	9	1	12	5	6	0	0	0	0	0	6	39
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	66	5	53	60	29	7	8	1	0	27	50	306
APPROACH %'s :	0.00%	92.96%	7.04%	37.32%	42.25%	20.42%	43.75%	50.00%	6.25%	0.00%	35.06%	64.94%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	21	1	7	21	11	2	2	0	0	12	20	97
PEAK HR FACTOR :		0.688			0.750			0.500			0.800		0.898

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-015 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Vignes St			N Vignes St			N Main St			N Main St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	1	2	0	1	2	0	1	2	0	
3:00 PM	0	4	0	2	4	0	0	3	0	0	0	4	17
3:15 PM	0	4	0	2	7	2	3	2	0	0	4	10	34
3:30 PM	0	5	0	4	1	1	0	1	0	0	1	11	24
3:45 PM	0	5	1	7	4	3	0	0	0	0	3	7	30
4:00 PM	0	8	0	5	6	1	0	2	0	0	6	10	38
4:15 PM	0	8	0	8	4	0	3	0	0	0	1	5	29
4:30 PM	0	6	0	3	1	0	2	0	0	0	3	8	23
4:45 PM	0	6	0	1	0	0	0	0	0	0	4	12	23
5:00 PM	0	12	0	3	3	0	0	0	0	0	2	7	27
5:15 PM	0	9	0	1	0	3	2	0	0	0	0	17	32
5:30 PM	0	6	0	3	1	0	0	1	0	0	2	17	30
5:45 PM	0	10	0	4	1	1	2	2	0	0	1	17	38
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	83	1	43	32	11	12	11	0	0	27	125	345
APPROACH %'s :	0.00%	98.81%	1.19%	50.00%	37.21%	12.79%	52.17%	47.83%	0.00%	0.00%	17.76%	82.24%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	37	0	11	5	4	4	3	0	0	5	58	127
PEAK HR FACTOR :		0.771			0.833			0.438			0.829		0.836

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-016 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Alameda St_N Spring St			N Alameda St_N Spring St			W College St			W College St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	3	0	1	1	1	1	1	0	
6:00 AM	1	1	0	0	4	0	0	0	0	0	0	0	6
6:15 AM	2	5	0	0	6	1	2	0	1	1	0	1	19
6:30 AM	3	2	0	1	6	0	2	0	0	1	0	0	15
6:45 AM	2	5	0	1	3	0	2	0	1	1	0	0	15
7:00 AM	3	1	0	0	5	0	2	0	0	1	0	0	12
7:15 AM	3	2	0	0	2	0	2	0	0	2	0	0	11
7:30 AM	2	3	0	0	3	0	1	0	0	1	0	1	11
7:45 AM	3	0	0	0	1	0	1	0	1	1	0	0	7
8:00 AM	2	3	0	0	0	0	0	0	1	2	0	0	8
8:15 AM	2	4	0	0	4	0	3	0	0	3	0	0	16
8:30 AM	1	2	0	0	2	0	1	0	0	0	0	0	6
8:45 AM	2	0	0	0	2	0	2	0	1	1	0	0	8
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	26	28	0	2	38	1	18	0	5	14	0	2	134
APPROACH %'s :	48.15%	51.85%	0.00%	4.88%	92.68%	2.44%	78.26%	0.00%	21.74%	87.50%	0.00%	12.50%	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	7	9	0	0	8	0	6	0	2	6	0	0	38
PEAK HR FACTOR :		0.667			0.500			0.667			0.500		0.594

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-016 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Alameda St_N Spring St			N Alameda St_N Spring St			W College St			W College St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	3	0	1	1	1	1	1	0	
3:00 PM	3	8	0	0	3	0	2	0	0	2	0	0	18
3:15 PM	1	3	0	0	1	0	1	0	1	2	0	0	9
3:30 PM	2	7	0	0	3	0	0	0	0	1	0	0	13
3:45 PM	1	3	0	0	3	0	2	0	0	2	0	0	11
4:00 PM	3	3	0	0	5	0	3	0	0	1	0	0	15
4:15 PM	3	3	0	0	2	0	0	0	0	2	0	0	10
4:30 PM	3	1	0	0	2	0	1	0	1	1	0	0	9
4:45 PM	1	2	0	0	2	0	1	0	0	1	1	0	8
5:00 PM	3	4	0	0	2	0	1	0	0	2	0	0	12
5:15 PM	2	2	0	0	3	0	2	0	0	1	0	0	10
5:30 PM	2	2	0	0	2	0	0	0	1	2	0	0	9
5:45 PM	2	6	0	0	0	0	0	0	1	0	1	0	10
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	26	44	0	0	28	0	13	0	4	17	2	0	134
APPROACH %'s :	37.14%	62.86%	0.00%	0.00%	100.00%	0.00%	76.47%	0.00%	23.53%	89.47%	10.53%	0.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	9	14	0	0	7	0	3	0	2	5	1	0	41
PEAK HR FACTOR :		0.719			0.583			0.625			0.750		0.854

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-016 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Alameda St_N Spring St			N Alameda St_N Spring St			W College St			W College St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	3	0	1	1	1	1	1	0	
6:00 AM	4	3	0	0	28	0	0	0	0	12	4	12	63
6:15 AM	0	2	0	0	19	0	0	1	0	12	3	4	41
6:30 AM	0	3	0	0	12	1	0	0	0	5	0	4	25
6:45 AM	2	5	0	0	6	0	1	0	1	1	1	2	19
7:00 AM	0	5	0	0	5	0	0	0	0	1	1	0	12
7:15 AM	0	6	0	0	6	0	0	0	3	0	0	0	15
7:30 AM	2	7	0	0	2	1	1	0	2	0	1	1	17
7:45 AM	1	8	0	0	2	2	0	0	1	0	1	0	15
8:00 AM	0	5	0	0	7	0	1	0	0	0	0	1	14
8:15 AM	1	6	2	2	3	0	2	0	0	0	0	0	16
8:30 AM	1	9	1	0	8	2	0	0	0	1	1	0	23
8:45 AM	1	11	4	3	6	3	0	1	0	0	0	0	29
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	12	70	7	5	104	9	5	2	7	32	12	24	289
APPROACH %'s :	13.48%	78.65%	7.87%	4.24%	88.14%	7.63%	35.71%	14.29%	50.00%	47.06%	17.65%	35.29%	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	3	31	7	5	24	5	3	1	0	1	1	1	82
PEAK HR FACTOR :		0.641			0.708			0.500			0.375		0.707

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-016 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Alameda St_N Spring St			N Alameda St_N Spring St			W College St			W College St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	3	0	1	1	1	1	1	0	
3:00 PM	0	4	0	0	6	0	0	0	0	0	0	0	10
3:15 PM	1	3	0	0	5	0	0	2	1	0	0	0	12
3:30 PM	0	3	1	1	1	1	0	0	1	0	0	0	8
3:45 PM	0	10	1	2	0	0	0	1	0	0	1	0	15
4:00 PM	0	9	0	0	4	0	1	0	3	0	0	3	20
4:15 PM	1	5	2	1	2	0	0	2	1	0	0	0	14
4:30 PM	1	9	3	2	2	0	0	2	0	0	0	0	19
4:45 PM	3	7	1	7	1	1	0	1	0	0	0	1	22
5:00 PM	0	6	3	2	2	0	1	0	0	0	0	1	15
5:15 PM	1	3	1	1	0	0	0	0	1	0	1	1	9
5:30 PM	3	5	2	0	3	0	0	1	1	0	1	0	16
5:45 PM	1	3	3	1	2	0	0	0	0	0	1	0	11
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	11	67	17	17	28	2	2	9	8	0	4	6	171
APPROACH %'s :	11.58%	70.53%	17.89%	36.17%	59.57%	4.26%	10.53%	47.37%	42.11%	0.00%	40.00%	60.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	5	17	9	4	7	0	1	1	2	0	3	2	51
PEAK HR FACTOR :		0.775			0.688			0.500			0.625		0.797

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-017 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Alameda St			N Alameda St			N Main St_W College St			N Main St_W College St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	0	3	0	0	0	1	0	0	0	
6:00 AM	2	2	1	0	0	0	0	0	0	0	0	0	5
6:15 AM	1	4	0	0	1	0	0	0	2	0	0	0	8
6:30 AM	2	2	1	0	1	0	0	0	3	0	0	0	9
6:45 AM	2	2	1	0	3	0	0	0	2	0	0	0	10
7:00 AM	2	3	1	0	2	0	0	0	2	0	0	0	10
7:15 AM	2	1	0	0	2	0	0	0	2	0	0	0	7
7:30 AM	2	2	1	0	3	0	0	0	1	0	0	0	9
7:45 AM	1	0	1	0	2	0	0	0	2	0	0	0	6
8:00 AM	2	1	1	0	2	0	0	0	2	0	0	0	8
8:15 AM	2	2	2	0	3	0	0	0	0	0	0	0	9
8:30 AM	2	2	1	0	0	0	0	0	0	0	0	0	5
8:45 AM	1	1	2	0	1	0	0	0	3	0	0	0	8
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	21	22	12	0	20	0	0	0	19	0	0	0	94
APPROACH %'s :	38.18%	40.00%	21.82%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%				
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	7	5	5	0	10	0	0	0	5	0	0	0	32
PEAK HR FACTOR :	0.708			0.833			0.625			0.000			0.889

CONTROL : 1-Way Stop (EB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-017 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Alameda St			N Alameda St			N Main St_W College St			N Main St_W College St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	0	3	0	0	0	1	0	0	0	
3:00 PM	3	4	1	0	4	0	0	0	2	0	0	0	14
3:15 PM	0	2	1	0	1	0	0	0	2	0	0	0	6
3:30 PM	2	7	1	0	3	0	0	0	1	0	0	0	14
3:45 PM	2	1	2	0	1	0	0	0	1	0	0	0	7
4:00 PM	2	3	1	0	3	0	0	0	2	0	0	0	11
4:15 PM	2	5	1	0	2	0	0	0	2	0	0	0	12
4:30 PM	0	3	2	0	1	0	0	0	2	0	0	0	8
4:45 PM	1	2	1	0	2	1	0	0	1	0	0	0	8
5:00 PM	3	3	1	0	2	0	0	0	1	0	0	0	10
5:15 PM	3	1	0	0	0	0	0	0	1	0	0	0	5
5:30 PM	0	5	2	0	2	0	0	0	3	0	0	0	12
5:45 PM	0	6	1	0	2	0	0	0	2	0	0	0	11
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	18	42	14	0	23	1	0	0	20	0	0	0	118
APPROACH %'s :	24.32%	56.76%	18.92%	0.00%	95.83%	4.17%	0.00%	0.00%	100.00%				
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	6	15	4	0	6	0	0	0	7	0	0	0	38
PEAK HR FACTOR :		0.893			0.750			0.583			0.000		0.792

CONTROL : 1-Way Stop (EB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-017 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Alameda St			N Alameda St			N Main St_W College St			N Main St_W College St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	0	3	0	0	0	1	0	0	0	
6:00 AM	0	8	3	0	44	2	0	0	0	0	0	0	57
6:15 AM	0	3	4	0	40	1	0	0	0	0	0	0	48
6:30 AM	0	2	3	0	17	2	0	0	1	0	0	0	25
6:45 AM	1	8	8	0	13	2	0	0	1	0	0	0	33
7:00 AM	1	5	6	0	6	0	0	0	1	0	0	0	19
7:15 AM	1	6	2	0	12	1	0	0	1	0	0	0	23
7:30 AM	1	7	9	0	13	2	0	0	0	0	0	0	32
7:45 AM	0	7	7	0	9	1	0	0	0	0	0	0	24
8:00 AM	1	5	6	0	13	0	0	0	0	0	0	0	25
8:15 AM	0	9	6	0	15	0	0	0	0	0	0	0	30
8:30 AM	0	13	15	0	10	4	0	0	0	0	0	0	42
8:45 AM	0	17	15	0	11	1	0	0	0	0	0	0	44
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	5	90	84	0	203	16	0	0	4	0	0	0	402
APPROACH %'s :	2.79%	50.28%	46.93%	0.00%	92.69%	7.31%	0.00%	0.00%	100.00%				
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	2	28	28	0	50	3	0	0	0	0	0	0	111
PEAK HR FACTOR :		0.853			0.883			0.000			0.000		0.867

CONTROL : 1-Way Stop (EB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-017 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Alameda St			N Alameda St			N Main St_W College St			N Main St_W College St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	0	3	0	0	0	1	0	0	0	
3:00 PM	0	2	3	0	11	2	0	0	0	0	0	0	18
3:15 PM	0	3	4	0	17	0	0	0	2	0	0	0	26
3:30 PM	0	3	6	0	4	0	0	0	2	0	0	0	15
3:45 PM	0	7	9	0	5	0	0	0	0	0	0	0	21
4:00 PM	0	5	8	0	10	0	0	0	0	0	0	0	23
4:15 PM	1	10	8	0	7	1	0	0	0	0	0	0	27
4:30 PM	0	11	6	0	3	0	0	0	0	0	0	0	20
4:45 PM	0	8	7	0	1	1	0	0	1	0	0	0	18
5:00 PM	0	7	14	0	5	0	0	0	1	0	0	0	27
5:15 PM	0	7	10	0	4	1	0	0	0	0	0	0	22
5:30 PM	0	8	9	0	4	0	0	0	0	0	0	0	21
5:45 PM	0	7	14	0	3	1	0	0	0	0	0	0	25
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	78	98	0	74	6	0	0	6	0	0	0	263
APPROACH %'s :	0.56%	44.07%	55.37%	0.00%	92.50%	7.50%	0.00%	0.00%	100.00%				
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	29	47	0	16	2	0	0	1	0	0	0	95
PEAK HR FACTOR :		0.905			0.900			0.250			0.000		0.880

CONTROL : 1-Way Stop (EB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-018 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Alameda St			N Alameda St			N Main St_Bauchet St			N Main St_Bauchet St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	1	3	0	2	0.5	0.5	1	0	1	
6:00 AM	0	4	0	0	1	0	1	0	1	0	0	0	7
6:15 AM	0	5	0	0	3	0	0	0	2	0	0	0	10
6:30 AM	0	5	0	0	4	0	1	0	1	0	0	0	11
6:45 AM	0	4	0	0	5	0	3	0	1	0	0	0	13
7:00 AM	0	3	0	0	3	0	3	0	1	0	0	0	10
7:15 AM	0	3	0	0	5	0	0	0	1	0	0	0	9
7:30 AM	0	4	0	0	4	0	1	0	0	0	0	0	9
7:45 AM	0	1	0	0	2	0	1	1	1	0	0	0	6
8:00 AM	0	2	0	0	5	0	1	0	1	0	0	0	9
8:15 AM	0	2	0	0	3	0	3	0	1	0	0	0	9
8:30 AM	0	2	0	0	0	0	1	0	0	0	0	0	3
8:45 AM	0	2	0	0	4	0	3	0	1	0	0	0	10
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	37	0	0	39	0	18	1	11	0	0	0	106
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	60.00%	3.33%	36.67%				
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	0	8	0	0	12	0	8	0	3	0	0	0	31
PEAK HR FACTOR :		1.000			0.600			0.688			0.000		0.775

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-018 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Alameda St			N Alameda St			N Main St_Bauchet St			N Main St_Bauchet St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	1	3	0	2	0.5	0.5	1	0	1	
3:00 PM	0	6	0	0	2	0	1	0	1	0	0	0	10
3:15 PM	0	1	0	0	3	0	2	0	2	0	0	0	8
3:30 PM	0	7	0	0	4	0	3	0	0	0	0	0	14
3:45 PM	0	2	0	0	3	0	3	0	1	0	0	0	9
4:00 PM	0	5	0	0	7	0	3	0	1	0	0	0	16
4:15 PM	0	3	0	0	4	0	4	0	1	0	0	0	12
4:30 PM	0	1	0	0	3	0	4	0	1	0	0	0	9
4:45 PM	0	2	0	0	3	0	2	0	1	0	0	0	8
5:00 PM	0	5	0	0	3	0	2	0	1	0	0	0	11
5:15 PM	0	3	0	0	4	0	1	0	0	0	0	0	8
5:30 PM	0	4	0	0	5	0	4	0	0	0	0	0	13
5:45 PM	0	1	0	0	3	0	5	0	1	0	0	0	10
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	40	0	0	44	0	34	0	10	0	0	0	128
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	77.27%	0.00%	22.73%				
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	13	0	0	15	0	12	0	2	0	0	0	42
PEAK HR FACTOR :		0.650			0.750			0.583			0.000		0.808

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-018 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Alameda St			N Alameda St			N Main St_Bauchet St			N Main St_Bauchet St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	1	3	0	2	0.5	0.5	1	0	1	
6:00 AM	0	9	0	0	42	0	2	0	0	0	0	0	53
6:15 AM	0	7	0	0	39	0	2	0	0	0	0	0	48
6:30 AM	0	5	0	0	18	0	0	0	1	0	0	0	24
6:45 AM	0	11	1	0	14	0	4	0	0	0	0	0	30
7:00 AM	0	9	0	0	6	0	1	1	0	0	0	1	18
7:15 AM	0	7	0	1	14	0	2	1	0	0	0	0	25
7:30 AM	0	16	0	0	11	0	2	0	0	0	0	0	29
7:45 AM	0	11	0	0	8	0	1	1	0	0	0	0	21
8:00 AM	0	10	0	0	11	0	2	1	0	1	0	2	27
8:15 AM	0	13	0	0	17	0	1	0	0	0	0	1	32
8:30 AM	0	17	0	0	16	0	10	0	0	0	0	1	44
8:45 AM	0	20	0	0	11	0	12	1	0	0	0	0	44
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	135	1	1	207	0	39	5	1	1	0	5	395
APPROACH %'s :	0.00%	99.26%	0.74%	0.48%	99.52%	0.00%	86.67%	11.11%	2.22%	16.67%	0.00%	83.33%	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	0	60	0	0	55	0	25	2	0	1	0	4	147
PEAK HR FACTOR :		0.750			0.809			0.519			0.417		0.835

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-018 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Alameda St			N Alameda St			N Main St_Bauchet St			N Main St_Bauchet St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	1	3	0	2	0.5	0.5	1	0	1	
3:00 PM	0	4	0	0	11	0	5	0	0	1	0	0	21
3:15 PM	0	3	0	0	16	0	4	0	0	0	0	0	23
3:30 PM	0	3	1	0	5	0	6	2	0	0	0	0	17
3:45 PM	0	7	2	0	7	0	10	1	0	0	0	0	27
4:00 PM	0	5	0	1	11	0	5	0	0	2	0	0	24
4:15 PM	0	7	0	0	6	0	10	0	0	0	0	1	24
4:30 PM	0	9	0	0	4	0	8	0	0	0	0	0	21
4:45 PM	0	8	0	0	2	0	8	0	0	0	0	0	18
5:00 PM	0	9	0	0	6	0	14	1	0	0	0	0	30
5:15 PM	0	7	0	0	5	0	11	3	0	0	0	0	26
5:30 PM	0	5	0	0	3	0	11	0	0	0	0	0	19
5:45 PM	0	6	0	0	3	0	11	1	0	0	0	0	21
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	73	3	1	79	0	103	8	0	3	0	1	271
APPROACH %'s :	0.00%	96.05%	3.95%	1.25%	98.75%	0.00%	92.79%	7.21%	0.00%	75.00%	0.00%	25.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	27	0	0	17	0	47	5	0	0	0	0	96
PEAK HR FACTOR :		0.750			0.708			0.867			0.000		0.800

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-019 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Main St			N Main St			West Cesar E Chavez Ave			West Cesar E Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1.5	2.5	0	0	0	0	1	3	0	0	3	0	
6:00 AM	0	0	0	0	0	0	1	5	0	0	21	0	27
6:15 AM	0	1	2	0	0	0	0	5	0	0	13	1	22
6:30 AM	1	1	1	0	0	0	1	6	0	0	20	1	31
6:45 AM	0	0	4	0	0	0	1	8	0	0	21	0	34
7:00 AM	0	0	3	0	0	0	3	11	0	0	18	0	35
7:15 AM	0	1	2	0	0	0	1	13	0	0	13	1	31
7:30 AM	0	2	2	0	0	0	1	7	0	0	15	0	27
7:45 AM	0	1	3	0	0	0	1	8	0	0	12	2	27
8:00 AM	0	0	1	0	0	0	1	13	0	0	14	1	30
8:15 AM	0	1	1	0	0	0	1	12	0	0	14	0	29
8:30 AM	0	1	4	0	0	0	3	10	0	0	13	1	32
8:45 AM	0	1	4	0	0	0	1	10	0	0	14	0	30
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	9	27	0	0	0	15	108	0	0	188	7	355
APPROACH %'s :	2.70%	24.32%	72.97%				12.20%	87.80%	0.00%	0.00%	96.41%	3.59%	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	0	3	10	0	0	0	6	45	0	0	55	2	121
PEAK HR FACTOR :		0.650			0.000			0.911			0.950		0.945

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-019 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Main St			N Main St			West Cesar E Chavez Ave			West Cesar E Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1.5	2.5	0	0	0	0	1	3	0	0	3	0	
3:00 PM	0	0	4	0	0	0	1	7	0	0	14	0	26
3:15 PM	0	0	2	0	0	0	0	6	0	0	12	0	20
3:30 PM	0	2	3	0	0	0	4	6	0	0	9	1	25
3:45 PM	0	0	5	0	0	0	1	6	0	0	11	0	23
4:00 PM	0	0	3	0	0	0	1	15	0	0	13	2	34
4:15 PM	0	1	5	0	0	0	3	10	0	0	12	0	31
4:30 PM	1	1	3	0	0	0	2	10	0	0	12	0	29
4:45 PM	2	6	4	0	0	0	0	12	0	0	9	1	34
5:00 PM	0	1	6	0	0	0	2	13	0	0	14	0	36
5:15 PM	0	2	3	0	0	0	2	15	0	0	11	1	34
5:30 PM	0	0	3	0	0	0	2	8	0	0	13	0	26
5:45 PM	0	2	3	0	0	0	1	10	0	0	5	0	21
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	3	15	44	0	0	0	19	118	0	0	135	5	339
APPROACH %'s :	4.84%	24.19%	70.97%				13.87%	86.13%	0.00%	0.00%	96.43%	3.57%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	2	9	16	0	0	0	6	48	0	0	47	2	130
PEAK HR FACTOR :		0.563			0.000			0.794			0.875		0.903

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-019 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Main St			N Main St			West Cesar E Chavez Ave			West Cesar E Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1.5	2.5	0	0	0	0	1	3	0	0	3	0	
6:00 AM	0	2	2	0	0	0	0	1	0	0	6	2	13
6:15 AM	0	1	2	0	0	0	0	1	0	0	6	1	11
6:30 AM	0	3	2	0	0	0	1	2	0	0	4	0	12
6:45 AM	0	1	2	0	0	0	1	2	0	0	5	0	11
7:00 AM	0	1	2	0	0	0	0	3	0	0	3	0	9
7:15 AM	3	0	5	0	0	0	1	1	0	0	8	0	18
7:30 AM	0	2	3	0	0	0	1	4	0	0	3	0	13
7:45 AM	2	1	1	0	0	0	0	6	0	0	2	0	12
8:00 AM	0	3	4	0	0	0	0	4	0	0	2	0	13
8:15 AM	2	5	3	0	0	0	0	1	0	0	2	2	15
8:30 AM	0	4	2	0	0	0	0	4	0	0	2	0	12
8:45 AM	1	5	3	0	0	0	0	5	0	0	8	0	22
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	8	28	31	0	0	0	4	34	0	0	51	5	161
APPROACH %'s :	11.94%	41.79%	46.27%				10.53%	89.47%	0.00%	0.00%	91.07%	8.93%	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	3	17	12	0	0	0	0	14	0	0	14	2	62
PEAK HR FACTOR :		0.800			0.000			0.700			0.500		0.705

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-019 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Main St			N Main St			West Cesar E Chavez Ave			West Cesar E Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1.5	2.5	0	0	0	0	1	3	0	0	3	0	
3:00 PM	3	9	2	0	0	0	0	8	0	0	6	0	28
3:15 PM	0	4	0	0	0	0	1	6	0	0	1	0	12
3:30 PM	2	8	3	0	0	0	0	6	0	0	1	0	20
3:45 PM	2	7	3	0	0	0	3	5	0	0	2	0	22
4:00 PM	1	7	4	0	0	0	1	4	0	0	4	0	21
4:15 PM	0	6	2	0	0	0	2	3	0	0	3	0	16
4:30 PM	0	6	3	0	0	0	1	3	0	0	2	0	15
4:45 PM	1	8	4	0	0	0	0	3	0	0	0	0	16
5:00 PM	1	6	3	0	0	0	2	5	0	0	0	0	17
5:15 PM	0	10	1	0	0	0	2	1	0	0	3	0	17
5:30 PM	0	10	2	0	0	0	2	3	0	0	1	0	18
5:45 PM	0	11	4	0	0	0	0	5	0	0	1	0	21
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	10	92	31	0	0	0	14	52	0	0	24	0	223
APPROACH %'s :	7.52%	69.17%	23.31%				21.21%	78.79%	0.00%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	2	34	10	0	0	0	6	12	0	0	4	0	68
PEAK HR FACTOR :		0.885			0.000			0.643			0.333		0.944

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-020 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Alameda St			N Alameda St			SR-101 NB On-Ramp			SR-101 NB On-Ramp			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	0	3	0	0	0	0	0	0	0	
6:00 AM	0	3	0	0	1	0	0	0	0	0	0	0	4
6:15 AM	0	8	0	0	2	0	0	0	0	0	0	0	10
6:30 AM	0	3	0	0	1	0	0	0	0	0	0	0	4
6:45 AM	0	2	0	0	2	0	0	0	0	0	0	0	4
7:00 AM	0	3	0	0	2	0	0	0	0	0	0	0	5
7:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
7:30 AM	0	2	0	0	1	0	0	0	0	0	0	0	3
7:45 AM	0	2	0	0	2	0	0	0	0	0	0	0	4
8:00 AM	0	0	0	0	3	0	0	0	0	0	0	0	3
8:15 AM	0	0	0	0	-1	0	0	0	0	0	0	0	-1
8:30 AM	0	3	0	0	3	0	0	0	0	0	0	0	6
8:45 AM	0	2	0	0	1	0	0	0	0	0	0	0	3
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	28	0	0	18	0	0	0	0	0	0	0	46
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%							
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	4	0	0	5	0	0	0	0	0	0	0	9
PEAK HR FACTOR :		0.500			0.417			0.000			0.000		0.563

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-020

Day: Thursday

BUSES

City: Los Angeles

Date: 11/5/2015

PM

NS/EW Streets:	N Alameda St			N Alameda St			SR-101 NB On-Ramp			SR-101 NB On-Ramp			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	0	3	0	0	0	0	0	0	0	
3:00 PM	0	2	0	0	2	0	0	0	0	0	0	0	4
3:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
3:30 PM	0	1	0	0	2	0	0	0	0	0	0	0	3
3:45 PM	0	1	0	0	2	0	0	0	0	0	0	0	3
4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
4:30 PM	0	4	0	0	1	0	0	0	0	0	0	0	5
4:45 PM	0	0	0	0	2	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:15 PM	0	2	0	0	2	0	0	0	0	0	0	0	4
5:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	2	0	0	0	0	0	0	0	2
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	10	0	0	18	0	0	0	0	0	0	0	28
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%							
PEAK HR START TIME :	315 PM												TOTAL
PEAK HR VOL :	0	2	0	0	6	0	0	0	0	0	0	0	8
PEAK HR FACTOR :		0.500			0.750			0.000			0.000		0.667

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-020 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Alameda St			N Alameda St			SR-101 NB On-Ramp			SR-101 NB On-Ramp			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	0	3	0	0	0	0	0	0	0	
6:00 AM	8	8	0	0	8	36	0	0	0	0	0	0	60
6:15 AM	0	9	0	0	10	21	0	0	0	0	0	0	40
6:30 AM	9	6	0	0	7	13	0	0	0	0	0	0	35
6:45 AM	0	8	0	0	5	5	0	0	0	0	0	0	18
7:00 AM	18	7	0	0	6	5	0	0	0	0	0	0	36
7:15 AM	0	15	0	0	7	0	0	0	0	0	0	0	22
7:30 AM	16	13	0	0	16	3	0	0	0	0	0	0	48
7:45 AM	0	19	0	0	11	1	0	0	0	0	0	0	31
8:00 AM	9	8	0	0	8	4	0	0	0	0	0	0	29
8:15 AM	7	15	0	0	17	4	0	0	0	0	0	0	43
8:30 AM	8	19	0	0	5	3	0	0	0	0	0	0	35
8:45 AM	3	21	0	0	12	7	0	0	0	0	0	0	43
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	78	148	0	0	112	102	0	0	0	0	0	0	440
APPROACH %'s :	34.51%	65.49%	0.00%	0.00%	52.34%	47.66%							
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	32	55	0	0	52	12	0	0	0	0	0	0	151
PEAK HR FACTOR :		0.750			0.762			0.000			0.000		0.786

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-020 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Alameda St			N Alameda St			SR-101 NB On-Ramp			SR-101 NB On-Ramp			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	0	3	0	0	0	0	0	0	0	
3:00 PM	3	1	0	0	9	7	0	0	0	0	0	0	20
3:15 PM	0	5	0	0	13	0	0	0	0	0	0	0	18
3:30 PM	5	2	0	0	3	4	0	0	0	0	0	0	14
3:45 PM	1	5	0	0	4	0	0	0	0	0	0	0	10
4:00 PM	2	5	0	0	6	2	0	0	0	0	0	0	15
4:15 PM	1	12	0	0	5	1	0	0	0	0	0	0	19
4:30 PM	0	5	0	0	7	0	0	0	0	0	0	0	12
4:45 PM	0	6	0	0	0	3	0	0	0	0	0	0	9
5:00 PM	0	7	0	0	6	1	0	0	0	0	0	0	14
5:15 PM	0	3	0	0	2	0	0	0	0	0	0	0	5
5:30 PM	1	3	0	0	6	2	0	0	0	0	0	0	12
5:45 PM	0	5	0	0	3	5	0	0	0	0	0	0	13
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	13	59	0	0	64	25	0	0	0	0	0	0	161
APPROACH %'s :	18.06%	81.94%	0.00%	0.00%	71.91%	28.09%							
PEAK HR START TIME :	315 PM												TOTAL
PEAK HR VOL :	8	17	0	0	26	6	0	0	0	0	0	0	57
PEAK HR FACTOR :		0.893			0.615			0.000			0.000		0.792

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-021

Day: Thursday

BUSES

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			Arcadia St			Arcadia St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	2	0	0	0	0	0	3	0	
6:00 AM	0	2	0	0	3	0	0	0	0	2	10	0	17
6:15 AM	0	3	0	0	3	0	0	0	0	2	17	0	25
6:30 AM	0	4	0	0	3	0	0	0	0	1	12	0	20
6:45 AM	0	1	0	0	3	0	0	0	0	1	18	0	23
7:00 AM	0	4	0	0	3	0	0	0	0	1	19	0	27
7:15 AM	0	3	0	0	2	0	0	0	0	3	19	0	27
7:30 AM	0	3	0	0	4	0	0	0	0	0	15	0	22
7:45 AM	0	2	0	0	2	0	0	0	0	3	16	0	23
8:00 AM	0	5	0	0	3	0	0	0	0	0	22	0	30
8:15 AM	0	2	0	0	2	0	0	0	0	2	12	0	18
8:30 AM	1	3	0	0	2	0	0	0	0	1	14	0	21
8:45 AM	0	3	0	0	3	0	0	0	0	0	12	0	18
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	35	0	0	33	0	0	0	0	16	186	0	271
APPROACH %'s :	2.78%	97.22%	0.00%	0.00%	100.00%	0.00%				7.92%	92.08%	0.00%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	1	12	0	0	9	0	0	0	0	6	64	0	92
PEAK HR FACTOR :		0.650			0.750			0.000			0.795		0.767

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-021 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			Arcadia St			Arcadia St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	2	0	0	0	0	0	3	0	
3:00 PM	0	2	0	0	4	2	0	0	0	0	6	0	14
3:15 PM	0	2	0	0	2	0	0	0	0	0	8	0	12
3:30 PM	0	3	0	0	2	0	0	0	0	1	13	0	19
3:45 PM	0	3	0	0	3	0	0	0	0	0	14	0	20
4:00 PM	0	4	0	0	4	0	0	0	0	0	11	0	19
4:15 PM	0	3	0	0	2	0	0	0	0	1	13	1	20
4:30 PM	0	1	0	0	3	0	0	0	0	1	13	0	18
4:45 PM	0	3	0	0	3	0	0	0	0	0	13	0	19
5:00 PM	0	3	0	0	3	0	0	0	0	1	16	1	24
5:15 PM	0	2	0	0	2	0	0	0	0	3	9	0	16
5:30 PM	0	2	0	0	3	0	0	0	0	1	11	0	17
5:45 PM	0	1	0	0	4	0	0	0	0	0	14	0	19
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	29	0	0	35	2	0	0	0	8	141	2	217
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	94.59%	5.41%				5.30%	93.38%	1.32%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	8	0	0	12	0	0	0	0	5	50	1	76
PEAK HR FACTOR :		0.667			0.750			0.000			0.778		0.792

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-021 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			Arcadia St			Arcadia St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	2	0	0	0	0	0	3	0	
6:00 AM	0	0	0	0	0	0	0	0	0	2	4	0	6
6:15 AM	0	0	0	0	1	0	0	0	0	0	2	0	3
6:30 AM	0	0	0	0	2	0	0	0	0	0	6	0	8
6:45 AM	0	3	0	0	2	0	0	0	0	0	8	0	13
7:00 AM	0	1	0	0	3	0	0	0	0	1	6	0	11
7:15 AM	1	2	0	0	2	0	0	0	0	0	9	1	15
7:30 AM	0	2	0	0	1	1	0	0	0	0	6	0	10
7:45 AM	0	3	0	0	2	1	0	0	0	1	7	0	14
8:00 AM	0	2	0	0	1	1	0	0	0	0	3	0	7
8:15 AM	0	0	0	0	0	2	0	0	0	1	5	0	8
8:30 AM	1	1	0	0	1	1	0	0	0	0	9	3	16
8:45 AM	0	3	0	0	1	1	0	0	0	1	7	0	13
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	2	17	0	0	16	7	0	0	0	6	72	4	124
APPROACH %'s :	10.53%	89.47%	0.00%	0.00%	69.57%	30.43%				7.32%	87.80%	4.88%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	1	6	0	0	4	5	0	0	0	2	24	3	45
PEAK HR FACTOR :		0.583			0.750			0.000			0.604		0.703

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-021 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			Arcadia St			Arcadia St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	2	0	0	0	0	0	3	0	
3:00 PM	0	3	0	0	1	1	0	0	0	0	1	0	6
3:15 PM	0	1	0	0	2	0	0	0	0	0	4	0	7
3:30 PM	0	2	0	0	0	1	0	0	0	0	2	0	5
3:45 PM	0	5	0	0	1	0	0	0	0	0	0	0	6
4:00 PM	0	1	0	0	0	2	0	0	0	0	0	0	3
4:15 PM	0	0	0	0	3	0	0	0	0	0	1	0	4
4:30 PM	0	1	0	0	0	1	0	0	0	0	2	0	4
4:45 PM	1	2	0	0	0	0	0	0	0	0	2	0	5
5:00 PM	0	5	0	0	0	1	0	0	0	0	2	1	9
5:15 PM	0	2	0	0	0	0	0	0	0	0	3	1	6
5:30 PM	0	3	0	0	2	0	0	0	0	1	2	0	8
5:45 PM	0	4	0	0	1	0	0	0	0	0	3	0	8
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	29	0	0	10	6	0	0	0	1	22	2	71
APPROACH %'s :	3.33%	96.67%	0.00%	0.00%	62.50%	37.50%				4.00%	88.00%	8.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	14	0	0	3	1	0	0	0	1	10	2	31
PEAK HR FACTOR :		0.700			0.500			0.000			0.813		0.861

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-022

Day: Thursday

BUSES

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			E Aliso St			E Aliso St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	0	2	0	0	4	0	0	0	0	
6:00 AM	0	2	0	0	5	0	0	4	0	0	0	0	11
6:15 AM	0	3	0	0	5	0	0	3	0	0	0	0	11
6:30 AM	0	4	0	0	4	0	0	7	0	0	0	0	15
6:45 AM	0	1	0	0	3	0	0	5	0	0	0	0	9
7:00 AM	0	4	1	0	4	0	0	4	0	0	0	0	13
7:15 AM	0	3	0	0	5	0	0	6	0	0	0	0	14
7:30 AM	0	4	1	0	4	0	0	10	0	0	0	0	19
7:45 AM	0	2	0	0	5	0	0	9	0	0	0	0	16
8:00 AM	0	5	0	0	4	0	0	7	0	0	0	0	16
8:15 AM	0	2	0	0	3	0	0	7	0	0	0	0	12
8:30 AM	0	4	0	0	3	0	0	8	0	0	0	0	15
8:45 AM	0	4	0	0	3	0	0	6	0	0	0	0	13
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	38	2	0	48	0	0	76	0	0	0	0	164
APPROACH %'s :	0.00%	95.00%	5.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%				
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	13	0	0	15	0	0	31	0	0	0	0	59
PEAK HR FACTOR :		0.650			0.750			0.861			0.000		0.922

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-022 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			E Aliso St			E Aliso St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	0	2	0	0	4	0	0	0	0	
3:00 PM	0	2	0	0	4	0	0	6	0	0	0	0	12
3:15 PM	0	1	0	0	2	0	0	4	0	0	0	0	7
3:30 PM	0	3	0	0	3	0	0	11	0	0	0	0	17
3:45 PM	0	3	0	0	3	0	0	9	0	0	0	0	15
4:00 PM	0	3	0	0	4	0	1	11	0	0	0	0	19
4:15 PM	0	3	1	0	2	0	0	14	0	0	0	0	20
4:30 PM	0	1	0	0	5	0	0	15	0	0	0	0	21
4:45 PM	0	3	0	0	3	0	0	16	0	0	0	0	22
5:00 PM	0	3	2	0	4	0	0	16	0	0	0	0	25
5:15 PM	0	2	0	0	4	0	0	10	0	0	0	0	16
5:30 PM	0	2	0	0	3	0	0	22	0	0	0	0	27
5:45 PM	0	1	1	0	4	0	0	18	0	0	0	0	24
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	27	4	0	41	0	1	152	0	0	0	0	225
APPROACH %'s :	0.00%	87.10%	12.90%	0.00%	100.00%	0.00%	0.65%	99.35%	0.00%				
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	8	3	0	15	0	0	66	0	0	0	0	92
PEAK HR FACTOR :		0.550			0.938			0.750			0.000		0.852

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-022 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			E Aliso St			E Aliso St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	0	2	0	0	4	0	0	0	0	
6:00 AM	0	0	0	0	2	0	0	1	0	0	0	0	3
6:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
6:30 AM	0	0	0	0	2	0	0	0	0	0	0	0	2
6:45 AM	0	3	0	0	2	0	0	0	0	0	0	0	5
7:00 AM	0	1	1	0	3	0	0	0	1	0	0	0	6
7:15 AM	0	3	0	0	2	0	0	1	0	0	0	0	6
7:30 AM	0	1	0	0	1	0	0	1	0	0	0	0	3
7:45 AM	0	3	0	0	2	0	0	1	0	0	0	0	6
8:00 AM	0	2	1	0	1	0	0	0	0	0	0	0	4
8:15 AM	0	0	0	0	1	0	0	2	0	0	0	0	3
8:30 AM	0	2	0	0	1	0	0	0	2	0	0	0	5
8:45 AM	0	3	0	0	3	0	0	0	0	0	0	0	6
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	18	2	0	21	0	0	6	3	0	0	0	50
APPROACH %'s :	0.00%	90.00%	10.00%	0.00%	100.00%	0.00%	0.00%	66.67%	33.33%				
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	7	1	0	5	0	0	3	2	0	0	0	18
PEAK HR FACTOR :		0.667			0.625			0.625			0.000		0.750

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-022

Day: Thursday

HEAVY TRUCKS

City: Los Angeles

Date: 11/5/2015

PM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			E Aliso St			E Aliso St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	0	2	0	0	4	0	0	0	0	
3:00 PM	0	3	0	0	0	0	0	1	0	0	0	0	4
3:15 PM	0	1	0	0	0	0	0	2	0	0	0	0	3
3:30 PM	0	2	2	0	0	0	0	5	1	0	0	0	10
3:45 PM	0	4	2	0	1	0	2	0	0	0	0	0	9
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	1	0	3	0	0	1	0	0	0	0	5
4:30 PM	0	0	0	0	0	0	0	2	0	0	0	0	2
4:45 PM	0	3	1	0	0	0	0	1	0	0	0	0	5
5:00 PM	0	5	0	0	0	0	0	0	0	0	0	0	5
5:15 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	3	0	0	4	0	0	3	0	0	0	0	10
5:45 PM	0	4	0	0	2	0	0	4	0	0	0	0	10
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	27	6	0	10	0	2	19	1	0	0	0	65
APPROACH %'s :	0.00%	81.82%	18.18%	0.00%	100.00%	0.00%	9.09%	86.36%	4.55%				
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	14	0	0	6	0	0	7	0	0	0	0	27
PEAK HR FACTOR :		0.700			0.375			0.438			0.000		0.675

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-023 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			Temple St			Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	1	2	1	1	2	0	1	2	1	
6:00 AM	0	0	0	1	2	3	2	3	0	0	5	0	16
6:15 AM	0	0	0	0	4	0	3	4	0	0	5	0	16
6:30 AM	0	1	0	0	2	3	3	2	0	1	1	0	13
6:45 AM	0	0	0	0	2	1	1	6	0	0	5	0	15
7:00 AM	0	2	0	0	1	3	2	3	0	1	3	0	15
7:15 AM	0	0	1	0	3	1	3	7	0	0	3	0	18
7:30 AM	0	1	0	0	0	5	3	3	0	0	3	0	15
7:45 AM	0	1	1	1	3	1	1	7	0	0	4	0	19
8:00 AM	0	0	0	0	0	3	4	8	0	0	4	1	20
8:15 AM	0	1	0	0	2	2	1	5	0	0	2	0	13
8:30 AM	0	1	0	0	1	2	3	6	1	0	3	0	17
8:45 AM	0	3	0	0	0	3	4	5	0	0	3	0	18
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	10	2	2	20	27	30	59	1	2	41	1	195
APPROACH %'s :	0.00%	83.33%	16.67%	4.08%	40.82%	55.10%	33.33%	65.56%	1.11%	4.55%	93.18%	2.27%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	3	1	1	6	8	9	26	1	0	13	1	69
PEAK HR FACTOR :		0.500			0.750			0.750			0.700		0.863

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-023 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			Temple St			Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	1	2	1	1	2	0	1	2	1	
3:00 PM	0	0	0	1	0	3	2	2	0	0	10	0	18
3:15 PM	0	0	0	0	0	2	2	3	0	0	5	0	12
3:30 PM	0	0	0	0	1	2	3	1	0	0	6	0	13
3:45 PM	0	0	0	1	2	2	3	5	0	0	5	0	18
4:00 PM	0	1	1	1	0	3	2	1	0	1	6	0	16
4:15 PM	0	0	0	0	0	2	3	4	0	0	5	0	14
4:30 PM	0	0	0	0	3	2	1	1	0	0	10	0	17
4:45 PM	0	0	0	0	0	3	5	3	0	1	5	0	17
5:00 PM	0	2	0	1	2	1	1	4	0	0	9	0	20
5:15 PM	0	0	0	0	2	2	2	1	0	0	5	0	12
5:30 PM	0	0	0	0	1	3	2	0	0	0	4	0	10
5:45 PM	0	1	0	0	0	4	1	1	0	0	0	0	7
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	4	1	4	11	29	27	26	0	2	70	0	174
APPROACH %'s :	0.00%	80.00%	20.00%	9.09%	25.00%	65.91%	50.94%	49.06%	0.00%	2.78%	97.22%	0.00%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	0	2	0	1	5	9	10	8	0	1	23	0	59
PEAK HR FACTOR :		0.250			0.938			0.563			0.667		0.738

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-023 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			Temple St			Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	1	2	1	1	2	0	1	2	1	
6:00 AM	0	0	0	1	4	0	0	1	0	0	0	0	6
6:15 AM	0	0	0	0	3	0	0	1	0	2	2	0	8
6:30 AM	0	1	0	0	1	0	0	0	0	0	1	0	3
6:45 AM	0	3	0	2	2	1	0	0	0	1	3	0	12
7:00 AM	0	1	1	0	1	0	0	1	1	1	5	1	12
7:15 AM	0	2	1	1	0	2	0	0	0	1	1	2	10
7:30 AM	0	3	0	0	2	0	0	0	0	0	3	0	8
7:45 AM	1	3	1	0	1	1	0	2	0	0	3	1	13
8:00 AM	0	1	0	0	2	0	0	2	0	1	5	1	12
8:15 AM	0	0	1	0	1	1	0	3	1	0	4	0	11
8:30 AM	0	2	0	2	2	0	0	3	0	0	7	0	16
8:45 AM	0	4	1	0	1	3	0	1	0	0	5	0	15
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	20	5	6	20	8	0	14	2	6	39	5	126
APPROACH %'s :	3.85%	76.92%	19.23%	17.65%	58.82%	23.53%	0.00%	87.50%	12.50%	12.00%	78.00%	10.00%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	1	6	2	2	6	2	0	10	1	1	19	2	52
PEAK HR FACTOR :		0.450			0.625			0.688			0.786		0.813

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-023 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			Temple St			Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	1	2	1	1	2	0	1	2	1	
3:00 PM	0	3	1	0	1	0	0	2	0	0	2	0	9
3:15 PM	0	1	0	0	0	1	0	1	1	0	1	0	5
3:30 PM	1	4	2	1	1	2	0	4	1	0	1	2	19
3:45 PM	0	2	1	0	0	1	2	3	1	0	2	0	12
4:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	2
4:15 PM	0	1	0	0	1	2	0	5	0	1	2	1	13
4:30 PM	0	0	0	0	0	0	0	3	0	0	2	0	5
4:45 PM	0	4	0	0	1	0	0	1	0	0	2	1	9
5:00 PM	0	3	0	0	1	0	1	4	0	0	0	1	10
5:15 PM	0	2	0	2	1	0	0	5	1	0	0	0	11
5:30 PM	0	2	0	0	4	0	0	3	0	0	0	1	10
5:45 PM	0	4	0	1	1	0	0	3	0	0	2	1	12
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	26	4	4	11	6	3	35	4	2	14	7	117
APPROACH %'s :	3.23%	83.87%	12.90%	19.05%	52.38%	28.57%	7.14%	83.33%	9.52%	8.70%	60.87%	30.43%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	0	11	0	2	7	0	1	13	1	0	2	3	40
PEAK HR FACTOR :		0.688			0.563			0.625			0.417		0.909

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-024 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	3	0	1	3	0	1	2	1	
6:00 AM	0	0	0	0	1	1	0	2	0	0	3	0	7
6:15 AM	0	0	0	0	2	2	0	8	0	0	4	0	16
6:30 AM	0	0	0	1	0	2	1	5	0	0	7	0	16
6:45 AM	0	0	0	1	0	1	0	7	0	0	4	0	13
7:00 AM	0	1	0	0	0	1	1	7	0	0	7	0	17
7:15 AM	0	0	0	0	1	2	0	6	0	0	5	0	14
7:30 AM	0	1	0	0	0	0	0	7	0	0	5	0	13
7:45 AM	0	1	0	0	2	1	1	4	0	0	7	0	16
8:00 AM	0	0	0	0	0	0	0	6	0	0	4	0	10
8:15 AM	0	2	0	0	0	2	0	6	0	0	5	0	15
8:30 AM	0	2	0	0	0	2	1	6	0	0	5	0	16
8:45 AM	0	1	0	0	0	0	0	5	0	0	5	0	11
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	8	0	2	6	14	4	69	0	0	61	0	164
APPROACH %'s :	0.00%	100.00%	0.00%	9.09%	27.27%	63.64%	5.48%	94.52%	0.00%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	0	5	0	0	0	4	1	23	0	0	19	0	52
PEAK HR FACTOR :		0.625			0.500			0.857			0.950		0.813

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-024 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	3	0	1	3	0	1	2	1	
3:00 PM	0	0	0	0	0	0	0	8	0	0	6	0	14
3:15 PM	0	0	0	0	0	0	0	5	0	0	5	0	10
3:30 PM	0	0	0	0	1	0	0	4	0	0	6	0	11
3:45 PM	0	1	0	0	1	1	0	5	0	0	5	0	13
4:00 PM	0	0	0	0	1	0	1	7	0	0	7	0	16
4:15 PM	0	0	0	0	0	0	0	7	0	0	5	0	12
4:30 PM	0	0	0	0	1	2	0	3	0	0	8	0	14
4:45 PM	0	0	0	0	0	0	0	5	0	0	4	0	9
5:00 PM	0	1	0	0	2	0	1	7	0	0	5	0	16
5:15 PM	0	0	0	0	1	2	0	5	0	0	6	0	14
5:30 PM	0	0	0	0	0	0	0	6	0	0	7	0	13
5:45 PM	0	0	0	0	0	0	1	4	0	0	6	0	11
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	2	0	0	7	5	3	66	0	0	70	0	153
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	58.33%	41.67%	4.35%	95.65%	0.00%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	1	0	0	3	2	2	22	0	0	24	0	54
PEAK HR FACTOR :		0.250			0.417			0.750			0.857		0.844

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-024 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	3	0	1	3	0	1	2	1	
6:00 AM	0	0	0	0	4	1	0	0	0	0	2	0	7
6:15 AM	0	0	0	0	4	0	0	1	0	0	3	0	8
6:30 AM	0	0	0	0	0	2	0	3	0	0	3	0	8
6:45 AM	0	3	0	0	2	1	0	1	0	0	5	0	12
7:00 AM	0	1	0	0	2	1	0	2	0	0	2	0	8
7:15 AM	0	1	0	0	1	1	1	0	0	1	3	0	8
7:30 AM	1	2	0	0	0	2	0	2	0	0	8	1	16
7:45 AM	1	4	1	0	2	0	0	2	0	0	4	1	15
8:00 AM	0	1	0	0	2	1	0	1	0	0	2	0	7
8:15 AM	0	2	0	0	2	0	0	8	0	0	2	0	14
8:30 AM	0	1	0	0	1	1	0	2	0	0	8	0	13
8:45 AM	1	4	4	0	1	0	1	1	4	0	5	1	22
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	3	19	5	0	21	10	2	23	4	1	47	3	138
APPROACH %'s :	11.11%	70.37%	18.52%	0.00%	67.74%	32.26%	6.90%	79.31%	13.79%	1.96%	92.16%	5.88%	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	1	8	4	0	6	2	1	12	4	0	17	1	56
PEAK HR FACTOR :		0.361			0.667			0.531			0.563		0.636

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-024 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	3	0	1	3	0	1	2	1	
3:00 PM	0	3	0	1	0	0	0	4	1	0	2	0	11
3:15 PM	1	0	0	0	0	0	1	6	0	0	1	0	9
3:30 PM	0	3	2	0	1	0	2	2	0	0	2	1	13
3:45 PM	0	2	0	0	0	1	1	1	1	0	1	0	7
4:00 PM	0	0	0	0	1	0	0	1	0	0	2	0	4
4:15 PM	0	1	1	1	1	0	0	4	0	0	3	0	11
4:30 PM	1	0	1	0	0	0	0	4	0	0	2	0	8
4:45 PM	0	5	0	0	0	0	0	3	2	1	1	0	12
5:00 PM	1	3	0	0	1	0	0	1	1	0	2	0	9
5:15 PM	1	1	0	0	2	1	0	2	0	0	0	0	7
5:30 PM	0	2	0	0	4	0	0	2	0	0	0	0	8
5:45 PM	0	4	0	0	1	0	0	2	0	0	0	0	7
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	4	24	4	2	11	2	4	32	5	1	16	1	106
APPROACH %'s :	12.50%	75.00%	12.50%	13.33%	73.33%	13.33%	9.76%	78.05%	12.20%	5.56%	88.89%	5.56%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	2	10	0	0	8	1	0	7	1	0	2	0	31
PEAK HR FACTOR :		0.750			0.563			1.000			0.250		0.861

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-025 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	Judge John Aiso St			Judge John Aiso St			Temple St			Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	0	1	0	0	0	0	2	0	1	2	0	
6:00 AM	2	0	1	0	0	0	0	3	1	2	3	0	12
6:15 AM	2	0	3	0	0	0	0	4	0	3	3	0	15
6:30 AM	0	0	3	0	0	0	0	2	0	5	2	0	12
6:45 AM	1	0	3	0	0	0	0	5	0	3	4	0	16
7:00 AM	1	0	4	0	0	0	0	4	0	4	3	0	16
7:15 AM	0	0	3	0	0	0	0	8	0	3	3	0	17
7:30 AM	0	0	3	0	0	0	0	3	0	3	4	0	13
7:45 AM	0	0	4	0	0	0	0	9	0	3	3	0	19
8:00 AM	0	0	4	0	0	0	0	5	0	3	5	0	17
8:15 AM	1	0	4	0	0	0	0	6	1	2	1	0	15
8:30 AM	0	0	1	0	0	0	0	5	1	2	3	0	12
8:45 AM	0	0	3	0	0	0	0	5	0	3	4	0	15
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	7	0	36	0	0	0	0	59	3	36	38	0	179
APPROACH %'s :	16.28%	0.00%	83.72%				0.00%	95.16%	4.84%	48.65%	51.35%	0.00%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	1	0	13	0	0	0	0	25	2	10	12	0	63
PEAK HR FACTOR :		0.700			0.000			0.750			0.688		0.829

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-025 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	Judge John Aiso St			Judge John Aiso St			Temple St			Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	0	1	0	0	0	0	2	0	1	2	0	
3:00 PM	4	0	4	0	0	0	0	0	0	1	9	0	18
3:15 PM	0	0	2	0	0	0	0	6	0	4	1	0	13
3:30 PM	1	0	2	0	0	0	0	0	0	3	5	0	11
3:45 PM	0	0	3	0	0	0	0	7	0	3	6	0	19
4:00 PM	2	0	2	0	0	0	0	2	0	3	4	0	13
4:15 PM	2	0	2	0	0	0	0	5	0	4	5	0	18
4:30 PM	0	0	2	0	0	0	0	0	0	3	8	0	13
4:45 PM	0	0	3	0	0	0	0	4	0	4	6	0	17
5:00 PM	0	0	3	0	0	0	0	5	0	1	9	0	18
5:15 PM	0	0	5	0	0	0	0	0	0	4	8	0	17
5:30 PM	0	0	3	0	0	0	0	0	0	4	2	0	9
5:45 PM	0	0	3	0	0	0	0	0	0	3	0	0	6
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	9	0	34	0	0	0	0	29	0	37	63	0	172
APPROACH %'s :	20.93%	0.00%	79.07%				0.00%	100.00%	0.00%	37.00%	63.00%	0.00%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	0	0	14	0	0	0	0	9	0	13	25	0	61
PEAK HR FACTOR :		0.700			0.000			0.450			0.792		0.847

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-025 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	Judge John Aiso St			Judge John Aiso St			Temple St			Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	0	1	0	0	0	0	2	0	1	2	0	
6:00 AM	0	0	0	0	0	0	0	1	0	1	1	0	3
6:15 AM	1	0	0	0	0	0	0	1	1	0	2	0	5
6:30 AM	0	0	2	0	0	0	0	0	0	0	2	0	4
6:45 AM	0	0	1	0	0	0	0	3	0	0	4	0	8
7:00 AM	3	0	0	0	0	0	0	2	1	0	5	0	11
7:15 AM	1	0	1	0	0	0	0	4	0	2	3	0	11
7:30 AM	0	0	2	0	0	0	0	0	0	1	3	0	6
7:45 AM	1	0	2	0	0	0	0	1	3	2	3	0	12
8:00 AM	1	0	0	0	0	0	0	0	2	4	6	0	13
8:15 AM	0	0	3	0	0	0	0	0	2	2	3	0	10
8:30 AM	0	0	1	0	0	0	0	2	3	1	5	0	12
8:45 AM	0	0	3	0	0	0	0	0	0	2	6	0	11
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	7	0	15	0	0	0	0	14	12	15	43	0	106
APPROACH %'s :	31.82%	0.00%	68.18%				0.00%	53.85%	46.15%	25.86%	74.14%	0.00%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	2	0	6	0	0	0	0	3	10	9	17	0	47
PEAK HR FACTOR :		0.667			0.000			0.650			0.650		0.904

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-025 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	Judge John Aiso St			Judge John Aiso St			Temple St			Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	0	1	0	0	0	0	2	0	1	2	0	
3:00 PM	0	0	1	0	0	0	0	0	0	0	1	0	2
3:15 PM	0	0	3	0	0	0	0	3	0	1	3	0	10
3:30 PM	1	0	0	0	0	0	0	5	0	1	1	0	8
3:45 PM	0	0	1	0	0	0	0	5	2	0	2	0	10
4:00 PM	0	0	1	0	0	0	0	3	0	0	1	0	5
4:15 PM	0	0	1	0	0	0	0	3	0	1	2	0	7
4:30 PM	1	0	1	0	0	0	0	2	1	0	1	0	6
4:45 PM	0	0	0	0	0	0	0	3	1	0	3	0	7
5:00 PM	0	0	0	0	0	0	0	4	0	1	3	0	8
5:15 PM	0	0	2	0	0	0	0	4	0	0	2	0	8
5:30 PM	1	0	0	0	0	0	0	6	0	0	1	0	8
5:45 PM	0	0	1	0	0	0	0	3	0	0	2	0	6
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	3	0	11	0	0	0	0	41	4	4	22	0	85
APPROACH %'s :	21.43%	0.00%	78.57%				0.00%	91.11%	8.89%	15.38%	84.62%	0.00%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	1	0	2	0	0	0	0	17	1	1	9	0	31
PEAK HR FACTOR :	0.375			0.000			0.750			0.625			0.969

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-026 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	Judge John Aiso St_San Pedro St			Judge John Aiso St_San Pedro St			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	2	0	1	3	0	1	2	0	
6:00 AM	1	1	0	0	1	2	1	1	0	0	0	0	7
6:15 AM	3	1	0	0	0	2	3	2	2	0	0	0	13
6:30 AM	3	1	0	0	2	4	4	2	1	0	0	0	17
6:45 AM	2	1	1	0	1	2	2	3	2	1	0	0	15
7:00 AM	2	0	0	0	1	4	4	2	1	0	1	0	15
7:15 AM	3	0	0	0	0	2	4	2	0	0	0	0	11
7:30 AM	2	0	1	0	0	3	3	3	0	0	0	0	12
7:45 AM	4	0	0	0	1	3	3	2	1	0	0	0	14
8:00 AM	3	0	0	0	0	3	4	2	1	0	0	0	13
8:15 AM	2	1	0	0	1	2	4	2	0	0	0	0	12
8:30 AM	2	0	0	0	0	2	1	3	1	0	1	0	10
8:45 AM	2	0	0	0	0	3	3	1	0	0	1	0	10
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	29	5	2	0	7	32	36	25	9	1	3	0	149
APPROACH %'s :	80.56%	13.89%	5.56%	0.00%	17.95%	82.05%	51.43%	35.71%	12.86%	25.00%	75.00%	0.00%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	11	1	0	0	2	10	12	9	3	0	1	0	49
PEAK HR FACTOR :	0.750			0.750			0.857			0.250			0.875

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-026 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	Judge John Aiso St_San Pedro St			Judge John Aiso St_San Pedro St			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	2	0	1	3	0	1	2	0	
3:00 PM	2	1	0	0	0	2	4	2	2	1	2	0	16
3:15 PM	2	1	0	0	0	3	3	2	0	0	0	0	11
3:30 PM	2	0	0	0	0	4	1	2	1	0	0	0	10
3:45 PM	3	1	0	0	0	3	2	3	0	0	0	0	12
4:00 PM	1	2	0	0	0	3	3	3	1	0	2	0	15
4:15 PM	2	0	0	0	0	3	3	3	0	0	0	0	11
4:30 PM	4	1	1	0	0	4	1	2	0	0	1	0	14
4:45 PM	1	1	0	0	0	1	2	3	1	0	1	0	10
5:00 PM	1	0	1	0	0	4	5	2	1	0	1	0	15
5:15 PM	2	0	0	0	0	2	2	3	0	0	1	0	10
5:30 PM	1	0	0	0	1	5	3	3	0	0	1	0	14
5:45 PM	3	2	1	0	0	3	4	0	1	0	0	0	14
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	24	9	3	0	1	37	33	28	7	1	9	0	152
APPROACH %'s :	66.67%	25.00%	8.33%	0.00%	2.63%	97.37%	48.53%	41.18%	10.29%	10.00%	90.00%	0.00%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	5	1	1	0	1	12	12	11	2	0	4	0	49
PEAK HR FACTOR :		0.875			0.542			0.781			1.000		0.817

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-026 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	Judge John Aiso St_San Pedro St			Judge John Aiso St_San Pedro St			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	2	0	1	3	0	1	2	0	
6:00 AM	0	0	1	0	1	0	0	0	0	0	1	0	3
6:15 AM	0	1	0	0	0	1	0	2	0	0	2	0	6
6:30 AM	1	1	1	0	0	0	1	2	0	0	1	0	7
6:45 AM	1	1	4	0	0	0	0	1	0	0	4	0	11
7:00 AM	1	2	0	0	0	0	0	1	0	0	2	0	6
7:15 AM	3	1	0	0	2	0	0	0	1	1	3	0	11
7:30 AM	2	2	0	0	0	1	0	1	1	0	7	0	14
7:45 AM	0	2	1	0	3	1	1	1	1	0	4	0	14
8:00 AM	0	1	0	0	7	0	0	0	1	0	1	0	10
8:15 AM	0	2	0	0	4	0	2	4	3	1	4	0	20
8:30 AM	2	2	0	0	6	0	1	1	0	0	5	0	17
8:45 AM	2	2	1	0	2	0	0	1	3	1	4	1	17
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	12	17	8	0	25	3	5	14	10	3	38	1	136
APPROACH %'s :	32.43%	45.95%	21.62%	0.00%	89.29%	10.71%	17.24%	48.28%	34.48%	7.14%	90.48%	2.38%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	2	7	1	0	20	1	4	6	5	1	14	0	61
PEAK HR FACTOR :		0.625			0.750			0.417			0.750		0.763

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-026 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	Judge John Aiso St_San Pedro St			Judge John Aiso St_San Pedro St			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	2	0	1	3	0	1	2	0	
3:00 PM	3	0	2	0	3	0	0	3	2	1	2	0	16
3:15 PM	0	0	0	0	1	0	1	5	1	1	0	0	9
3:30 PM	0	0	1	0	2	0	1	0	3	3	2	2	14
3:45 PM	0	0	0	0	1	0	0	1	0	0	1	1	4
4:00 PM	0	0	1	0	0	0	0	1	0	2	1	0	5
4:15 PM	0	1	0	0	2	0	2	2	1	1	3	0	12
4:30 PM	0	0	0	0	1	0	0	3	2	0	1	0	7
4:45 PM	0	2	1	0	2	0	1	1	1	0	2	0	10
5:00 PM	0	1	0	0	0	0	0	1	2	0	2	0	6
5:15 PM	0	0	0	0	1	0	0	1	1	0	0	2	5
5:30 PM	0	1	0	0	0	0	1	2	0	0	0	1	5
5:45 PM	0	0	0	0	1	0	0	1	1	1	0	0	4
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	3	5	5	0	14	0	6	21	14	9	14	6	97
APPROACH %'s :	23.08%	38.46%	38.46%	0.00%	100.00%	0.00%	14.63%	51.22%	34.15%	31.03%	48.28%	20.69%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	0	4	1	0	3	0	2	5	4	0	4	3	26
PEAK HR FACTOR :		0.417			0.375			0.917			0.875		0.650

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-027

Day: Thursday

BUSES

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	Mission Rd			Mission Rd			Cesar Chavez Ave			Cesar Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	1	1.5	1.5	0	1	2	0	
6:00 AM	0	0	0	0	4	10	4	3	0	0	3	0	24
6:15 AM	0	0	0	0	10	12	3	1	0	0	2	0	28
6:30 AM	0	0	0	0	4	11	4	3	0	0	3	0	25
6:45 AM	0	1	0	0	9	12	3	3	1	0	3	0	32
7:00 AM	0	1	0	0	8	11	4	7	1	0	3	0	35
7:15 AM	0	0	0	0	2	10	5	2	2	0	2	0	23
7:30 AM	0	1	0	0	1	7	4	6	0	0	3	0	22
7:45 AM	0	0	0	0	1	5	7	3	1	0	1	0	18
8:00 AM	1	0	0	0	0	7	5	1	0	0	3	0	17
8:15 AM	0	1	0	0	1	7	7	2	0	0	3	0	21
8:30 AM	0	5	0	0	0	6	8	1	1	0	2	0	23
8:45 AM	0	2	0	0	2	7	5	7	0	0	4	0	27
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	11	0	0	42	105	59	39	6	0	32	0	295
APPROACH %'s :	8.33%	91.67%	0.00%	0.00%	28.57%	71.43%	56.73%	37.50%	5.77%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	1	2	0	0	3	26	23	12	1	0	10	0	78
PEAK HR FACTOR :		0.750			0.906			0.818			0.833		0.886

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-027 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	Mission Rd			Mission Rd			Cesar Chavez Ave			Cesar Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	1	1.5	1.5	0	1	2	0	
3:00 PM	0	1	0	0	3	5	6	2	1	0	0	0	18
3:15 PM	0	0	0	1	1	7	3	2	2	0	3	0	19
3:30 PM	0	0	0	0	0	5	4	2	0	0	2	0	13
3:45 PM	0	0	0	0	1	6	8	2	1	0	4	0	22
4:00 PM	0	0	0	0	0	7	6	2	0	0	2	0	17
4:15 PM	0	1	0	0	3	2	5	2	2	0	0	0	15
4:30 PM	0	0	0	0	0	3	3	2	1	0	4	0	13
4:45 PM	0	0	0	0	1	3	7	4	0	0	2	0	17
5:00 PM	0	1	0	1	1	3	3	2	0	0	2	0	13
5:15 PM	0	2	0	0	0	2	5	2	1	0	4	0	16
5:30 PM	0	0	0	0	0	6	1	1	1	0	2	0	11
5:45 PM	0	2	0	0	0	3	7	2	0	0	1	0	15
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	7	0	2	10	52	58	25	9	0	26	0	189
APPROACH %'s :	0.00%	100.00%	0.00%	3.13%	15.63%	81.25%	63.04%	27.17%	9.78%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	0	3	0	1	2	14	16	9	2	0	10	0	57
PEAK HR FACTOR :		0.375			0.708			0.614			0.625		0.838

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-027 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	Mission Rd			Mission Rd			Cesar Chavez Ave			Cesar Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	1	1.5	1.5	0	1	2	0	
6:00 AM	0	3	1	0	4	1	1	1	3	0	2	0	16
6:15 AM	2	1	0	0	2	3	1	3	2	0	2	0	16
6:30 AM	3	4	0	0	12	1	2	3	0	0	2	0	27
6:45 AM	3	1	0	0	2	6	1	3	1	1	2	0	20
7:00 AM	3	2	0	0	7	1	2	3	2	0	2	0	22
7:15 AM	0	2	0	0	1	3	4	4	1	1	2	1	19
7:30 AM	1	5	0	0	6	0	4	1	0	0	2	0	19
7:45 AM	2	1	2	0	4	2	2	2	1	1	2	0	19
8:00 AM	6	7	1	0	5	7	3	0	2	0	2	0	33
8:15 AM	1	4	0	0	7	2	5	1	0	2	6	0	28
8:30 AM	1	5	0	0	12	1	2	0	4	0	5	0	30
8:45 AM	2	5	2	2	7	6	3	0	6	1	1	0	35
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	24	40	6	2	69	33	30	21	22	6	30	1	284
APPROACH %'s :	34.29%	57.14%	8.57%	1.92%	66.35%	31.73%	41.10%	28.77%	30.14%	16.22%	81.08%	2.70%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	10	17	3	0	22	11	14	4	3	3	12	0	99
PEAK HR FACTOR :		0.536			0.688			0.875			0.469		0.750

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-027 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	Mission Rd			Mission Rd			Cesar Chavez Ave			Cesar Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	1	1.5	1.5	0	1	2	0	
3:00 PM	0	4	0	0	8	2	3	1	3	0	2	1	24
3:15 PM	1	5	0	0	2	2	3	2	1	4	1	0	21
3:30 PM	0	0	1	0	9	1	4	3	3	0	1	1	23
3:45 PM	0	4	0	1	7	2	2	2	2	1	3	0	24
4:00 PM	0	0	0	0	6	1	1	3	1	0	2	0	14
4:15 PM	1	1	0	0	7	1	1	2	3	0	1	0	17
4:30 PM	0	4	0	0	2	1	0	1	1	0	2	3	14
4:45 PM	1	2	0	0	4	0	1	0	0	0	1	1	10
5:00 PM	1	3	0	1	7	1	1	1	0	1	0	0	16
5:15 PM	1	3	0	0	3	1	1	1	0	0	3	2	15
5:30 PM	0	1	0	0	1	2	0	2	0	1	2	0	9
5:45 PM	1	4	0	0	4	2	1	0	0	0	1	0	13
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	6	31	1	2	60	16	18	18	14	7	19	8	200
APPROACH %'s :	15.79%	81.58%	2.63%	2.56%	76.92%	20.51%	36.00%	36.00%	28.00%	20.59%	55.88%	23.53%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	3	9	0	1	15	4	3	4	0	2	6	3	50
PEAK HR FACTOR :		0.750			0.556			0.875			0.550		0.781

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-028

Day: Thursday

BUSES

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	Mission Rd			Mission Rd			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	0	1	1	1	1	0.5	0.5	1	0.5	0.5	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
6:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	2
6:45 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:00 AM	0	1	0	0	0	0	1	1	0	0	1	0	4
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	1	2
8:30 AM	0	0	0	0	0	0	0	1	0	0	0	5	6
8:45 AM	0	0	0	0	0	2	0	0	0	0	1	2	5
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	1	0	0	0	2	1	6	0	0	8	8	26
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	14.29%	85.71%	0.00%	0.00%	50.00%	50.00%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	0	1	0	0	0	0	1	3	0	0	2	0	7
PEAK HR FACTOR :		0.250			0.000			0.500			0.500		0.438

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-028 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	Mission Rd			Mission Rd			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	0	1	1	1	1	0.5	0.5	1	0.5	0.5	
3:00 PM	0	0	0	0	0	0	1	0	0	0	1	0	2
3:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
3:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
4:00 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
4:15 PM	0	0	0	1	0	0	0	0	0	0	1	0	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	2
4:45 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
5:00 PM	0	0	0	0	0	0	1	2	0	0	0	0	3
5:15 PM	0	0	0	0	0	0	1	0	0	0	1	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	1	0	0	1	1	3
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	1	0	0	3	6	0	0	9	1	20
APPROACH %'s :				100.00%	0.00%	0.00%	33.33%	66.67%	0.00%	0.00%	90.00%	10.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	2	3	0	0	2	1	8
PEAK HR FACTOR :		0.000			0.000			0.417			0.375		0.667

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-028 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	Mission Rd			Mission Rd			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	0	1	1	1	1	0.5	0.5	1	0.5	0.5	
6:00 AM	0	5	0	0	1	1	2	0	0	0	1	2	12
6:15 AM	0	3	1	0	3	1	0	1	1	0	1	1	12
6:30 AM	0	3	0	0	2	2	3	0	0	0	4	0	14
6:45 AM	0	2	0	0	3	0	1	1	0	0	5	2	14
7:00 AM	2	5	1	1	3	2	0	1	0	0	1	1	17
7:15 AM	0	2	0	1	1	4	2	2	0	0	4	0	16
7:30 AM	0	2	0	0	1	1	4	1	1	0	3	0	13
7:45 AM	0	4	0	0	2	2	1	1	0	0	2	1	13
8:00 AM	0	7	0	0	1	2	1	3	0	0	5	3	22
8:15 AM	0	3	0	0	1	1	3	1	0	2	1	2	14
8:30 AM	0	3	2	2	4	7	0	0	0	0	1	0	19
8:45 AM	0	4	0	0	2	1	2	0	0	0	2	4	15
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	2	43	4	4	24	24	19	11	2	2	30	16	181
APPROACH %'s :	4.08%	87.76%	8.16%	7.69%	46.15%	46.15%	59.38%	34.38%	6.25%	4.17%	62.50%	33.33%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	0	15	0	1	5	9	8	7	1	0	14	4	64
PEAK HR FACTOR :		0.536			0.625			0.667			0.563		0.727

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-028 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	Mission Rd			Mission Rd			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	0	1	1	1	1	0.5	0.5	1	0.5	0.5	
3:00 PM	0	0	0	1	3	0	1	1	0	0	4	3	13
3:15 PM	0	1	0	2	4	0	1	1	1	0	1	0	11
3:30 PM	0	1	1	0	8	0	0	0	0	1	1	1	13
3:45 PM	0	1	1	1	0	1	1	0	0	0	2	1	8
4:00 PM	0	0	0	1	0	1	0	1	0	0	1	0	4
4:15 PM	0	3	0	1	7	1	0	1	0	0	1	1	15
4:30 PM	1	6	1	1	2	0	1	0	0	1	0	1	14
4:45 PM	0	2	0	0	2	0	1	1	0	0	0	0	6
5:00 PM	0	1	0	1	2	0	1	0	0	0	1	1	7
5:15 PM	0	1	1	1	4	0	1	1	0	0	1	1	11
5:30 PM	0	1	0	0	2	0	0	0	0	0	0	0	3
5:45 PM	0	0	0	0	3	1	0	1	0	1	0	2	8
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	17	4	9	37	4	7	7	1	3	12	11	113
APPROACH %'s :	4.55%	77.27%	18.18%	18.00%	74.00%	8.00%	46.67%	46.67%	6.67%	11.54%	46.15%	42.31%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	3	1	2	11	1	2	2	0	1	2	4	29
PEAK HR FACTOR :		0.500			0.700			0.500			0.583		0.659

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-029 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	Central Ave			Central Ave			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	0	1	0	0	0	0	2	0	1	2	0	
6:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
6:15 AM	0	0	0	0	0	0	0	2	0	0	0	0	2
6:30 AM	0	0	0	0	0	0	0	2	0	0	0	0	2
6:45 AM	0	0	0	0	0	0	0	3	0	1	1	0	5
7:00 AM	0	0	0	0	0	0	0	0	2	0	1	0	3
7:15 AM	0	0	0	0	0	0	0	0	2	0	0	0	2
7:30 AM	0	0	0	0	0	0	0	0	3	0	1	0	4
7:45 AM	0	0	0	0	0	0	0	0	4	0	0	0	4
8:00 AM	0	0	0	0	0	0	0	0	2	0	0	0	2
8:15 AM	0	0	0	0	0	0	0	0	2	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	3	0	1	0	4
8:45 AM	0	0	0	0	0	0	0	0	1	1	2	0	4
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	8	19	2	6	0	35
APPROACH %'s :							0.00%	29.63%	70.37%	25.00%	75.00%	0.00%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	11	0	1	0	12
PEAK HR FACTOR :		0.000			0.000			0.688			0.250		0.750

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-029 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	Central Ave			Central Ave			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	0	1	0	0	0	0	2	0	1	2	0	
3:00 PM	0	0	1	0	0	0	0	2	0	0	3	0	6
3:15 PM	0	0	0	0	0	0	0	2	0	0	0	0	2
3:30 PM	0	0	0	0	0	0	0	2	0	0	0	0	2
3:45 PM	0	0	0	0	0	0	0	3	0	0	0	0	3
4:00 PM	0	0	0	0	0	0	0	2	0	0	2	0	4
4:15 PM	0	0	0	0	0	0	0	3	0	0	0	0	3
4:30 PM	0	0	0	0	0	0	0	3	0	0	1	0	4
4:45 PM	0	0	1	0	0	0	0	3	0	0	1	0	5
5:00 PM	0	0	0	0	0	0	0	4	0	0	1	0	5
5:15 PM	0	0	1	0	0	0	0	2	1	0	0	0	4
5:30 PM	0	0	0	0	0	0	0	3	0	0	1	0	4
5:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	3	0	0	0	0	30	1	0	9	0	43
APPROACH %'s :	0.00%	0.00%	100.00%				0.00%	96.77%	3.23%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	0	1	0	0	0	0	10	1	0	2	0	14
PEAK HR FACTOR :		0.250			0.000			0.688			0.500		0.700

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-029 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	Central Ave			Central Ave			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	0	1	0	0	0	0	2	0	1	2	0	
6:00 AM	0	0	0	0	0	0	0	2	0	4	1	0	7
6:15 AM	1	0	2	0	0	0	0	0	1	2	1	0	7
6:30 AM	0	0	2	0	0	0	0	2	1	2	2	0	9
6:45 AM	1	0	3	0	0	0	0	1	1	3	2	0	11
7:00 AM	0	0	0	0	0	0	0	0	3	0	1	0	4
7:15 AM	1	0	1	0	0	0	0	0	0	1	4	0	7
7:30 AM	2	0	0	0	0	0	0	0	1	1	3	0	7
7:45 AM	2	0	0	0	0	0	0	0	1	2	2	0	7
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
8:15 AM	0	0	0	0	0	0	0	0	4	1	4	0	9
8:30 AM	2	0	0	0	0	0	0	0	2	0	3	0	7
8:45 AM	5	0	0	0	0	0	0	0	2	0	2	0	9
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	14	0	8	0	0	0	0	5	16	16	26	0	85
APPROACH %'s :	63.64%	0.00%	36.36%				0.00%	23.81%	76.19%	38.10%	61.90%	0.00%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	4	0	0	0	0	0	0	0	7	3	10	0	24
PEAK HR FACTOR :	0.500			0.000			0.438			0.650			0.667

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-029 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	Central Ave			Central Ave			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	0	1	0	0	0	0	2	0	1	2	0	
3:00 PM	0	0	1	0	0	0	0	3	4	0	2	0	10
3:15 PM	1	0	3	0	0	0	0	3	2	0	2	0	11
3:30 PM	2	0	2	0	0	0	0	0	0	3	2	0	9
3:45 PM	1	0	1	0	0	0	0	0	1	1	1	0	5
4:00 PM	0	0	1	0	0	0	0	1	0	5	5	0	12
4:15 PM	0	0	0	0	0	0	0	1	1	1	5	0	8
4:30 PM	1	0	0	0	0	0	0	1	2	1	2	0	7
4:45 PM	1	0	4	0	0	0	0	0	2	0	0	0	7
5:00 PM	0	0	0	0	0	0	0	0	1	1	2	0	4
5:15 PM	0	0	2	0	0	0	0	0	0	0	1	0	3
5:30 PM	0	0	0	0	0	0	0	2	0	0	0	0	2
5:45 PM	0	0	1	0	0	0	0	2	0	0	1	0	4
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	6	0	15	0	0	0	0	13	13	12	23	0	82
APPROACH %'s :	28.57%	0.00%	71.43%				0.00%	50.00%	50.00%	34.29%	65.71%	0.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	0	3	0	0	0	0	4	1	1	4	0	13
PEAK HR FACTOR :	0.375			0.000			0.625			0.417			0.813

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-009 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Alameda St			N Alameda St			El Monte Busway			El Monte Busway			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1.5	1.5	1	3	0	0	0	0	0	1	0	
6:00 AM	0	3	2	0	0	0	0	0	0	0	0	0	5
6:15 AM	0	8	3	0	3	0	0	0	0	0	0	0	14
6:30 AM	0	3	7	1	0	0	0	0	0	0	0	0	11
6:45 AM	0	2	4	1	1	0	0	0	0	0	0	0	8
7:00 AM	0	3	5	0	1	0	0	0	0	0	0	0	9
7:15 AM	0	0	7	2	0	0	0	0	0	0	0	0	9
7:30 AM	0	2	11	0	1	0	0	0	0	0	0	0	14
7:45 AM	0	2	8	0	2	0	0	0	0	0	0	0	12
8:00 AM	0	0	6	0	2	0	0	0	0	0	0	0	8
8:15 AM	0	0	15	1	0	0	0	0	0	0	0	0	16
8:30 AM	0	4	9	0	2	0	0	0	0	0	0	0	15
8:45 AM	0	0	7	0	0	0	0	0	0	0	0	0	7
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	27	84	5	12	0	0	0	0	0	0	0	128
APPROACH %'s :	0.00%	24.32%	75.68%	29.41%	70.59%	0.00%							

PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	4	40	1	5	0	0	0	0	0	0	0	50
PEAK HR FACTOR :		0.733			0.750			0.000			0.000		0.781

CONTROL : No Control

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-009 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Alameda St			N Alameda St			El Monte Busway			El Monte Busway			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1.5	1.5	1	3	0	0	0	0	0	1	0	
3:00 PM	0	2	6	0	2	0	0	0	0	0	0	0	10
3:15 PM	0	0	10	0	1	0	0	0	0	0	0	0	11
3:30 PM	0	1	12	0	2	0	0	0	0	0	0	0	15
3:45 PM	0	1	9	0	2	0	0	0	0	0	0	0	12
4:00 PM	0	0	10	0	1	0	0	0	0	0	0	0	11
4:15 PM	0	1	14	0	1	0	0	0	0	0	0	0	16
4:30 PM	0	1	19	0	0	0	0	0	0	0	0	0	20
4:45 PM	0	0	14	0	2	0	0	0	0	0	0	0	16
5:00 PM	0	1	18	0	1	0	0	0	0	0	0	0	20
5:15 PM	0	2	15	0	2	0	0	0	0	0	0	0	19
5:30 PM	0	0	18	0	1	0	0	0	0	0	0	0	19
5:45 PM	0	0	21	0	1	0	0	0	0	0	0	0	22
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	9	166	0	16	0	0	0	0	0	0	0	191
APPROACH %'s :	0.00%	5.14%	94.86%	0.00%	100.00%	0.00%							
PEAK HR START TIME :	345 PM												TOTAL
PEAK HR VOL :	0	3	52	0	4	0	0	0	0	0	0	0	59
PEAK HR FACTOR :		0.688			0.500			0.000			0.000		0.738

CONTROL : No Control

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-009 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Alameda St			N Alameda St			El Monte Busway			El Monte Busway			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1.5	1.5	1	3	0	0	0	0	0	1	0	
6:00 AM	0	14	2	0	9	0	0	0	0	0	0	0	25
6:15 AM	0	11	0	0	8	0	0	0	0	0	0	0	19
6:30 AM	0	13	3	0	8	0	0	0	0	0	0	0	24
6:45 AM	0	10	0	0	6	0	0	0	0	0	0	0	16
7:00 AM	0	23	2	0	5	0	0	0	0	0	0	0	30
7:15 AM	0	21	2	0	8	0	0	0	0	0	0	0	31
7:30 AM	0	23	2	0	16	0	0	0	0	0	0	0	41
7:45 AM	0	21	1	0	9	0	0	0	0	0	0	0	31
8:00 AM	0	15	1	0	10	0	0	0	0	0	0	0	26
8:15 AM	0	25	0	1	14	0	0	0	0	0	0	0	40
8:30 AM	0	23	1	0	7	0	0	0	0	0	0	0	31
8:45 AM	0	27	0	0	13	0	0	0	0	0	0	0	40
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	226	14	1	113	0	0	0	0	0	0	0	354
APPROACH %'s :	0.00%	94.17%	5.83%	0.88%	99.12%	0.00%							
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	84	4	1	49	0	0	0	0	0	0	0	138
PEAK HR FACTOR :		0.880			0.781			0.000			0.000		0.841

CONTROL : No Control

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-009 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Alameda St			N Alameda St			El Monte Busway			El Monte Busway			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1.5	1.5	1	3	0	0	0	0	0	1	0	
3:00 PM	0	2	1	0	10	0	0	0	0	0	0	0	13
3:15 PM	0	8	1	0	11	0	0	0	0	0	0	0	20
3:30 PM	0	5	4	0	6	0	0	0	0	0	0	0	15
3:45 PM	0	5	3	0	3	0	0	0	0	0	0	0	11
4:00 PM	0	8	2	1	7	0	0	0	0	0	0	0	18
4:15 PM	0	12	3	0	5	0	0	0	0	0	0	0	20
4:30 PM	0	5	4	0	5	0	0	0	0	0	0	0	14
4:45 PM	0	7	3	0	1	0	0	0	0	0	0	0	11
5:00 PM	0	6	1	0	4	0	0	0	0	0	0	0	11
5:15 PM	0	4	1	0	3	0	0	0	0	0	0	0	8
5:30 PM	0	3	4	0	5	0	0	0	0	0	0	0	12
5:45 PM	0	5	5	0	4	0	0	0	0	0	0	0	14
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	70	32	1	64	0	0	0	0	0	0	0	167
APPROACH %'s :	0.00%	68.63%	31.37%	1.54%	98.46%	0.00%							
PEAK HR START TIME :	345 PM												TOTAL
PEAK HR VOL :	0	30	12	1	20	0	0	0	0	0	0	0	63
PEAK HR FACTOR :		0.700			0.656			0.000			0.000		0.788

CONTROL : No Control

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-110

Day: Thursday

BUSES

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	N Alameda St			N Alameda St			N Los Angeles St (North)			N Los Angeles St (North)			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	0	4	0	0	0	0	1	1	1	
6:00 AM	0	7	0	0	0	2	0	0	0	0	0	0	9
6:15 AM	0	10	0	0	3	3	0	0	0	0	0	0	16
6:30 AM	0	4	0	0	1	3	0	0	0	0	0	0	8
6:45 AM	0	7	0	0	2	3	0	0	0	0	0	0	12
7:00 AM	0	5	0	0	2	3	0	0	0	0	0	0	10
7:15 AM	0	3	0	0	2	2	0	0	0	0	0	0	7
7:30 AM	0	6	0	0	0	4	0	0	0	0	0	0	10
7:45 AM	0	3	0	0	2	2	0	0	0	0	0	0	7
8:00 AM	0	4	0	0	3	4	0	0	0	0	0	0	11
8:15 AM	0	1	0	0	0	1	0	0	0	0	0	0	2
8:30 AM	0	6	0	0	2	3	0	0	0	0	0	0	11
8:45 AM	0	3	0	0	2	3	0	0	0	0	0	0	8
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	59	0	0	19	33	0	0	0	0	0	0	111
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	36.54%	63.46%							

PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	14	0	0	5	11	0	0	0	0	0	0	30
PEAK HR FACTOR :		0.583			0.571			0.000			0.000		0.682

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-110 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Alameda St			N Alameda St			N Los Angeles St (North)			N Los Angeles St (North)			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	0	4	0	0	0	0	1	1	1	
3:00 PM	0	4	0	0	2	4	0	0	0	0	0	0	10
3:15 PM	0	1	0	0	1	2	0	0	0	0	0	0	4
3:30 PM	0	4	0	0	3	2	0	0	0	0	0	0	9
3:45 PM	0	3	0	0	2	3	0	0	0	0	0	0	8
4:00 PM	0	3	0	0	1	3	0	0	0	0	0	0	7
4:15 PM	0	3	0	0	1	3	0	0	0	0	0	0	7
4:30 PM	0	4	0	0	1	3	0	0	0	0	0	0	8
4:45 PM	0	2	0	0	2	2	0	0	0	0	0	0	6
5:00 PM	0	4	0	0	1	3	0	0	0	0	0	0	8
5:15 PM	0	4	0	0	2	2	0	0	0	0	0	0	8
5:30 PM	0	1	0	0	1	4	0	0	0	0	0	0	6
5:45 PM	0	1	0	0	2	3	0	0	0	0	0	0	6
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	34	0	0	19	34	0	0	0	0	0	0	87
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	35.85%	64.15%							
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	10	0	0	6	12	0	0	0	0	0	0	28
PEAK HR FACTOR :		0.625			0.900			0.000			0.000		0.875

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-110

Day: Thursday

HEAVY TRUCKS

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	N Alameda St			N Alameda St			N Los Angeles St (North)			N Los Angeles St (North)			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	0	4	0	0	0	0	1	1	1	
6:00 AM	0	10	0	0	42	0	0	0	0	0	0	0	52
6:15 AM	0	6	0	0	35	1	0	0	0	0	0	0	42
6:30 AM	0	8	0	0	16	0	0	0	0	1	2	0	27
6:45 AM	0	7	0	0	11	0	0	0	0	0	2	0	20
7:00 AM	0	9	0	0	8	0	0	0	0	0	2	0	19
7:15 AM	0	10	0	0	10	0	0	0	0	0	2	0	22
7:30 AM	0	19	0	0	17	0	0	0	0	1	2	0	39
7:45 AM	0	17	0	0	11	1	0	0	0	0	3	0	32
8:00 AM	0	10	0	0	12	0	0	0	0	0	2	0	24
8:15 AM	0	14	0	0	20	0	0	0	0	0	2	0	36
8:30 AM	0	18	0	0	11	0	0	0	0	1	2	0	32
8:45 AM	0	22	0	0	18	0	0	0	0	0	2	0	42
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	150	0	0	211	2	0	0	0	3	21	0	387
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	99.06%	0.94%				12.50%	87.50%	0.00%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	60	0	0	60	1	0	0	0	1	9	0	131
PEAK HR FACTOR :		0.789			0.763			0.000			0.833		0.840

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-110 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Alameda St			N Alameda St			N Los Angeles St (North)			N Los Angeles St (North)			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	0	4	0	0	0	0	1	1	1	
3:00 PM	0	5	0	0	14	0	0	0	0	1	1	0	21
3:15 PM	0	4	0	0	15	1	0	0	0	0	1	1	22
3:30 PM	0	5	0	0	5	2	0	0	0	1	0	0	13
3:45 PM	0	6	0	0	6	0	0	0	0	0	1	0	13
4:00 PM	0	7	0	0	8	1	0	0	0	1	2	0	19
4:15 PM	0	8	0	0	5	1	0	0	0	0	2	0	16
4:30 PM	0	6	0	0	7	0	0	0	0	0	1	0	14
4:45 PM	0	9	0	0	2	0	0	0	0	2	0	0	13
5:00 PM	0	7	0	0	5	0	0	0	0	0	0	0	12
5:15 PM	0	6	0	0	3	0	0	0	0	1	0	0	10
5:30 PM	0	5	0	0	5	2	0	0	0	1	0	0	13
5:45 PM	0	8	0	0	6	1	0	0	0	1	0	0	16
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	76	0	0	81	8	0	0	0	8	8	1	182
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	91.01%	8.99%				47.06%	47.06%	5.88%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	26	0	0	19	3	0	0	0	3	0	0	51
PEAK HR FACTOR :		0.813			0.786			0.000			0.750		0.797

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-116 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Alameda St_N Spring St			N Alameda St_N Spring St			W College St			W College St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	1	0	0	0	1	1	1	0	2	0	
6:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
6:15 AM	0	0	0	0	0	0	0	3	0	0	3	0	6
6:30 AM	0	0	0	0	0	0	0	2	0	0	3	0	5
6:45 AM	0	0	0	0	0	0	0	3	0	0	2	0	5
7:00 AM	0	0	0	0	0	0	0	2	0	0	3	0	5
7:15 AM	0	0	0	0	0	0	0	2	0	0	3	0	5
7:30 AM	0	0	0	0	0	0	0	1	0	0	2	0	3
7:45 AM	0	0	0	0	0	0	0	2	0	0	3	0	5
8:00 AM	0	0	0	0	0	0	0	1	0	0	2	0	3
8:15 AM	0	0	0	0	0	0	0	3	0	0	2	0	5
8:30 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
8:45 AM	0	0	0	0	0	0	0	3	0	0	2	0	5
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	23	0	0	27	0	50
APPROACH %'s :							0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	8	0	0	7	0	15
PEAK HR FACTOR :		0.000			0.000			0.667			0.875		0.750

CONTROL : 1-Way Stop (NB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-116 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Alameda St_N Spring St			N Alameda St_N Spring St			W College St			W College St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	1	0	0	0	1	1	1	0	2	0	
3:00 PM	0	0	0	0	0	0	0	2	0	0	3	0	5
3:15 PM	0	0	0	0	0	0	0	2	0	0	1	0	3
3:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	2
3:45 PM	0	0	0	0	0	0	0	3	0	0	1	0	4
4:00 PM	0	0	0	0	0	0	0	2	0	0	3	0	5
4:15 PM	0	0	0	0	0	0	0	1	0	0	3	0	4
4:30 PM	0	0	0	0	0	0	0	1	0	0	2	0	3
4:45 PM	0	0	0	0	0	0	0	2	0	0	3	0	5
5:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	2
5:15 PM	0	0	0	0	0	0	0	2	0	0	3	0	5
5:30 PM	0	0	1	0	0	0	0	0	0	0	2	0	3
5:45 PM	0	0	0	0	0	0	0	1	0	0	3	0	4
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	1	0	0	0	0	16	0	0	28	0	45
APPROACH %'s :	0.00%	0.00%	100.00%				0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	

PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	0	1	0	0	0	0	3	0	0	10	0	14
PEAK HR FACTOR :		0.250			0.000			0.375			0.833		0.700

CONTROL : 1-Way Stop (NB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-116

Day: Thursday

HEAVY TRUCKS

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	N Alameda St_N Spring St			N Alameda St_N Spring St			W College St			W College St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	1	0	0	0	1	1	1	0	2	0	
6:00 AM	0	0	0	0	0	0	0	0	0	0	8	0	8
6:15 AM	0	0	0	0	0	0	0	0	1	0	3	0	4
6:30 AM	1	0	0	0	0	0	0	1	0	0	1	0	3
6:45 AM	0	0	0	0	0	0	0	1	0	0	3	0	4
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:15 AM	0	0	0	0	0	0	0	3	0	0	0	0	3
7:30 AM	0	0	0	0	0	0	0	3	0	0	4	0	7
7:45 AM	0	0	0	0	0	0	0	1	0	0	4	0	5
8:00 AM	0	0	0	0	0	0	0	2	0	0	0	0	2
8:15 AM	0	0	0	0	0	0	0	1	1	0	1	0	3
8:30 AM	0	0	0	0	0	0	0	1	0	2	2	0	5
8:45 AM	0	0	0	0	0	0	0	1	0	0	4	0	5
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	0	0	0	0	0	0	14	2	2	31	0	50
APPROACH %'s :	100.00%	0.00%	0.00%				0.00%	87.50%	12.50%	6.06%	93.94%	0.00%	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	5	1	2	7	0	15
PEAK HR FACTOR :		0.000			0.000			0.750			0.563		0.750

CONTROL : 1-Way Stop (NB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-116 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Alameda St_N Spring St			N Alameda St_N Spring St			W College St			W College St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	1	0	0	0	1	1	1	0	2	0	
3:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
3:15 PM	0	0	0	0	0	0	0	4	3	0	1	0	8
3:30 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
3:45 PM	0	0	0	0	0	0	0	1	1	0	1	0	3
4:00 PM	0	0	0	0	0	0	0	3	1	0	0	0	4
4:15 PM	0	0	0	0	0	0	0	4	1	0	1	0	6
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	1	0	0	4	0	5
5:15 PM	0	0	0	0	0	0	0	1	1	0	2	0	4
5:30 PM	0	0	0	0	0	0	0	2	0	0	4	0	6
5:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	2
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	19	7	0	17	0	43
APPROACH %'s :							0.00%	73.08%	26.92%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	4	1	0	12	0	17
PEAK HR FACTOR :		0.000			0.000			0.625			0.750		0.708

CONTROL : 1-Way Stop (NB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-122 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			SR-101 SB Ramps			SR-101 SB Ramps			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	0	2	0	0	4	0	0	0	0	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 AM	0	0	0	0	0	0	0	2	0	0	0	0	2
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	3	0	0	0	0	3
8:45 AM	0	0	3	0	0	0	0	0	0	0	0	0	3
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	3	0	0	0	0	9	0	0	0	0	12
APPROACH %'s :	0.00%	0.00%	100.00%				0.00%	100.00%	0.00%				

PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	0	0	3	0	0	0	0	4	0	0	0	0	7
PEAK HR FACTOR :		0.250			0.000			0.333			0.000		0.583

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-122 **Day:** Thursday

BUSES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			SR-101 SB Ramps			SR-101 SB Ramps			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	0	2	0	0	4	0	0	0	0	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	1	0	0	0	0	1
APPROACH %'s :							0.00%	100.00%	0.00%				
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	1	0	0	0	0	1
PEAK HR FACTOR :		0.000			0.000			0.250			0.000		0.250

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-122 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			SR-101 SB Ramps			SR-101 SB Ramps			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	0	2	0	0	4	0	0	0	0	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 AM	0	0	0	0	0	0	0	2	0	0	0	0	2
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
7:30 AM	0	0	1	0	0	0	0	1	0	0	0	0	2
7:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	1	0	0	0	0	6	0	0	0	0	7
APPROACH %'s :	0.00%	0.00%	100.00%				0.00%	100.00%	0.00%				
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	1	0	0	0	0	1
PEAK HR FACTOR :		0.000			0.000			0.250			0.000		0.250

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-122 **Day:** Thursday

HEAVY TRUCKS

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			SR-101 SB Ramps			SR-101 SB Ramps			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	0	2	0	0	4	0	0	0	0	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
3:15 PM	0	0	1	0	0	0	0	3	0	0	0	0	4
3:30 PM	0	0	1	0	0	0	0	2	0	0	0	0	3
3:45 PM	0	0	0	0	0	0	0	2	0	0	0	0	2
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	2	0	0	0	0	2
4:30 PM	0	0	1	0	0	0	0	2	0	0	0	0	3
4:45 PM	0	0	1	0	0	0	0	1	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	1	0	0	0	0	3	0	0	0	0	4
5:45 PM	0	0	1	0	0	0	0	1	0	0	0	0	2
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	6	0	0	0	0	16	0	0	0	0	22
APPROACH %'s :	0.00%	0.00%	100.00%				0.00%	100.00%	0.00%				
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	0	0	2	0	0	0	0	4	0	0	0	0	6
PEAK HR FACTOR :		0.500			0.000			0.333			0.000		0.375

CONTROL : Signalized

Appendix D:
Existing Intersection Analysis Worksheets

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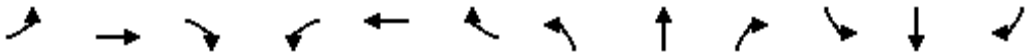
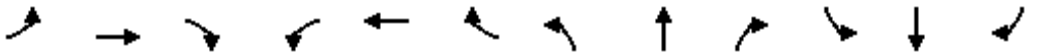


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	31	114	149	0	199	0	669	149	128	1169	0
Future Volume (vph)	43	31	114	149	0	199	0	669	149	128	1169	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5	4.5	
Lane Util. Factor	0.97	1.00	1.00	1.00		1.00		0.95	1.00	1.00	0.91	
Frt	1.00	1.00	0.85	1.00		0.85		1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1863	1583	1770		1583		3539	1583	1770	5085	
Flt Permitted	0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1863	1583	1770		1583		3539	1583	1770	5085	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	34	124	162	0	216	0	727	162	139	1271	0
RTOR Reduction (vph)	0	0	110	0	0	0	0	0	105	0	0	0
Lane Group Flow (vph)	47	34	14	162	0	216	0	727	57	139	1271	0
Turn Type	Split	NA	Perm	Prot		Prot		NA	Perm	Prot	NA	
Protected Phases	3	3		4		4		6		5	2	
Permitted Phases			3						6			
Actuated Green, G (s)	10.3	10.3	10.3	21.3		21.3		26.8	26.8	13.6	44.9	
Effective Green, g (s)	10.3	10.3	10.3	21.3		21.3		26.8	26.8	13.6	44.9	
Actuated g/C Ratio	0.11	0.11	0.11	0.24		0.24		0.30	0.30	0.15	0.50	
Clearance Time (s)	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5	4.5	
Lane Grp Cap (vph)	392	213	181	418		374		1053	471	267	2536	
v/s Ratio Prot	0.01	c0.02		0.09		c0.14		c0.21		0.08	c0.25	
v/s Ratio Perm			0.01						0.04			
v/c Ratio	0.12	0.16	0.08	0.39		0.58		0.69	0.12	0.52	0.50	
Uniform Delay, d1	35.8	35.9	35.6	28.9		30.4		27.9	23.0	35.2	15.1	
Progression Factor	0.80	0.81	0.59	0.90		0.91		1.56	3.71	1.38	0.66	
Incremental Delay, d2	0.6	1.6	0.8	2.7		6.3		3.5	0.5	6.1	0.6	
Delay (s)	29.4	30.7	21.9	28.6		33.8		47.0	86.0	54.5	10.5	
Level of Service	C	C	C	C		C		D	F	D	B	
Approach Delay (s)		25.1			31.6			54.1			14.8	
Approach LOS		C			C			D			B	

Intersection Summary			
HCM 2000 Control Delay	29.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	51.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	59	14	10	149	96	13	37	7	180	66	186
Future Volume (vph)	235	59	14	10	149	96	13	37	7	180	66	186
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	4.5
Lane Util. Factor	0.97	1.00		1.00	0.95			0.95			1.00	1.00
Frt	1.00	0.97		1.00	0.94			0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	1.00
Satd. Flow (prot)	3433	1810		1770	3332			3432			1797	1583
Flt Permitted	0.95	1.00		0.71	1.00			0.99			0.96	1.00
Satd. Flow (perm)	3433	1810		1314	3332			3432			1797	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	255	64	15	11	162	104	14	40	8	196	72	202
RTOR Reduction (vph)	0	6	0	0	64	0	0	7	0	0	0	133
Lane Group Flow (vph)	255	73	0	11	202	0	0	55	0	0	268	69
Turn Type	Prot	NA		Perm	NA		Split	NA		Split	NA	custom
Protected Phases	5	2			6		3	3		4	4	4
Permitted Phases				6								5
Actuated Green, G (s)	11.9	51.2		34.8	34.8			6.5			18.8	30.7
Effective Green, g (s)	11.9	51.2		34.8	34.8			6.5			18.8	30.7
Actuated g/C Ratio	0.13	0.57		0.39	0.39			0.07			0.21	0.34
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	453	1029		508	1288			247			375	619
v/s Ratio Prot	c0.07	0.04			c0.06			c0.02			c0.15	0.02
v/s Ratio Perm				0.01								0.02
v/c Ratio	0.56	0.07		0.02	0.16			0.22			0.71	0.11
Uniform Delay, d1	36.6	8.7		17.1	18.0			39.4			33.1	20.3
Progression Factor	1.39	0.36		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	1.5	0.1		0.0	0.1			2.1			6.3	0.1
Delay (s)	52.4	3.2		17.1	18.1			41.4			39.5	20.4
Level of Service	D	A		B	B			D			D	C
Approach Delay (s)		40.8			18.0			41.4			31.3	
Approach LOS		D			B			D			C	

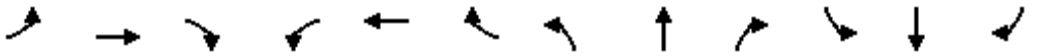
Intersection Summary			
HCM 2000 Control Delay	31.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	224	22	90	199	56	55
Future Volume (vph)	224	22	90	199	56	55
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	243	24	98	216	61	60

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2
Volume Total (vph)	267	98	216	61	60
Volume Left (vph)	0	98	0	61	0
Volume Right (vph)	24	0	0	0	60
Hadj (s)	-0.02	0.53	0.03	0.53	-0.67
Departure Headway (s)	5.0	5.6	5.1	6.4	5.2
Degree Utilization, x	0.37	0.15	0.31	0.11	0.09
Capacity (veh/h)	693	616	679	519	629
Control Delay (s)	10.9	8.5	9.2	9.0	7.5
Approach Delay (s)	10.9	9.0		8.3	
Approach LOS	B	A		A	

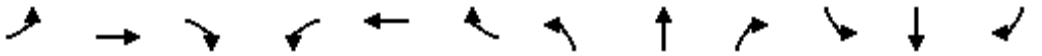
Intersection Summary			
Delay	9.6		
Level of Service	A		
Intersection Capacity Utilization	31.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	193	4	82	3	4	7	70	352	7	9	356	215
Future Volume (vph)	193	4	82	3	4	7	70	352	7	9	356	215
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	210	4	89	3	4	8	76	383	8	10	387	234

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total (vph)	303	15	76	383	8	10	387	234
Volume Left (vph)	210	3	76	0	0	10	0	0
Volume Right (vph)	89	8	0	0	8	0	0	234
Hadj (s)	0.00	-0.25	0.53	0.03	-0.67	0.53	0.03	-0.67
Departure Headway (s)	6.2	6.9	6.8	6.3	3.2	6.8	6.3	3.2
Degree Utilization, x	0.52	0.03	0.14	0.66	0.01	0.02	0.68	0.21
Capacity (veh/h)	539	407	512	554	1121	504	547	1122
Control Delay (s)	15.8	10.1	9.7	19.6	5.0	8.8	20.5	5.8
Approach Delay (s)	15.8	10.1	17.7			14.9		
Approach LOS	C	B	C			B		

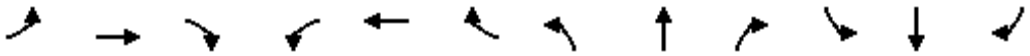
Intersection Summary				
Delay	16.0			
Level of Service	C			
Intersection Capacity Utilization	55.2%	ICU Level of Service	B	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	161	147	24	344	40	252	675	0	29	833	428
Future Volume (vph)	103	161	147	24	344	40	252	675	0	29	833	428
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.93		1.00	0.98		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3286		1770	3484		1770	3539		1770	3539	1583
Flt Permitted	0.25	1.00		0.55	1.00		0.24	1.00		0.95	1.00	1.00
Satd. Flow (perm)	457	3286		1024	3484		444	3539		1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	112	175	160	26	374	43	274	734	0	32	905	465
RTOR Reduction (vph)	0	115	0	0	0	0	0	0	0	0	0	197
Lane Group Flow (vph)	112	220	0	26	417	0	274	734	0	32	905	268
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4			6					2
Actuated Green, G (s)	25.2	25.2		15.5	15.5		47.5	47.5		3.8	34.0	34.0
Effective Green, g (s)	25.2	25.2		15.5	15.5		47.5	47.5		3.8	34.0	34.0
Actuated g/C Ratio	0.28	0.28		0.17	0.17		0.53	0.53		0.04	0.38	0.38
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	203	920		176	600		489	1867		74	1336	598
v/s Ratio Prot	c0.03	0.07			c0.12		c0.11	0.21		0.02	c0.26	
v/s Ratio Perm	0.12			0.03			0.19					0.17
v/c Ratio	0.55	0.24		0.15	0.69		0.56	0.39		0.43	0.68	0.45
Uniform Delay, d1	25.6	25.0		31.6	35.0		20.8	12.7		42.0	23.4	21.0
Progression Factor	0.78	0.63		1.00	1.00		0.51	0.31		1.42	0.39	0.08
Incremental Delay, d2	3.2	0.1		0.4	3.5		1.3	0.6		3.6	2.5	2.2
Delay (s)	23.0	16.0		32.0	38.5		11.8	4.5		63.4	11.6	3.9
Level of Service	C	B		C	D		B	A		E	B	A
Approach Delay (s)		17.7			38.1			6.5			10.2	
Approach LOS		B			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	13.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	68.5%	ICU Level of Service	C
Analysis Period (min)	15		

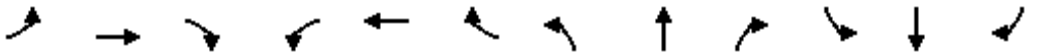
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	48	24	62	7	101	3	352	89	11	6	46	60
Future Volume (vph)	48	24	62	7	101	3	352	89	11	6	46	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	52	26	67	8	110	3	383	97	12	7	50	65

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total (vph)	78	67	121	492	122
Volume Left (vph)	52	0	8	383	7
Volume Right (vph)	0	67	3	12	65
Hadj (s)	0.37	-0.67	0.03	0.18	-0.27
Departure Headway (s)	6.7	5.7	5.9	5.0	5.1
Degree Utilization, x	0.15	0.11	0.20	0.69	0.17
Capacity (veh/h)	487	570	540	691	641
Control Delay (s)	9.6	8.1	10.4	18.5	9.2
Approach Delay (s)	8.9		10.4	18.5	9.2
Approach LOS	A		B	C	A

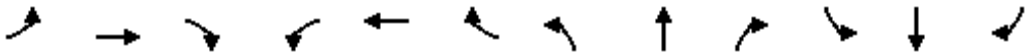
Intersection Summary				
Delay	14.5			
Level of Service	B			
Intersection Capacity Utilization	49.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	511	26	2	901	49	13	828	163
Future Volume (vph)	0	0	0	0	511	26	2	901	49	13	828	163
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor					0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt					1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected					1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)					3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted					1.00	1.00	0.25	1.00	1.00	0.23	1.00	1.00
Satd. Flow (perm)					3539	1583	475	3539	1583	420	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	555	28	2	979	53	14	900	177
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	23	0	0	27
Lane Group Flow (vph)	0	0	0	0	555	28	2	979	30	14	900	150
Turn Type	pm+pt				NA	Perm	Perm	NA	Perm	Perm	NA	pm+ov
Protected Phases	7	4			8			2			6	7
Permitted Phases	4					8	2		2	6		6
Actuated Green, G (s)					20.6	20.6	50.1	50.1	50.1	50.1	50.1	55.9
Effective Green, g (s)					20.6	20.6	50.1	50.1	50.1	50.1	50.1	55.9
Actuated g/C Ratio					0.23	0.23	0.56	0.56	0.56	0.56	0.56	0.62
Clearance Time (s)					4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)					3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)					810	362	264	1970	881	233	1970	1062
v/s Ratio Prot					c0.16			c0.28			0.25	c0.01
v/s Ratio Perm						0.02	0.00		0.02	0.03		0.09
v/c Ratio					0.69	0.08	0.01	0.50	0.03	0.06	0.46	0.14
Uniform Delay, d1					31.7	27.2	8.9	12.2	9.0	9.2	11.9	7.1
Progression Factor					1.64	1.72	1.00	1.00	1.00	0.40	0.29	0.10
Incremental Delay, d2					1.6	0.1	0.1	0.9	0.1	0.4	0.6	0.1
Delay (s)					53.5	46.9	8.9	13.1	9.1	4.1	4.1	0.8
Level of Service					D	D	A	B	A	A	A	A
Approach Delay (s)		0.0			53.2			12.9			3.5	
Approach LOS		A			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	17.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	46.5%	ICU Level of Service	A
Analysis Period (min)	15		

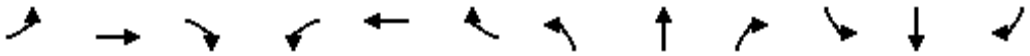
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	113	10	178	514	393	4	18	26	26	32	19
Future Volume (vph)	30	113	10	178	514	393	4	18	26	26	32	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5			4.5			4.5	
Lane Util. Factor		0.95	1.00		0.95			1.00			1.00	
Frt		1.00	0.85		0.95			0.93			0.97	
Flt Protected		0.99	1.00		0.99			1.00			0.98	
Satd. Flow (prot)		3502	1583		3320			1721			1770	
Flt Permitted		0.99	1.00		0.99			0.98			0.90	
Satd. Flow (perm)		3502	1583		3320			1700			1624	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	123	11	193	559	427	4	20	28	28	35	21
RTOR Reduction (vph)	0	0	8	0	96	0	0	22	0	0	14	0
Lane Group Flow (vph)	0	156	3	0	1083	0	0	30	0	0	70	0
Turn Type	Split	NA	Perm	Split	NA		Perm	NA		Perm	NA	
Protected Phases	2	2		1	1			8			4	
Permitted Phases			2				8			4		
Actuated Green, G (s)		23.1	23.1		35.3			18.1			18.1	
Effective Green, g (s)		23.1	23.1		35.3			18.1			18.1	
Actuated g/C Ratio		0.26	0.26		0.39			0.20			0.20	
Clearance Time (s)		4.5	4.5		4.5			4.5			4.5	
Vehicle Extension (s)		3.0	3.0		3.0			3.0			3.0	
Lane Grp Cap (vph)		898	406		1302			341			326	
v/s Ratio Prot		c0.04			c0.33							
v/s Ratio Perm			0.00					0.02			c0.04	
v/c Ratio		0.17	0.01		0.83			0.09			0.22	
Uniform Delay, d1		26.0	24.9		24.7			29.2			30.0	
Progression Factor		1.05	1.00		0.69			1.00			1.00	
Incremental Delay, d2		0.4	0.0		2.8			0.5			1.5	
Delay (s)		27.7	24.9		19.9			29.7			31.5	
Level of Service		C	C		B			C			C	
Approach Delay (s)		27.6			19.9			29.7			31.5	
Approach LOS		C			B			C			C	

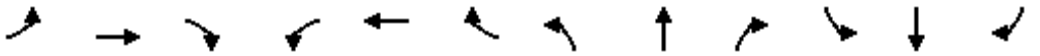
Intersection Summary			
HCM 2000 Control Delay	21.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	53.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



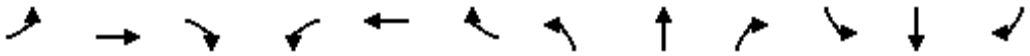
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	465	1700	222	111	800	0	0	832	53
Future Volume (vph)	0	0	0	465	1700	222	111	800	0	0	832	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5	4.5		4.5	4.5			4.5	
Lane Util. Factor				0.86	0.86		1.00	0.91			0.91	
Frt				1.00	0.98		1.00	1.00			0.99	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1522	4719		1770	5085			5039	
Flt Permitted				0.95	1.00		0.22	1.00			1.00	
Satd. Flow (perm)				1522	4719		407	5085			5039	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	505	1848	241	121	870	0	0	904	58
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	0	0	454	2140	0	121	870	0	0	958	0
Turn Type				Prot	NA		Perm	NA			NA	
Protected Phases				3	8			2			6	
Permitted Phases							2					
Actuated Green, G (s)				44.5	44.5		36.5	36.5			36.5	
Effective Green, g (s)				44.5	44.5		36.5	36.5			36.5	
Actuated g/C Ratio				0.49	0.49		0.41	0.41			0.41	
Clearance Time (s)				4.5	4.5		4.5	4.5			4.5	
Lane Grp Cap (vph)				752	2333		165	2062			2043	
v/s Ratio Prot				0.30	c0.45			0.17			0.19	
v/s Ratio Perm							c0.30					
v/c Ratio				0.60	0.92		0.73	0.42			0.47	
Uniform Delay, d1				16.4	21.0		22.6	19.2			19.6	
Progression Factor				1.00	1.00		0.75	0.61			0.19	
Incremental Delay, d2				3.6	7.2		19.8	0.5			0.7	
Delay (s)				20.0	28.2		36.8	12.2			4.5	
Level of Service				B	C		D	B			A	
Approach Delay (s)		0.0			26.8			15.2			4.5	
Approach LOS		A			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	19.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	70.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



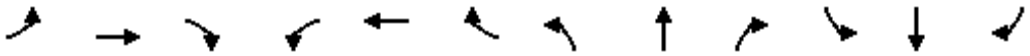
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	51	17	0	0	0	0	503	103	59	1067	0
Future Volume (vph)	104	51	17	0	0	0	0	503	103	59	1067	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5						4.5		4.5	4.5	
Lane Util. Factor	0.91	0.91						0.91		1.00	0.91	
Frt	1.00	0.98						0.97		1.00	1.00	
Flt Protected	0.95	0.98						1.00		0.95	1.00	
Satd. Flow (prot)	1610	3250						4956		1770	5085	
Flt Permitted	0.95	0.98						1.00		0.36	1.00	
Satd. Flow (perm)	1610	3250						4956		664	5085	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	113	55	18	0	0	0	0	547	112	64	1160	0
RTOR Reduction (vph)	0	13	0	0	0	0	0	35	0	0	0	0
Lane Group Flow (vph)	62	111	0	0	0	0	0	624	0	64	1160	0
Turn Type	Prot	NA						NA		pm+pt	NA	
Protected Phases	7	4						2		1	6	
Permitted Phases										6		
Actuated Green, G (s)	25.5	25.5						37.5		55.5	55.5	
Effective Green, g (s)	25.5	25.5						37.5		55.5	55.5	
Actuated g/C Ratio	0.28	0.28						0.42		0.62	0.62	
Clearance Time (s)	4.5	4.5						4.5		4.5	4.5	
Lane Grp Cap (vph)	456	920						2065		575	3135	
v/s Ratio Prot	c0.04	0.03						0.13		0.02	c0.23	
v/s Ratio Perm										0.05		
v/c Ratio	0.14	0.12						0.30		0.11	0.37	
Uniform Delay, d1	24.0	23.9						17.5		8.9	8.6	
Progression Factor	1.00	1.00						1.55		0.24	0.25	
Incremental Delay, d2	0.6	0.3						0.3		0.4	0.3	
Delay (s)	24.7	24.2						27.4		2.5	2.5	
Level of Service	C	C						C		A	A	
Approach Delay (s)		24.4			0.0			27.4			2.5	
Approach LOS		C			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	483	96	112	1200	45	119	399	125	74	1136	152
Future Volume (vph)	47	483	96	112	1200	45	119	399	125	74	1136	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	5058		1770	4903		1770	4995	
Flt Permitted	0.16	1.00	1.00	0.30	1.00		0.16	1.00		0.29	1.00	
Satd. Flow (perm)	290	3539	1583	564	5058		307	4903		546	4995	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	51	525	104	122	1304	49	129	434	136	80	1235	165
RTOR Reduction (vph)	0	0	62	0	5	0	0	63	0	0	19	0
Lane Group Flow (vph)	51	525	42	122	1348	0	129	507	0	80	1381	0
Turn Type	Perm	NA	pm+ov	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4	5	3	8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	28.5	28.5	36.0	38.5	38.5		31.8	31.8		30.5	30.5	
Effective Green, g (s)	28.5	28.5	36.0	38.5	38.5		31.8	31.8		30.5	30.5	
Actuated g/C Ratio	0.32	0.32	0.40	0.43	0.43		0.35	0.35		0.34	0.34	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)	91	1120	633	314	2163		230	1732		269	1692	
v/s Ratio Prot		0.15	0.01	0.02	c0.27		c0.05	0.10		0.02	c0.28	
v/s Ratio Perm	0.18		0.02	0.14			0.15			0.08		
v/c Ratio	0.56	0.47	0.07	0.39	0.62		0.56	0.29		0.30	0.82	
Uniform Delay, d1	25.5	24.7	16.6	16.6	20.1		30.9	21.0		21.0	27.2	
Progression Factor	0.87	0.84	0.77	0.27	0.31		0.61	0.22		0.57	0.71	
Incremental Delay, d2	22.3	1.4	0.2	2.3	0.9		9.5	0.4		2.7	4.2	
Delay (s)	44.4	22.1	13.1	6.8	7.2		28.3	5.0		14.6	23.4	
Level of Service	D	C	B	A	A		C	A		B	C	
Approach Delay (s)		22.4			7.1			9.3			22.9	
Approach LOS		C			A			A			C	

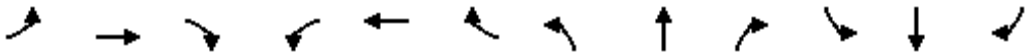
Intersection Summary			
HCM 2000 Control Delay	15.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	75.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	112	61	48	729	142	56	255	12	140	937	236
Future Volume (vph)	54	112	61	48	729	142	56	255	12	140	937	236
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3353		1770	3539	1583	1770	3539	1583	1770	4932	
Flt Permitted	0.17	1.00		0.63	1.00	1.00	0.17	1.00	1.00	0.58	1.00	
Satd. Flow (perm)	317	3353		1180	3539	1583	310	3539	1583	1083	4932	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	59	122	66	52	792	154	61	277	13	152	1018	257
RTOR Reduction (vph)	0	49	0	0	0	67	0	0	6	0	35	0
Lane Group Flow (vph)	59	139	0	52	792	87	61	277	7	152	1240	0
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8		8	2		2	6		
Actuated Green, G (s)	23.5	23.5		31.1	31.1	31.1	49.9	49.9	49.9	49.9	49.9	
Effective Green, g (s)	23.5	23.5		31.1	31.1	31.1	49.9	49.9	49.9	49.9	49.9	
Actuated g/C Ratio	0.26	0.26		0.35	0.35	0.35	0.55	0.55	0.55	0.55	0.55	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	82	875		428	1222	547	171	1962	877	600	2734	
v/s Ratio Prot		0.04		0.00	c0.22			0.08			c0.25	
v/s Ratio Perm	c0.19			0.04		0.05	0.20		0.00	0.14		
v/c Ratio	0.72	0.16		0.12	0.65	0.16	0.36	0.14	0.01	0.25	0.45	
Uniform Delay, d1	30.3	25.6		20.2	24.8	20.4	11.1	9.7	9.0	10.4	11.9	
Progression Factor	1.00	1.00		0.70	0.80	0.67	0.70	0.52	1.00	0.33	0.29	
Incremental Delay, d2	25.9	0.1		0.1	1.0	0.1	5.7	0.1	0.0	0.9	0.5	
Delay (s)	56.1	25.7		14.1	20.8	13.8	13.4	5.2	9.0	4.3	4.0	
Level of Service	E	C		B	C	B	B	A	A	A	A	
Approach Delay (s)		33.0			19.4			6.8			4.0	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	66.9%	ICU Level of Service	C
Analysis Period (min)	15		

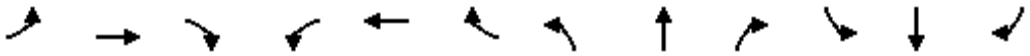
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	430	193	245	1216	334	154	362	57	145	350	29
Future Volume (vph)	50	430	193	245	1216	334	154	362	57	145	350	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3498	
Flt Permitted	0.11	1.00	1.00	0.38	1.00	1.00	0.57	1.00	1.00	0.57	1.00	
Satd. Flow (perm)	204	3539	1583	716	3539	1583	1064	3539	1583	1064	3498	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	467	210	266	1322	363	167	393	62	158	380	32
RTOR Reduction (vph)	0	0	125	0	0	176	0	0	51	0	7	0
Lane Group Flow (vph)	54	467	85	266	1322	187	167	393	11	158	405	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		
Actuated Green, G (s)	41.0	36.6	36.6	52.5	43.6	43.6	15.6	15.6	15.6	15.4	15.4	
Effective Green, g (s)	41.0	36.6	36.6	52.5	43.6	43.6	15.6	15.6	15.6	15.4	15.4	
Actuated g/C Ratio	0.46	0.41	0.41	0.58	0.48	0.48	0.17	0.17	0.17	0.17	0.17	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	169	1439	643	551	1714	766	251	613	274	247	598	
v/s Ratio Prot	0.02	0.13		c0.06	c0.37		0.06	c0.11		0.06	c0.12	
v/s Ratio Perm	0.13		0.05	0.22		0.12	0.05		0.01	0.05		
v/c Ratio	0.32	0.32	0.13	0.48	0.77	0.24	0.67	0.64	0.04	0.64	0.68	
Uniform Delay, d1	15.8	18.3	16.7	9.8	19.1	13.6	34.5	34.6	31.0	34.0	35.0	
Progression Factor	1.05	0.65	2.84	0.73	0.63	0.21	0.90	0.90	1.00	0.66	0.66	
Incremental Delay, d2	1.0	0.6	0.4	0.2	0.9	0.2	6.3	2.2	0.1	5.3	3.0	
Delay (s)	17.7	12.4	47.9	7.3	13.0	3.1	37.4	33.4	31.0	27.8	26.1	
Level of Service	B	B	D	A	B	A	D	C	C	C	C	
Approach Delay (s)		23.0			10.4			34.2			26.6	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		

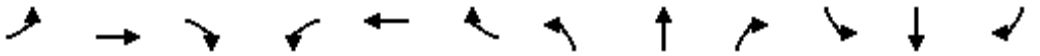
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	111	66	68	103	124	325	34	173	98	416	145	227
Future Volume (vph)	111	66	68	103	124	325	34	173	98	416	145	227
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	0.91	0.91		1.00	1.00	1.00	0.97	0.95	1.00	0.97	0.95	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	0.99		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1610	3153		1770	1863	1583	3433	3539	1583	3433	3215	
Flt Permitted	0.67	0.86		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1137	2749		1770	1863	1583	3433	3539	1583	3433	3215	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	121	72	74	112	135	353	37	188	107	452	158	247
RTOR Reduction (vph)	0	64	0	0	0	251	0	0	69	0	117	0
Lane Group Flow (vph)	83	120	0	112	135	102	37	188	38	452	288	0
Turn Type	Perm	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4					8			2			
Actuated Green, G (s)	12.1	12.1		9.3	25.9	25.9	3.3	31.6	31.6	19.0	47.3	
Effective Green, g (s)	12.1	12.1		9.3	25.9	25.9	3.3	31.6	31.6	19.0	47.3	
Actuated g/C Ratio	0.13	0.13		0.10	0.29	0.29	0.04	0.35	0.35	0.21	0.53	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	152	369		182	536	455	125	1242	555	724	1689	
v/s Ratio Prot				c0.06	0.07		0.01	0.05		c0.13	c0.09	
v/s Ratio Perm	c0.07	0.04				0.06			0.02			
v/c Ratio	0.55	0.33		0.62	0.25	0.22	0.30	0.15	0.07	0.62	0.17	
Uniform Delay, d1	36.4	35.3		38.6	24.6	24.4	42.2	20.0	19.4	32.3	11.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.73	0.49	
Incremental Delay, d2	4.0	0.5		6.1	0.2	0.2	1.3	0.3	0.2	1.5	0.2	
Delay (s)	40.4	35.8		44.7	24.9	24.6	43.5	20.3	19.6	25.2	5.7	
Level of Service	D	D		D	C	C	D	C	B	C	A	
Approach Delay (s)		37.2			28.4			22.7			16.0	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	23.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	43.0%	ICU Level of Service	A
Analysis Period (min)	15		

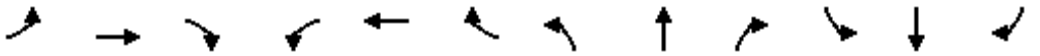
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	194	5	0	390	177	1	166	41	219	479	529
Future Volume (vph)	59	194	5	0	390	177	1	166	41	219	479	529
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95			0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00			0.95		1.00	0.97		1.00	0.92	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3527			3374		1770	3433		1770	3261	
Flt Permitted	0.95	1.00			1.00		0.18	1.00		0.61	1.00	
Satd. Flow (perm)	1770	3527			3374		341	3433		1139	3261	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	64	211	5	0	424	192	1	180	45	238	521	575
RTOR Reduction (vph)	0	3	0	0	61	0	0	18	0	0	166	0
Lane Group Flow (vph)	64	213	0	0	555	0	1	207	0	238	930	0
Turn Type	Prot	NA			NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	7.5	31.6			19.6		49.4	49.4		49.4	49.4	
Effective Green, g (s)	7.5	31.6			19.6		49.4	49.4		49.4	49.4	
Actuated g/C Ratio	0.08	0.35			0.22		0.55	0.55		0.55	0.55	
Clearance Time (s)	4.5	4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	147	1238			734		187	1884		625	1789	
v/s Ratio Prot	c0.04	0.06			c0.16			0.06			c0.29	
v/s Ratio Perm							0.00			0.21		
v/c Ratio	0.44	0.17			0.76		0.01	0.11		0.38	0.52	
Uniform Delay, d1	39.2	20.2			33.0		9.2	9.7		11.6	12.8	
Progression Factor	1.27	1.34			0.53		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.0	0.1			4.0		0.1	0.1		1.8	1.1	
Delay (s)	52.0	27.1			21.5		9.2	9.9		13.3	13.9	
Level of Service	D	C			C		A	A		B	B	
Approach Delay (s)		32.8			21.5			9.9			13.8	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

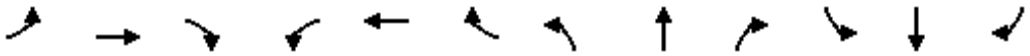
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	78	67	162	28	148	10	184	255	12	11	1123	149
Future Volume (vph)	78	67	162	28	148	10	184	255	12	11	1123	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1845		1770	3515		1770	4996	
Flt Permitted	0.48	1.00	1.00	0.71	1.00		0.14	1.00		0.57	1.00	
Satd. Flow (perm)	891	1863	1583	1322	1845		255	3515		1070	4996	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	85	73	176	30	161	11	200	277	13	12	1221	162
RTOR Reduction (vph)	0	0	149	0	3	0	0	3	0	0	14	0
Lane Group Flow (vph)	85	73	27	30	169	0	200	287	0	12	1369	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	13.6	13.6	13.6	13.6	13.6		67.4	67.4		52.8	52.8	
Effective Green, g (s)	13.6	13.6	13.6	13.6	13.6		67.4	67.4		52.8	52.8	
Actuated g/C Ratio	0.15	0.15	0.15	0.15	0.15		0.75	0.75		0.59	0.59	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	134	281	239	199	278		360	2632		627	2930	
v/s Ratio Prot		0.04			0.09		c0.06	0.08			0.27	
v/s Ratio Perm	c0.10		0.02	0.02			c0.35			0.01		
v/c Ratio	0.63	0.26	0.11	0.15	0.61		0.56	0.11		0.02	0.47	
Uniform Delay, d1	35.9	33.8	33.0	33.2	35.7		6.0	3.1		7.8	10.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.98	0.44		1.00	1.00	
Incremental Delay, d2	9.4	0.5	0.2	0.4	3.7		1.8	0.1		0.1	0.5	
Delay (s)	45.3	34.2	33.2	33.5	39.4		13.8	1.4		7.8	11.1	
Level of Service	D	C	C	C	D		B	A		A	B	
Approach Delay (s)		36.5			38.5			6.5			11.1	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	16.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		

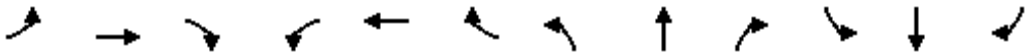
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	62	0	0	0	55	357	228	0	1302	222
Future Volume (Veh/h)	0	0	62	0	0	0	55	357	228	0	1302	222
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	67	0	0	0	60	388	248	0	1415	241
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								206			797	
pX, platoon unblocked	0.91	0.91	0.91	0.91	0.91	0.99	0.91			0.99		
vC, conflicting volume	1850	2044	592	1047	2164	194	1656			388		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1555	1767	207	677	1899	171	1376			367		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	91	100	100	100	87			100		
cM capacity (veh/h)	63	66	727	252	54	836	450			1179		

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	67	60	194	194	248	566	566	524
Volume Left	0	60	0	0	0	0	0	0
Volume Right	67	0	0	0	248	0	0	241
cSH	727	450	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.09	0.13	0.11	0.11	0.15	0.33	0.33	0.31
Queue Length 95th (ft)	8	11	0	0	0	0	0	0
Control Delay (s)	10.5	14.2	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	B						
Approach Delay (s)	10.5	1.2				0.0		
Approach LOS	B							

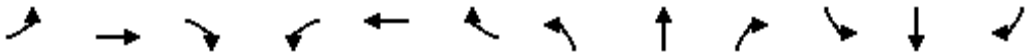
Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	40.6%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	185	36	15	19	0	11	0	444	47	36	1328	0
Future Volume (vph)	185	36	15	19	0	11	0	444	47	36	1328	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5		4.5		4.5		4.5	4.5	
Lane Util. Factor	0.97	1.00		1.00		1.00		0.91		1.00	0.91	
Frt	1.00	0.96		1.00		0.85		0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)	3433	1781		1770		1583		5012		1770	5085	
Flt Permitted	0.95	1.00		0.95		1.00		1.00		0.44	1.00	
Satd. Flow (perm)	3433	1781		1770		1583		5012		825	5085	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	201	39	16	21	0	12	0	483	51	39	1443	0
RTOR Reduction (vph)	0	14	0	0	0	12	0	9	0	0	0	0
Lane Group Flow (vph)	201	41	0	21	0	0	0	525	0	39	1443	0
Turn Type	pm+pt	NA		Prot		Perm		NA		Perm	NA	
Protected Phases	7	4		3				2			6	
Permitted Phases	4					8				6		
Actuated Green, G (s)	17.8	9.3		4.0		1.1		63.2		63.2	63.2	
Effective Green, g (s)	17.8	9.3		4.0		1.1		63.2		63.2	63.2	
Actuated g/C Ratio	0.20	0.10		0.04		0.01		0.70		0.70	0.70	
Clearance Time (s)	4.5	4.5		4.5		4.5		4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	678	184		78		19		3519		579	3570	
v/s Ratio Prot	c0.04	0.02		0.01				0.10			c0.28	
v/s Ratio Perm	0.02					0.00				0.05		
v/c Ratio	0.30	0.22		0.27		0.01		0.15		0.07	0.40	
Uniform Delay, d1	30.8	37.0		41.6		43.9		4.5		4.2	5.6	
Progression Factor	0.81	0.66		1.00		1.00		0.26		0.61	0.51	
Incremental Delay, d2	0.2	0.6		1.9		0.2		0.1		0.2	0.3	
Delay (s)	25.1	25.0		43.4		44.1		1.2		2.8	3.2	
Level of Service	C	C		D		D		A		A	A	
Approach Delay (s)		25.0			43.7			1.2			3.2	
Approach LOS		C			D			A			A	

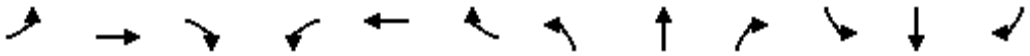
Intersection Summary			
HCM 2000 Control Delay	5.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	45.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



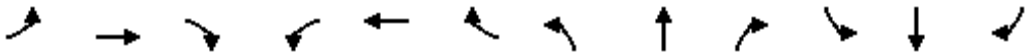
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	534	0	0	1452	19	116	156	92	0	0	0
Future Volume (vph)	61	534	0	0	1452	19	116	156	92	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5		4.5	4.5				
Lane Util. Factor	1.00	0.95			0.91		0.86	0.86				
Frt	1.00	1.00			1.00		1.00	0.95				
Flt Protected	0.95	1.00			1.00		0.95	1.00				
Satd. Flow (prot)	1770	3539			5075		1522	4542				
Flt Permitted	0.12	1.00			1.00		0.95	1.00				
Satd. Flow (perm)	231	3539			5075		1522	4542				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	66	580	0	0	1578	21	126	170	100	0	0	0
RTOR Reduction (vph)	0	0	0	0	2	0	0	79	0	0	0	0
Lane Group Flow (vph)	66	580	0	0	1597	0	100	217	0	0	0	0
Turn Type	Perm	NA			NA		pm+pt	NA				
Protected Phases		4			8		6	2				
Permitted Phases	4						2					
Actuated Green, G (s)	61.7	61.7			61.7		19.3	19.3				
Effective Green, g (s)	61.7	61.7			61.7		19.3	19.3				
Actuated g/C Ratio	0.69	0.69			0.69		0.21	0.21				
Clearance Time (s)	4.5	4.5			4.5		4.5	4.5				
Lane Grp Cap (vph)	158	2426			3479		326	974				
v/s Ratio Prot		0.16			c0.31		c0.07	0.05				
v/s Ratio Perm	0.29											
v/c Ratio	0.42	0.24			0.46		0.31	0.22				
Uniform Delay, d1	6.2	5.3			6.5		29.7	29.2				
Progression Factor	1.00	1.00			0.31		1.00	1.00				
Incremental Delay, d2	7.9	0.2			0.3		2.4	0.5				
Delay (s)	14.2	5.6			2.4		32.1	29.7				
Level of Service	B	A			A		C	C				
Approach Delay (s)		6.4			2.4			30.3			0.0	
Approach LOS		A			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	7.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	49.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



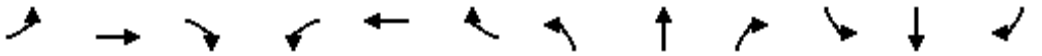
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	291	1515	58	84	255	0	0	327	40
Future Volume (vph)	0	0	0	291	1515	58	84	255	0	0	327	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.5		4.5	4.5			4.5	
Lane Util. Factor					0.91		1.00	0.95			0.95	
Frt					1.00		1.00	1.00			0.98	
Flt Protected					0.99		0.95	1.00			1.00	
Satd. Flow (prot)					5022		1770	3539			3482	
Flt Permitted					0.99		0.45	1.00			1.00	
Satd. Flow (perm)					5022		833	3539			3482	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	316	1647	63	91	277	0	0	355	43
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	0	0	10	0
Lane Group Flow (vph)	0	0	0	0	2022	0	91	277	0	0	388	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8			2					
Actuated Green, G (s)					53.5		27.5	27.5			27.5	
Effective Green, g (s)					53.5		27.5	27.5			27.5	
Actuated g/C Ratio					0.59		0.31	0.31			0.31	
Clearance Time (s)					4.5		4.5	4.5			4.5	
Lane Grp Cap (vph)					2985		254	1081			1063	
v/s Ratio Prot								0.08			c0.11	
v/s Ratio Perm					0.40		0.11					
v/c Ratio					0.68		0.36	0.26			0.36	
Uniform Delay, d1					12.4		24.4	23.5			24.4	
Progression Factor					0.12		0.61	0.61			1.00	
Incremental Delay, d2					0.5		3.9	0.6			1.0	
Delay (s)					2.0		18.6	15.0			25.4	
Level of Service					A		B	B			C	
Approach Delay (s)		0.0			2.0			15.9			25.4	
Approach LOS		A			A			B			C	

Intersection Summary			
HCM 2000 Control Delay	7.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	72.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



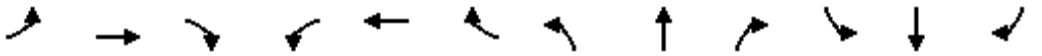
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	129	147	0	0	0	0	309	59	0	618	0
Future Volume (vph)	30	129	147	0	0	0	0	309	59	0	618	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5						4.5			4.5	
Lane Util. Factor		0.95						0.95			0.95	
Frt		0.93						0.98			1.00	
Flt Protected		1.00						1.00			1.00	
Satd. Flow (prot)		3268						3454			3539	
Flt Permitted		1.00						1.00			1.00	
Satd. Flow (perm)		3268						3454			3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	140	160	0	0	0	0	336	64	0	672	0
RTOR Reduction (vph)	0	106	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	227	0	0	0	0	0	400	0	0	672	0
Turn Type	Perm	NA						NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4											
Actuated Green, G (s)		30.5						50.5			50.5	
Effective Green, g (s)		30.5						50.5			50.5	
Actuated g/C Ratio		0.34						0.56			0.56	
Clearance Time (s)		4.5						4.5			4.5	
Lane Grp Cap (vph)		1107						1938			1985	
v/s Ratio Prot								0.12			c0.19	
v/s Ratio Perm		0.07										
v/c Ratio		0.21						0.21			0.34	
Uniform Delay, d1		21.1						9.8			10.7	
Progression Factor		1.00						0.59			0.47	
Incremental Delay, d2		0.4						0.2			0.4	
Delay (s)		21.6						6.0			5.4	
Level of Service		C						A			A	
Approach Delay (s)		21.6			0.0			6.0			5.4	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	72.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	373	167	97	720	118	68	317	50	164	888	91
Future Volume (vph)	32	373	167	97	720	118	68	317	50	164	888	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.95		1.00	0.98		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3375		1770	3465		1770	3467		1770	3539	1583
Flt Permitted	0.18	1.00		0.35	1.00		0.21	1.00		0.50	1.00	1.00
Satd. Flow (perm)	332	3375		649	3465		395	3467		934	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	405	182	105	783	128	74	345	54	178	965	99
RTOR Reduction (vph)	0	52	0	0	15	0	0	14	0	0	0	31
Lane Group Flow (vph)	35	535	0	105	896	0	74	385	0	178	965	68
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	35.5	35.5		35.5	35.5		45.5	45.5		45.5	45.5	45.5
Effective Green, g (s)	35.5	35.5		35.5	35.5		45.5	45.5		45.5	45.5	45.5
Actuated g/C Ratio	0.39	0.39		0.39	0.39		0.51	0.51		0.51	0.51	0.51
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Grp Cap (vph)	130	1331		255	1366		199	1752		472	1789	800
v/s Ratio Prot		0.16			c0.26			0.11			c0.27	
v/s Ratio Perm	0.11			0.16			0.19			0.19		0.04
v/c Ratio	0.27	0.40		0.41	0.66		0.37	0.22		0.38	0.54	0.08
Uniform Delay, d1	18.5	19.6		19.7	22.3		13.5	12.4		13.6	15.1	11.5
Progression Factor	1.00	1.00		0.75	0.76		0.74	0.65		0.68	0.66	0.46
Incremental Delay, d2	5.0	0.9		4.6	2.4		5.2	0.3		2.3	1.2	0.2
Delay (s)	23.5	20.5		19.3	19.2		15.2	8.4		11.4	11.2	5.5
Level of Service	C	C		B	B		B	A		B	B	A
Approach Delay (s)		20.7			19.2			9.4			10.7	
Approach LOS		C			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	71.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

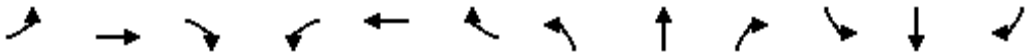


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	379	116	47	625	80	104	346	40	111	796	133
Future Volume (vph)	28	379	116	47	625	80	104	346	40	111	796	133
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	1.00	0.85	1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3415		1770	3539	1583	1770	3485		1770	3463	
Flt Permitted	0.23	1.00		0.33	1.00	1.00	0.23	1.00		0.50	1.00	
Satd. Flow (perm)	422	3415		608	3539	1583	428	3485		936	3463	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	30	412	126	51	679	87	113	376	43	121	865	145
RTOR Reduction (vph)	0	32	0	0	0	61	0	9	0	0	15	0
Lane Group Flow (vph)	30	506	0	51	679	26	113	410	0	121	995	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	26.5	26.5		26.5	26.5	26.5	54.5	54.5		54.5	54.5	
Effective Green, g (s)	26.5	26.5		26.5	26.5	26.5	54.5	54.5		54.5	54.5	
Actuated g/C Ratio	0.29	0.29		0.29	0.29	0.29	0.61	0.61		0.61	0.61	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)	124	1005		179	1042	466	259	2110		566	2097	
v/s Ratio Prot		0.15			c0.19			0.12			c0.29	
v/s Ratio Perm	0.07			0.08		0.02	0.26			0.13		
v/c Ratio	0.24	0.50		0.28	0.65	0.05	0.44	0.19		0.21	0.47	
Uniform Delay, d1	24.1	26.3		24.5	27.7	22.8	9.5	7.9		8.0	9.8	
Progression Factor	1.00	1.00		0.56	0.54	0.49	1.00	1.00		0.86	0.85	
Incremental Delay, d2	4.6	1.8		3.7	2.9	0.2	5.3	0.2		0.8	0.7	
Delay (s)	28.7	28.1		17.3	17.9	11.3	14.8	8.1		7.7	9.0	
Level of Service	C	C		B	B	B	B	A		A	A	
Approach Delay (s)		28.1			17.2			9.6			8.9	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

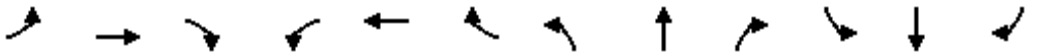
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	335	215	198	783	180	103
Future Volume (vph)	335	215	198	783	180	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	0.97	1.00
Frt	0.94		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3331		1770	3539	3433	1583
Flt Permitted	1.00		0.41	1.00	0.95	1.00
Satd. Flow (perm)	3331		760	3539	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	364	234	215	851	196	112
RTOR Reduction (vph)	85	0	0	0	0	83
Lane Group Flow (vph)	514	0	215	851	196	29
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Actuated Green, G (s)	57.5		57.5	57.5	23.5	23.5
Effective Green, g (s)	57.5		57.5	57.5	23.5	23.5
Actuated g/C Ratio	0.64		0.64	0.64	0.26	0.26
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	2128		485	2261	896	413
v/s Ratio Prot	0.15			0.24	c0.06	
v/s Ratio Perm			c0.28			0.02
v/c Ratio	0.24		0.44	0.38	0.22	0.07
Uniform Delay, d1	6.9		8.2	7.7	26.1	25.0
Progression Factor	0.41		0.75	0.77	0.87	0.89
Incremental Delay, d2	0.3		2.4	0.4	0.5	0.3
Delay (s)	3.1		8.5	6.4	23.1	22.6
Level of Service	A		A	A	C	C
Approach Delay (s)	3.1			6.8	22.9	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	8.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	43.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	292	162	102	567	63	152	218	47	24	300	33
Future Volume (vph)	76	292	162	102	567	63	152	218	47	24	300	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.95		1.00	0.99			0.98			0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.98			1.00	
Satd. Flow (prot)	1770	3350		1770	3486			3417			3478	
Flt Permitted	0.32	1.00		0.43	1.00			0.68			0.91	
Satd. Flow (perm)	588	3350		796	3486			2368			3168	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	83	317	176	111	616	68	165	237	51	26	326	36
RTOR Reduction (vph)	0	85	0	0	9	0	0	11	0	0	9	0
Lane Group Flow (vph)	83	408	0	111	675	0	0	442	0	0	379	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	40.5	40.5		40.5	40.5			40.5			40.5	
Effective Green, g (s)	40.5	40.5		40.5	40.5			40.5			40.5	
Actuated g/C Ratio	0.45	0.45		0.45	0.45			0.45			0.45	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Grp Cap (vph)	264	1507		358	1568			1065			1425	
v/s Ratio Prot		0.12			c0.19							
v/s Ratio Perm	0.14			0.14				c0.19			0.12	
v/c Ratio	0.31	0.27		0.31	0.43			0.42			0.27	
Uniform Delay, d1	15.9	15.5		15.8	16.9			16.7			15.5	
Progression Factor	0.52	0.39		1.32	1.36			1.00			0.54	
Incremental Delay, d2	2.8	0.4		2.2	0.8			1.2			0.4	
Delay (s)	11.2	6.5		23.0	23.8			17.9			8.8	
Level of Service	B	A		C	C			B			A	
Approach Delay (s)		7.1			23.7			17.9			8.8	
Approach LOS		A			C			B			A	

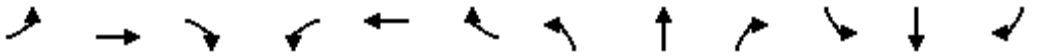
Intersection Summary			
HCM 2000 Control Delay	15.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	282	223	127	284	871	8	207	487	88	25	993	717
Future Volume (vph)	282	223	127	284	871	8	207	487	88	25	993	717
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.91	0.91		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.96		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1610	3212		1770	3534		1770	3539	1583	1770	3539	1583
Flt Permitted	0.17	0.56		0.45	1.00		0.13	1.00	1.00	0.46	1.00	1.00
Satd. Flow (perm)	283	1815		844	3534		236	3539	1583	849	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	307	242	138	309	947	9	225	529	96	27	1079	779
RTOR Reduction (vph)	0	38	0	0	1	0	0	0	55	0	0	39
Lane Group Flow (vph)	175	474	0	309	955	0	225	529	41	27	1079	740
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	pm+ov
Protected Phases	7	4		3	8		5	2			6	7
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	38.7	38.7		37.3	23.3		38.5	38.5	38.5	27.1	27.1	41.8
Effective Green, g (s)	38.7	38.7		37.3	23.3		38.5	38.5	38.5	27.1	27.1	41.8
Actuated g/C Ratio	0.43	0.43		0.41	0.26		0.43	0.43	0.43	0.30	0.30	0.46
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	338	1008		493	914		218	1513	677	255	1065	814
v/s Ratio Prot	0.08	0.08		0.10	c0.27		c0.08	0.15			0.30	c0.15
v/s Ratio Perm	0.14	0.13		0.16			c0.36		0.03	0.03		0.32
v/c Ratio	0.52	0.47		0.63	1.05		1.03	0.35	0.06	0.11	1.01	0.91
Uniform Delay, d1	18.9	18.3		18.7	33.4		22.4	17.3	15.1	22.7	31.4	22.3
Progression Factor	0.62	0.49		1.00	1.00		1.24	1.17	1.92	1.00	1.00	1.00
Incremental Delay, d2	1.3	0.3		2.5	42.2		68.5	0.6	0.2	0.8	30.9	13.9
Delay (s)	13.0	9.2		21.2	75.6		96.4	21.0	29.2	23.5	62.3	36.2
Level of Service	B	A		C	E		F	C	C	C	E	D
Approach Delay (s)		10.2			62.3			41.9			51.0	
Approach LOS		B			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	46.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	91.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	87	69	9	12	553	151	38	162	2	105	164	494
Future Volume (vph)	87	69	9	12	553	151	38	162	2	105	164	494
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.97		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1830		1770	1803		1770	1860		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.58	1.00		0.58	1.00	1.00
Satd. Flow (perm)	1770	1830		1770	1803		1079	1860		1079	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	95	75	10	13	601	164	41	176	2	114	178	537
RTOR Reduction (vph)	0	4	0	0	12	0	0	1	0	0	0	241
Lane Group Flow (vph)	95	81	0	13	753	0	41	177	0	114	178	296
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		6
Actuated Green, G (s)	10.6	50.1		1.0	40.5		25.4	25.4		25.4	25.4	25.4
Effective Green, g (s)	10.6	50.1		1.0	40.5		25.4	25.4		25.4	25.4	25.4
Actuated g/C Ratio	0.12	0.56		0.01	0.45		0.28	0.28		0.28	0.28	0.28
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	208	1018		19	811		304	524		304	525	446
v/s Ratio Prot	c0.05	0.04		0.01	c0.42			0.10			0.10	
v/s Ratio Perm							0.04			0.11		c0.19
v/c Ratio	0.46	0.08		0.68	0.93		0.13	0.34		0.38	0.34	0.66
Uniform Delay, d1	37.0	9.3		44.3	23.4		24.1	25.6		25.9	25.6	28.5
Progression Factor	0.72	0.83		1.00	1.00		1.00	1.00		0.46	0.44	0.64
Incremental Delay, d2	1.6	0.0		69.9	16.7		0.9	1.7		1.6	0.8	3.5
Delay (s)	28.1	7.7		114.2	40.0		25.0	27.4		13.5	12.0	21.8
Level of Service	C	A		F	D		C	C		B	B	C
Approach Delay (s)		18.5			41.3			26.9			18.6	
Approach LOS		B			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	28.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	84.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	0	363	139	536	196	0
Future Volume (vph)	0	363	139	536	196	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frt	0.85		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	3008		1770	3539	1770	
Flt Permitted	1.00		0.51	1.00	0.95	
Satd. Flow (perm)	3008		945	3539	1770	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	395	151	583	213	0
RTOR Reduction (vph)	187	0	0	0	0	0
Lane Group Flow (vph)	208	0	151	583	213	0
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases			6			8
Actuated Green, G (s)	47.5		47.5	47.5	33.5	
Effective Green, g (s)	47.5		47.5	47.5	33.5	
Actuated g/C Ratio	0.53		0.53	0.53	0.37	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Lane Grp Cap (vph)	1587		498	1867	658	
v/s Ratio Prot	0.07			c0.16	c0.12	
v/s Ratio Perm			0.16			
v/c Ratio	0.13		0.30	0.31	0.32	
Uniform Delay, d1	10.8		11.9	12.0	20.2	
Progression Factor	1.00		0.29	0.29	1.00	
Incremental Delay, d2	0.2		1.4	0.4	1.3	
Delay (s)	10.9		4.9	3.9	21.5	
Level of Service	B		A	A	C	
Approach Delay (s)	10.9			4.1	21.5	
Approach LOS	B			A	C	

Intersection Summary			
HCM 2000 Control Delay	8.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	41.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	4	6	97	4	23	19	573	164	60	407	12
Future Volume (vph)	4	4	6	97	4	23	19	573	164	60	407	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frt		0.94		1.00	0.87		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1722		1770	1622		1770	3539	1583	1770	3524	
Flt Permitted		0.94		0.75	1.00		0.49	1.00	1.00	0.42	1.00	
Satd. Flow (perm)		1640		1393	1622		912	3539	1583	774	3524	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	4	4	7	105	4	25	21	623	178	65	442	13
RTOR Reduction (vph)	0	6	0	0	22	0	0	0	39	0	1	0
Lane Group Flow (vph)	0	9	0	105	7	0	21	623	139	65	454	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		10.8		10.8	10.8		70.2	70.2	70.2	70.2	70.2	
Effective Green, g (s)		10.8		10.8	10.8		70.2	70.2	70.2	70.2	70.2	
Actuated g/C Ratio		0.12		0.12	0.12		0.78	0.78	0.78	0.78	0.78	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		196		167	194		711	2760	1234	603	2748	
v/s Ratio Prot					0.00			c0.18			0.13	
v/s Ratio Perm		0.01		c0.08			0.02		0.09	0.08		
v/c Ratio		0.05		0.63	0.04		0.03	0.23	0.11	0.11	0.17	
Uniform Delay, d1		35.0		37.7	35.0		2.2	2.6	2.4	2.4	2.5	
Progression Factor		1.00		1.00	1.00		2.19	2.52	7.94	1.54	1.44	
Incremental Delay, d2		0.1		7.2	0.1		0.1	0.2	0.2	0.4	0.1	
Delay (s)		35.1		44.9	35.1		5.0	6.8	19.1	4.0	3.7	
Level of Service		D		D	D		A	A	B	A	A	
Approach Delay (s)		35.1			42.8			9.5			3.8	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	52	41	420	58	44	428
Future Volume (Veh/h)	52	41	420	58	44	428
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	57	45	457	63	48	465
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						556
pX, platoon unblocked						
vC, conflicting volume	817	260			520	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	817	260			520	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	81	94			95	
cM capacity (veh/h)	300	739			1042	

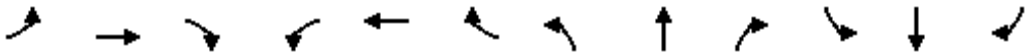
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	57	45	305	215	48	232	232
Volume Left	57	0	0	0	48	0	0
Volume Right	0	45	0	63	0	0	0
cSH	300	739	1700	1700	1042	1700	1700
Volume to Capacity	0.19	0.06	0.18	0.13	0.05	0.14	0.14
Queue Length 95th (ft)	17	5	0	0	4	0	0
Control Delay (s)	19.8	10.2	0.0	0.0	8.6	0.0	0.0
Lane LOS	C	B			A		
Approach Delay (s)	15.6		0.0		0.8		
Approach LOS	C						

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	30.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	626	56	79	1280	77	54
Future Volume (vph)	626	56	79	1280	77	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3496		1770	3539	1770	1583
Flt Permitted	1.00		0.32	1.00	0.95	1.00
Satd. Flow (perm)	3496		598	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	680	61	86	1391	84	59
RTOR Reduction (vph)	13	0	0	0	0	38
Lane Group Flow (vph)	728	0	86	1391	84	21
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Actuated Green, G (s)	26.2		26.2	26.2	19.8	19.8
Effective Green, g (s)	26.2		26.2	26.2	19.8	19.8
Actuated g/C Ratio	0.48		0.48	0.48	0.36	0.36
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1665		284	1685	637	569
v/s Ratio Prot	0.21			c0.39	c0.05	
v/s Ratio Perm			0.14			0.01
v/c Ratio	0.44		0.30	0.83	0.13	0.04
Uniform Delay, d1	9.5		8.8	12.4	11.8	11.4
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2		0.6	3.4	0.4	0.1
Delay (s)	9.7		9.4	15.9	12.3	11.5
Level of Service	A		A	B	B	B
Approach Delay (s)	9.7			15.5	12.0	
Approach LOS	A			B	B	

Intersection Summary			
HCM 2000 Control Delay	13.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	47.1%	ICU Level of Service	A
Analysis Period (min)	15		

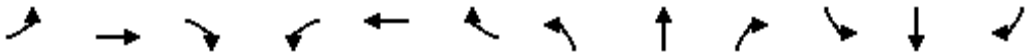
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	102	59	36	0	607	0	0	1024	320
Future Volume (vph)	0	0	0	102	59	36	0	607	0	0	1024	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5	4.5	4.5		4.5			4.5	
Lane Util. Factor				1.00	1.00	1.00		0.91			0.86	
Frt				1.00	1.00	0.85		1.00			0.96	
Flt Protected				0.95	1.00	1.00		1.00			1.00	
Satd. Flow (prot)				1770	1863	1583		5085			6179	
Flt Permitted				0.95	1.00	1.00		1.00			1.00	
Satd. Flow (perm)				1770	1863	1583		5085			6179	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	111	64	39	0	660	0	0	1113	348
RTOR Reduction (vph)	0	0	0	0	0	35	0	0	0	0	31	0
Lane Group Flow (vph)	0	0	0	111	64	4	0	660	0	0	1430	0
Turn Type				Prot	NA	Perm		NA			NA	
Protected Phases				3	8			2			6	
Permitted Phases						8						
Actuated Green, G (s)				9.7	9.7	9.7		71.3			71.3	
Effective Green, g (s)				9.7	9.7	9.7		71.3			71.3	
Actuated g/C Ratio				0.11	0.11	0.11		0.79			0.79	
Clearance Time (s)				4.5	4.5	4.5		4.5			4.5	
Vehicle Extension (s)				3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)				190	200	170		4028			4895	
v/s Ratio Prot				c0.06	0.03			0.13			c0.23	
v/s Ratio Perm						0.00						
v/c Ratio				0.58	0.32	0.02		0.16			0.29	
Uniform Delay, d1				38.2	37.1	35.9		2.2			2.5	
Progression Factor				1.00	1.00	1.00		0.22			0.21	
Incremental Delay, d2				4.5	0.9	0.1		0.1			0.1	
Delay (s)				42.8	38.0	36.0		0.6			0.6	
Level of Service				D	D	D		A			A	
Approach Delay (s)		0.0			40.1			0.6			0.6	
Approach LOS		A			D			A			A	

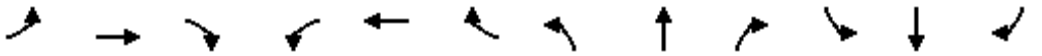
Intersection Summary			
HCM 2000 Control Delay	4.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	350	63	47	88	0	160	0	1197	164	133	720	0
Future Volume (vph)	350	63	47	88	0	160	0	1197	164	133	720	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5	4.5	
Lane Util. Factor	0.97	1.00	1.00	1.00		1.00		0.95	1.00	1.00	0.91	
Frt	1.00	1.00	0.85	1.00		0.85		1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1863	1583	1770		1583		3539	1583	1770	5085	
Flt Permitted	0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1863	1583	1770		1583		3539	1583	1770	5085	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	380	68	51	96	0	174	0	1301	178	145	783	0
RTOR Reduction (vph)	0	0	44	0	0	0	0	0	73	0	0	0
Lane Group Flow (vph)	380	68	7	96	0	174	0	1301	105	145	783	0
Turn Type	Split	NA	Perm	Prot		Prot		NA	Perm	Prot	NA	
Protected Phases	3	3		4		4		6		5	2	
Permitted Phases			3						6			
Actuated Green, G (s)	11.5	11.5	11.5	12.5		12.5		38.5	38.5	9.5	52.5	
Effective Green, g (s)	11.5	11.5	11.5	12.5		12.5		38.5	38.5	9.5	52.5	
Actuated g/C Ratio	0.13	0.13	0.13	0.14		0.14		0.43	0.43	0.11	0.58	
Clearance Time (s)	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5	4.5	
Lane Grp Cap (vph)	438	238	202	245		219		1513	677	186	2966	
v/s Ratio Prot	c0.11	0.04		0.05		c0.11		c0.37		c0.08	0.15	
v/s Ratio Perm			0.00						0.07			
v/c Ratio	0.87	0.29	0.03	0.39		0.79		0.86	0.16	0.78	0.26	
Uniform Delay, d1	38.5	35.5	34.4	35.3		37.5		23.3	15.8	39.2	9.2	
Progression Factor	1.13	1.12	1.00	1.09		1.08		1.19	2.28	1.35	0.46	
Incremental Delay, d2	17.4	2.5	0.2	4.5		24.4		5.4	0.4	26.1	0.2	
Delay (s)	60.9	42.2	34.6	43.1		65.1		33.1	36.3	79.1	4.5	
Level of Service	E	D	C	D		E		C	D	E	A	
Approach Delay (s)		55.6			57.3			33.5			16.1	
Approach LOS		E			E			C			B	

Intersection Summary			
HCM 2000 Control Delay	33.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	64.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	340	44	16	1	44	283	19	440	18	110	19	164
Future Volume (vph)	340	44	16	1	44	283	19	440	18	110	19	164
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	4.5
Lane Util. Factor	0.97	1.00		1.00	0.95			0.95			1.00	1.00
Frt	1.00	0.96		1.00	0.87			0.99			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.96	1.00
Satd. Flow (prot)	3433	1790		1770	3080			3512			1787	1583
Flt Permitted	0.95	1.00		0.71	1.00			1.00			0.96	1.00
Satd. Flow (perm)	3433	1790		1331	3080			3512			1787	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	370	48	17	1	48	308	21	478	20	120	21	178
RTOR Reduction (vph)	0	9	0	0	220	0	0	3	0	0	0	126
Lane Group Flow (vph)	370	56	0	1	136	0	0	516	0	0	141	52
Turn Type	Prot	NA		Perm	NA		Split	NA		Split	NA	custom
Protected Phases	5	2			6		3	3		4	4	4
Permitted Phases				6								5
Actuated Green, G (s)	14.4	44.7		25.8	25.8			19.8			12.0	26.4
Effective Green, g (s)	14.4	44.7		25.8	25.8			19.8			12.0	26.4
Actuated g/C Ratio	0.16	0.50		0.29	0.29			0.22			0.13	0.29
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	549	889		381	882			772			238	543
v/s Ratio Prot	c0.11	0.03			c0.04			c0.15			c0.08	0.01
v/s Ratio Perm				0.00								0.02
v/c Ratio	0.67	0.06		0.00	0.15			0.67			0.59	0.10
Uniform Delay, d1	35.6	11.8		22.9	24.0			32.1			36.7	23.1
Progression Factor	1.27	0.50		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	3.0	0.1		0.0	0.1			4.6			3.9	0.1
Delay (s)	48.4	6.0		22.9	24.0			36.7			40.6	23.2
Level of Service	D	A		C	C			D			D	C
Approach Delay (s)		42.1			24.0			36.7			30.9	
Approach LOS		D			C			D			C	

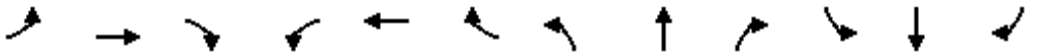
Intersection Summary			
HCM 2000 Control Delay	34.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	55.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	154	18	50	233	95	155
Future Volume (vph)	154	18	50	233	95	155
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	167	20	54	253	103	168

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2
Volume Total (vph)	187	54	253	103	168
Volume Left (vph)	0	54	0	103	0
Volume Right (vph)	20	0	0	0	168
Hadj (s)	-0.03	0.53	0.03	0.53	-0.67
Departure Headway (s)	5.4	6.0	5.5	6.3	5.1
Degree Utilization, x	0.28	0.09	0.39	0.18	0.24
Capacity (veh/h)	630	571	629	538	658
Control Delay (s)	10.5	8.4	10.7	9.5	8.5
Approach Delay (s)	10.5	10.3		8.9	
Approach LOS	B	B		A	

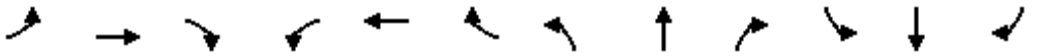
Intersection Summary			
Delay	9.9		
Level of Service	A		
Intersection Capacity Utilization	27.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	244	5	60	6	6	13	49	593	7	7	246	228
Future Volume (vph)	244	5	60	6	6	13	49	593	7	7	246	228
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	265	5	65	7	7	14	53	645	8	8	267	248

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total (vph)	335	28	53	645	8	8	267	248
Volume Left (vph)	265	7	53	0	0	8	0	0
Volume Right (vph)	65	14	0	0	8	0	0	248
Hadj (s)	0.08	-0.22	0.53	0.03	-0.67	0.53	0.03	-0.67
Departure Headway (s)	6.5	7.2	6.8	6.3	3.2	7.3	6.8	3.2
Degree Utilization, x	0.61	0.06	0.10	1.00	0.01	0.02	0.50	0.22
Capacity (veh/h)	534	444	515	645	1121	477	505	1122
Control Delay (s)	19.0	10.7	9.4	61.5	5.0	9.2	15.2	5.9
Approach Delay (s)	19.0	10.7	57.0			10.7		
Approach LOS	C	B	F			B		

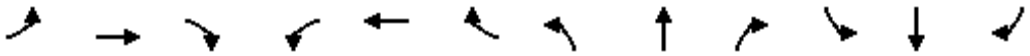
Intersection Summary				
Delay	33.0			
Level of Service	D			
Intersection Capacity Utilization	68.7%	ICU Level of Service	C	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	244	436	190	29	154	91	87	955	0	73	713	301
Future Volume (vph)	244	436	190	29	154	91	87	955	0	73	713	301
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.95		1.00	0.94		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3378		1770	3342		1770	3539		1770	3539	1583
Flt Permitted	0.36	1.00		0.39	1.00		0.36	1.00		0.95	1.00	1.00
Satd. Flow (perm)	671	3378		732	3342		667	3539		1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	265	474	207	32	167	99	95	1038	0	79	775	327
RTOR Reduction (vph)	0	60	0	0	0	0	0	0	0	0	0	170
Lane Group Flow (vph)	265	621	0	32	266	0	95	1038	0	79	775	157
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4			6					2
Actuated Green, G (s)	28.3	28.3		12.4	12.4		40.7	40.7		7.5	43.3	43.3
Effective Green, g (s)	28.3	28.3		12.4	12.4		40.7	40.7		7.5	43.3	43.3
Actuated g/C Ratio	0.31	0.31		0.14	0.14		0.45	0.45		0.08	0.48	0.48
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	350	1062		100	460		361	1600		147	1702	761
v/s Ratio Prot	c0.10	0.18			0.08		0.01	c0.29		0.04	c0.22	
v/s Ratio Perm	c0.14			0.04			0.10					0.10
v/c Ratio	0.76	0.58		0.32	0.58		0.26	0.65		0.54	0.46	0.21
Uniform Delay, d1	25.2	25.9		35.0	36.4		15.7	19.1		39.6	15.5	13.5
Progression Factor	0.60	0.47		1.00	1.00		0.67	0.74		1.37	0.42	0.06
Incremental Delay, d2	8.2	0.7		1.9	1.8		0.3	1.8		3.7	0.9	0.6
Delay (s)	23.2	12.9		36.8	38.1		10.9	15.9		58.0	7.5	1.4
Level of Service	C	B		D	D		B	B		E	A	A
Approach Delay (s)		15.8			38.0			15.5			9.2	
Approach LOS		B			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	15.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	67.9%	ICU Level of Service	C
Analysis Period (min)	15		

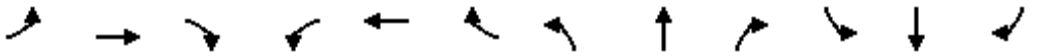
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	63	40	106	13	63	27	92	160	19	12	31	25
Future Volume (vph)	63	40	106	13	63	27	92	160	19	12	31	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	68	43	115	14	68	29	100	174	21	13	34	27

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total (vph)	111	115	111	295	74
Volume Left (vph)	68	0	14	100	13
Volume Right (vph)	0	115	29	21	27
Hadj (s)	0.34	-0.67	-0.10	0.06	-0.15
Departure Headway (s)	5.9	4.9	5.2	4.9	5.0
Degree Utilization, x	0.18	0.16	0.16	0.40	0.10
Capacity (veh/h)	568	683	635	699	650
Control Delay (s)	9.1	7.6	9.2	11.2	8.6
Approach Delay (s)	8.3		9.2	11.2	8.6
Approach LOS	A		A	B	A

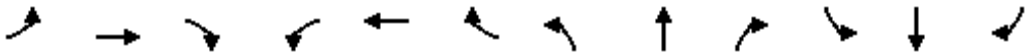
Intersection Summary				
Delay	9.7			
Level of Service	A			
Intersection Capacity Utilization	40.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	312	469	112	0	265	14	66	716	142	40	772	120
Future Volume (vph)	312	469	112	0	265	14	66	716	142	40	772	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.97			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3437			3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.34	1.00			1.00	1.00	0.26	1.00	1.00	0.29	1.00	1.00
Satd. Flow (perm)	632	3437			3539	1583	485	3539	1583	536	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	339	510	122	0	288	15	72	778	154	43	839	130
RTOR Reduction (vph)	0	26	0	0	0	0	0	0	77	0	0	38
Lane Group Flow (vph)	339	606	0	0	288	15	72	778	77	43	839	92
Turn Type	pm+pt	NA			NA	Perm	Perm	NA	Perm	Perm	NA	pm+ov
Protected Phases	7	4			8			2			6	7
Permitted Phases	4					8	2		2	6		6
Actuated Green, G (s)	36.0	36.0			12.8	12.8	45.0	45.0	45.0	45.0	45.0	63.7
Effective Green, g (s)	36.0	36.0			12.8	12.8	45.0	45.0	45.0	45.0	45.0	63.7
Actuated g/C Ratio	0.40	0.40			0.14	0.14	0.50	0.50	0.50	0.50	0.50	0.71
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	489	1374			503	225	242	1769	791	268	1769	1199
v/s Ratio Prot	c0.14	0.18			0.08			0.22			c0.24	0.02
v/s Ratio Perm	c0.13					0.01	0.15		0.05	0.08		0.04
v/c Ratio	0.69	0.44			0.57	0.07	0.30	0.44	0.10	0.16	0.47	0.08
Uniform Delay, d1	20.4	19.7			36.0	33.4	13.2	14.4	11.8	12.2	14.7	4.1
Progression Factor	0.57	0.51			1.37	1.50	1.00	1.00	1.00	1.10	1.10	0.19
Incremental Delay, d2	3.8	0.2			1.2	0.1	3.1	0.8	0.2	1.2	0.8	0.0
Delay (s)	15.5	10.2			50.7	50.1	16.3	15.2	12.1	14.6	17.0	0.8
Level of Service	B	B			D	D	B	B	B	B	B	A
Approach Delay (s)		12.1			50.7			14.8			14.8	
Approach LOS		B			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	17.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		

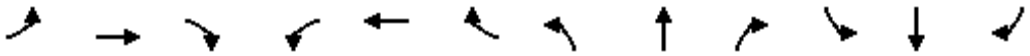
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	570	22	77	302	75	6	76	224	79	27	29
Future Volume (vph)	69	570	22	77	302	75	6	76	224	79	27	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5			4.5			4.5	
Lane Util. Factor		0.95	1.00		0.95			1.00			1.00	
Frt		1.00	0.85		0.98			0.90			0.97	
Flt Protected		0.99	1.00		0.99			1.00			0.97	
Satd. Flow (prot)		3520	1583		3422			1677			1757	
Flt Permitted		0.99	1.00		0.99			0.99			0.53	
Satd. Flow (perm)		3520	1583		3422			1670			964	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	75	620	24	84	328	82	7	83	243	86	29	32
RTOR Reduction (vph)	0	0	15	0	19	0	0	108	0	0	11	0
Lane Group Flow (vph)	0	695	9	0	475	0	0	225	0	0	136	0
Turn Type	Split	NA	Perm	Split	NA		Perm	NA		Perm	NA	
Protected Phases	2	2		1	1			8			4	
Permitted Phases			2				8			4		
Actuated Green, G (s)		33.0	33.0		17.0			26.5			26.5	
Effective Green, g (s)		33.0	33.0		17.0			26.5			26.5	
Actuated g/C Ratio		0.37	0.37		0.19			0.29			0.29	
Clearance Time (s)		4.5	4.5		4.5			4.5			4.5	
Vehicle Extension (s)		3.0	3.0		3.0			3.0			3.0	
Lane Grp Cap (vph)		1290	580		646			491			283	
v/s Ratio Prot		c0.20			c0.14							
v/s Ratio Perm			0.01					0.13			c0.14	
v/c Ratio		0.54	0.02		0.73			0.46			0.48	
Uniform Delay, d1		22.5	18.2		34.4			25.9			26.1	
Progression Factor		0.64	1.00		1.11			1.00			1.00	
Incremental Delay, d2		1.6	0.0		3.4			3.1			5.7	
Delay (s)		15.9	18.2		41.7			29.0			31.8	
Level of Service		B	B		D			C			C	
Approach Delay (s)		16.0			41.7			29.0			31.8	
Approach LOS		B			D			C			C	

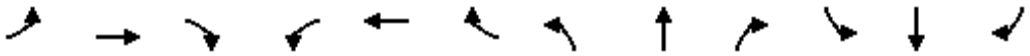
Intersection Summary			
HCM 2000 Control Delay	27.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



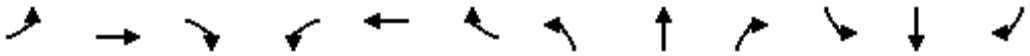
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	261	550	174	19	1688	0	0	592	24
Future Volume (vph)	0	0	0	261	550	174	19	1688	0	0	592	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5	4.5		4.5	4.5			4.5	
Lane Util. Factor				0.86	0.86		1.00	0.91			0.91	
Frt				1.00	0.97		1.00	1.00			0.99	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1522	4631		1770	5085			5056	
Flt Permitted				0.95	1.00		0.37	1.00			1.00	
Satd. Flow (perm)				1522	4631		695	5085			5056	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	284	598	189	21	1835	0	0	643	26
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	5	0
Lane Group Flow (vph)	0	0	0	256	815	0	21	1835	0	0	664	0
Turn Type				Prot	NA		Perm	NA			NA	
Protected Phases				3	8			2			6	
Permitted Phases							2					
Actuated Green, G (s)				30.5	30.5		50.5	50.5			50.5	
Effective Green, g (s)				30.5	30.5		50.5	50.5			50.5	
Actuated g/C Ratio				0.34	0.34		0.56	0.56			0.56	
Clearance Time (s)				4.5	4.5		4.5	4.5			4.5	
Lane Grp Cap (vph)				515	1569		389	2853			2836	
v/s Ratio Prot				0.17	c0.18			c0.36			0.13	
v/s Ratio Perm							0.03					
v/c Ratio				0.50	0.52		0.05	0.64			0.23	
Uniform Delay, d1				23.7	23.9		8.9	13.6			10.0	
Progression Factor				1.00	1.00		0.87	0.69			0.96	
Incremental Delay, d2				3.4	1.2		0.1	0.6			0.2	
Delay (s)				27.1	25.1		7.9	9.9			9.8	
Level of Service				C	C		A	A			A	
Approach Delay (s)		0.0			25.6			9.9			9.8	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	14.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	55.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



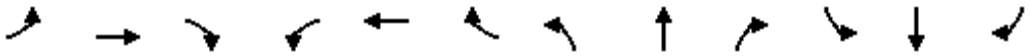
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	55	81	0	0	0	0	592	64	48	906	0
Future Volume (vph)	235	55	81	0	0	0	0	592	64	48	906	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5						4.5		4.5	4.5	
Lane Util. Factor	0.91	0.91						0.91		1.00	0.91	
Frt	1.00	0.95						0.99		1.00	1.00	
Flt Protected	0.95	0.98						1.00		0.95	1.00	
Satd. Flow (prot)	1610	3152						5010		1770	5085	
Flt Permitted	0.95	0.98						1.00		0.32	1.00	
Satd. Flow (perm)	1610	3152						5010		601	5085	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	255	60	88	0	0	0	0	643	70	52	985	0
RTOR Reduction (vph)	0	58	0	0	0	0	0	15	0	0	0	0
Lane Group Flow (vph)	138	207	0	0	0	0	0	698	0	52	985	0
Turn Type	Prot	NA						NA		pm+pt	NA	
Protected Phases	7	4						2		1	6	
Permitted Phases										6		
Actuated Green, G (s)	30.5	30.5						34.5		50.5	50.5	
Effective Green, g (s)	30.5	30.5						34.5		50.5	50.5	
Actuated g/C Ratio	0.34	0.34						0.38		0.56	0.56	
Clearance Time (s)	4.5	4.5						4.5		4.5	4.5	
Lane Grp Cap (vph)	545	1068						1920		486	2853	
v/s Ratio Prot	c0.09	0.07						0.14		0.01	c0.19	
v/s Ratio Perm										0.05		
v/c Ratio	0.25	0.19						0.36		0.11	0.35	
Uniform Delay, d1	21.5	21.0						19.9		11.9	10.8	
Progression Factor	1.00	1.00						0.94		0.39	0.41	
Incremental Delay, d2	1.1	0.4						0.4		0.4	0.3	
Delay (s)	22.6	21.5						19.0		5.0	4.7	
Level of Service	C	C						B		A	A	
Approach Delay (s)		21.9			0.0			19.0			4.7	
Approach LOS		C			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	51.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	938	187	110	907	114	95	675	116	95	631	118
Future Volume (vph)	88	938	187	110	907	114	95	675	116	95	631	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	5000		1770	4974		1770	4965	
Flt Permitted	0.24	1.00	1.00	0.11	1.00		0.21	1.00		0.19	1.00	
Satd. Flow (perm)	456	3539	1583	207	5000		390	4974		349	4965	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	96	1020	203	120	986	124	103	734	126	103	686	128
RTOR Reduction (vph)	0	0	49	0	17	0	0	27	0	0	30	0
Lane Group Flow (vph)	96	1020	154	120	1093	0	103	833	0	103	784	0
Turn Type	Perm	NA	pm+ov	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4	5	3	8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	34.5	34.5	42.0	45.5	45.5		31.0	23.5		31.0	23.5	
Effective Green, g (s)	34.5	34.5	42.0	45.5	45.5		31.0	23.5		31.0	23.5	
Actuated g/C Ratio	0.38	0.38	0.47	0.51	0.51		0.34	0.26		0.34	0.26	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)	174	1356	738	217	2527		249	1298		238	1296	
v/s Ratio Prot		c0.29	0.02	c0.04	0.22		0.03	c0.17		c0.04	0.16	
v/s Ratio Perm	0.21		0.08	0.24			0.11			0.11		
v/c Ratio	0.55	0.75	0.21	0.55	0.43		0.41	0.64		0.43	0.60	
Uniform Delay, d1	21.7	24.0	14.2	15.8	14.1		30.5	29.5		31.5	29.2	
Progression Factor	0.61	0.60	0.55	1.50	0.45		0.54	0.37		0.77	0.61	
Incremental Delay, d2	9.8	3.2	0.5	7.7	0.4		4.9	2.4		5.5	2.0	
Delay (s)	23.1	17.5	8.3	31.3	6.7		21.6	13.3		29.6	19.9	
Level of Service	C	B	A	C	A		C	B		C	B	
Approach Delay (s)		16.5			9.1			14.2			21.0	
Approach LOS		B			A			B			C	

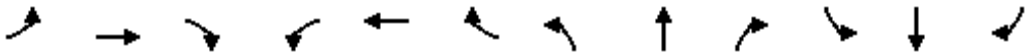
Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	67.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	312	68	54	413	345	171	950	48	93	384	55
Future Volume (vph)	100	312	68	54	413	345	171	950	48	93	384	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3444		1770	3539	1583	1770	3539	1583	1770	4989	
Flt Permitted	0.36	1.00		0.39	1.00	1.00	0.47	1.00	1.00	0.22	1.00	
Satd. Flow (perm)	666	3444		727	3539	1583	875	3539	1583	410	4989	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	339	74	59	449	375	186	1033	52	101	417	60
RTOR Reduction (vph)	0	22	0	0	0	58	0	0	21	0	18	0
Lane Group Flow (vph)	109	391	0	59	449	317	186	1033	31	101	459	0
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8		8	2		2	6		
Actuated Green, G (s)	18.3	18.3		27.1	27.1	27.1	53.9	53.9	53.9	53.9	53.9	
Effective Green, g (s)	18.3	18.3		27.1	27.1	27.1	53.9	53.9	53.9	53.9	53.9	
Actuated g/C Ratio	0.20	0.20		0.30	0.30	0.30	0.60	0.60	0.60	0.60	0.60	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	135	700		268	1065	476	524	2119	948	245	2987	
v/s Ratio Prot		0.11		0.01	0.13			c0.29			0.09	
v/s Ratio Perm	c0.16			0.06		c0.20	0.21		0.02	0.25		
v/c Ratio	0.81	0.56		0.22	0.42	0.67	0.35	0.49	0.03	0.41	0.15	
Uniform Delay, d1	34.2	32.2		27.6	25.2	27.5	9.2	10.2	7.4	9.6	8.0	
Progression Factor	1.00	1.00		0.39	0.52	0.35	0.81	0.85	1.48	0.57	0.42	
Incremental Delay, d2	28.6	1.0		0.2	0.1	1.4	1.6	0.7	0.1	4.9	0.1	
Delay (s)	62.8	33.2		10.9	13.1	10.9	9.1	9.4	11.0	10.4	3.5	
Level of Service	E	C		B	B	B	A	A	B	B	A	
Approach Delay (s)		39.4			12.0			9.4			4.7	
Approach LOS		D			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		

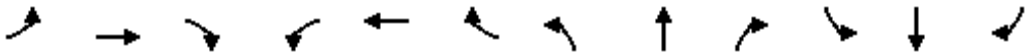
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	922	257	114	842	293	279	677	145	238	302	47
Future Volume (vph)	46	922	257	114	842	293	279	677	145	238	302	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3468	
Flt Permitted	0.15	1.00	1.00	0.15	1.00	1.00	0.38	1.00	1.00	0.20	1.00	
Satd. Flow (perm)	283	3539	1583	283	3539	1583	714	3539	1583	373	3468	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	50	1002	279	124	915	318	303	736	158	259	328	51
RTOR Reduction (vph)	0	0	188	0	0	196	0	0	120	0	14	0
Lane Group Flow (vph)	50	1002	91	124	915	122	303	736	38	259	365	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		
Actuated Green, G (s)	29.3	29.3	29.3	34.4	34.4	34.4	36.3	21.7	21.7	32.9	20.0	
Effective Green, g (s)	29.3	29.3	29.3	34.4	34.4	34.4	36.3	21.7	21.7	32.9	20.0	
Actuated g/C Ratio	0.33	0.33	0.33	0.38	0.38	0.38	0.40	0.24	0.24	0.37	0.22	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	141	1152	515	241	1352	605	459	853	381	336	770	
v/s Ratio Prot	0.01	c0.28		0.05	c0.26		0.11	c0.21		c0.11	0.11	
v/s Ratio Perm	0.10		0.06	0.15		0.08	0.16		0.02	0.17		
v/c Ratio	0.35	0.87	0.18	0.51	0.68	0.20	0.66	0.86	0.10	0.77	0.47	
Uniform Delay, d1	23.5	28.6	21.7	31.6	23.2	18.6	19.6	32.7	26.6	22.4	30.4	
Progression Factor	0.45	0.51	0.14	0.79	0.72	0.29	0.74	0.70	0.40	0.92	0.77	
Incremental Delay, d2	1.1	6.9	0.5	1.4	2.1	0.6	3.2	8.2	0.1	9.9	0.4	
Delay (s)	11.6	21.5	3.7	26.4	18.8	6.0	17.7	31.2	10.8	30.6	23.7	
Level of Service	B	C	A	C	B	A	B	C	B	C	C	
Approach Delay (s)		17.4			16.5			25.1			26.5	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	20.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		

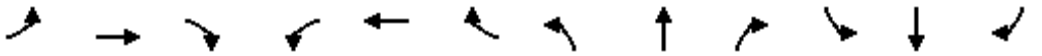
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	69	80	152	125	507	43	437	67	293	226	124
Future Volume (vph)	150	69	80	152	125	507	43	437	67	293	226	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	0.91	0.91		1.00	1.00	1.00	0.97	0.95	1.00	0.97	0.95	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	0.99		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1610	3148		1770	1863	1583	3433	3539	1583	3433	3351	
Flt Permitted	0.67	0.83		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1136	2655		1770	1863	1583	3433	3539	1583	3433	3351	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	163	75	87	165	136	551	47	475	73	318	246	135
RTOR Reduction (vph)	0	74	0	0	0	351	0	0	49	0	68	0
Lane Group Flow (vph)	103	148	0	165	136	200	47	475	24	318	313	0
Turn Type	Perm	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4					8			2			
Actuated Green, G (s)	13.2	13.2		13.2	30.9	30.9	3.9	29.3	29.3	16.3	41.7	
Effective Green, g (s)	13.2	13.2		13.2	30.9	30.9	3.9	29.3	29.3	16.3	41.7	
Actuated g/C Ratio	0.15	0.15		0.15	0.34	0.34	0.04	0.33	0.33	0.18	0.46	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	166	389		259	639	543	148	1152	515	621	1552	
v/s Ratio Prot				c0.09	0.07		0.01	c0.13		c0.09	0.09	
v/s Ratio Perm	c0.09	0.06				0.13			0.02			
v/c Ratio	0.62	0.38		0.64	0.21	0.37	0.32	0.41	0.05	0.51	0.20	
Uniform Delay, d1	36.0	34.7		36.1	20.9	22.2	41.8	23.6	20.8	33.3	14.3	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.87	0.88	
Incremental Delay, d2	7.0	0.6		5.1	0.2	0.4	1.2	1.1	0.2	0.6	0.3	
Delay (s)	43.1	35.3		41.2	21.1	22.6	43.0	24.7	21.0	29.5	12.9	
Level of Service	D	D		D	C	C	D	C	C	C	B	
Approach Delay (s)		37.8			26.0			25.7			20.5	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	25.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		

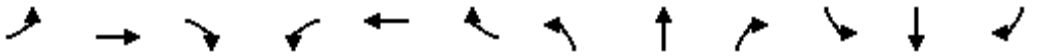
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	222	230	1	0	626	352	5	639	34	183	267	181
Future Volume (vph)	222	230	1	0	626	352	5	639	34	183	267	181
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95			0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00			0.95		1.00	0.99		1.00	0.94	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3537			3348		1770	3512		1770	3324	
Flt Permitted	0.95	1.00			1.00		0.42	1.00		0.27	1.00	
Satd. Flow (perm)	1770	3537			3348		778	3512		504	3324	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	241	250	1	0	680	383	5	695	37	199	290	197
RTOR Reduction (vph)	0	1	0	0	87	0	0	4	0	0	117	0
Lane Group Flow (vph)	241	250	0	0	976	0	5	728	0	199	370	0
Turn Type	Prot	NA			NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	16.0	44.5			24.0		36.5	36.5		36.5	36.5	
Effective Green, g (s)	16.0	44.5			24.0		36.5	36.5		36.5	36.5	
Actuated g/C Ratio	0.18	0.49			0.27		0.41	0.41		0.41	0.41	
Clearance Time (s)	4.5	4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	314	1748			892		315	1424		204	1348	
v/s Ratio Prot	c0.14	0.07			c0.29			0.21			0.11	
v/s Ratio Perm							0.01			c0.39		
v/c Ratio	0.77	0.14			1.09		0.02	0.51		0.98	0.27	
Uniform Delay, d1	35.2	12.4			33.0		16.0	20.1		26.3	17.9	
Progression Factor	0.82	0.59			0.39		1.00	1.00		1.00	1.00	
Incremental Delay, d2	10.1	0.0			55.3		0.1	1.3		57.0	0.5	
Delay (s)	39.0	7.4			68.0		16.1	21.4		83.3	18.4	
Level of Service	D	A			E		B	C		F	B	
Approach Delay (s)		22.9			68.0			21.3			37.2	
Approach LOS		C			E			C			D	

Intersection Summary			
HCM 2000 Control Delay	41.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	84.8%	ICU Level of Service	E
Analysis Period (min)	15		

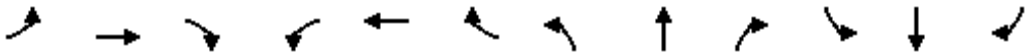
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	92	173	31	190	26	516	852	27	9	328	98
Future Volume (vph)	105	92	173	31	190	26	516	852	27	9	328	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1829		1770	3523		1770	4909	
Flt Permitted	0.38	1.00	1.00	0.69	1.00		0.44	1.00		0.24	1.00	
Satd. Flow (perm)	711	1863	1583	1290	1829		827	3523		441	4909	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	114	100	188	34	207	28	561	926	29	10	357	107
RTOR Reduction (vph)	0	0	152	0	6	0	0	2	0	0	55	0
Lane Group Flow (vph)	114	100	36	34	229	0	561	953	0	10	409	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	17.1	17.1	17.1	17.1	17.1		63.9	63.9		26.8	26.8	
Effective Green, g (s)	17.1	17.1	17.1	17.1	17.1		63.9	63.9		26.8	26.8	
Actuated g/C Ratio	0.19	0.19	0.19	0.19	0.19		0.71	0.71		0.30	0.30	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	135	353	300	245	347		928	2501		131	1461	
v/s Ratio Prot		0.05			0.13		c0.22	0.27			0.08	
v/s Ratio Perm	c0.16		0.02	0.03			c0.21			0.02		
v/c Ratio	0.84	0.28	0.12	0.14	0.66		0.60	0.38		0.08	0.28	
Uniform Delay, d1	35.2	31.2	30.2	30.3	33.8		9.5	5.2		22.7	24.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.57	0.50		1.00	1.00	
Incremental Delay, d2	35.7	0.4	0.2	0.3	4.7		1.0	0.4		1.1	0.5	
Delay (s)	70.8	31.6	30.4	30.6	38.4		6.4	3.0		23.8	24.7	
Level of Service	E	C	C	C	D		A	A		C	C	
Approach Delay (s)		42.2			37.4			4.2			24.7	
Approach LOS		D			D			A			C	

Intersection Summary			
HCM 2000 Control Delay	17.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		

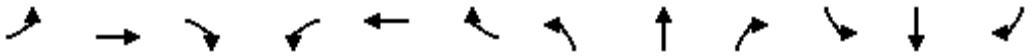
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	78	0	0	0	97	1078	626	0	676	49
Future Volume (Veh/h)	0	0	78	0	0	0	97	1078	626	0	676	49
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	85	0	0	0	105	1172	680	0	735	53
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								206			797	
pX, platoon unblocked	0.68	0.68		0.68	0.68	0.68				0.68		
vC, conflicting volume	1558	2144	272	1712	2170	586	788			1172		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	889	1746	272	1115	1785	0	788			325		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	88	100	100	100	87			100		
cM capacity (veh/h)	147	51	726	89	48	741	827			842		

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	85	105	586	586	680	294	294	200
Volume Left	0	105	0	0	0	0	0	0
Volume Right	85	0	0	0	680	0	0	53
cSH	726	827	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.12	0.13	0.34	0.34	0.40	0.17	0.17	0.12
Queue Length 95th (ft)	10	11	0	0	0	0	0	0
Control Delay (s)	10.6	10.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	A						
Approach Delay (s)	10.6	0.5				0.0		
Approach LOS	B							

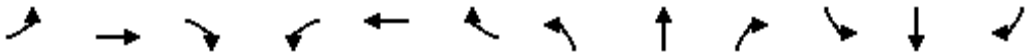
Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	42.1%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	901	21	32	61	0	38	0	862	15	3	751	0
Future Volume (vph)	901	21	32	61	0	38	0	862	15	3	751	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5		4.5		4.5		4.5	4.5	
Lane Util. Factor	0.97	1.00		1.00		1.00		0.91		1.00	0.91	
Frt	1.00	0.91		1.00		0.85		1.00		1.00	1.00	
Flt Protected	0.95	1.00		0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)	3433	1694		1770		1583		5072		1770	5085	
Flt Permitted	0.95	1.00		0.95		1.00		1.00		0.25	1.00	
Satd. Flow (perm)	3433	1694		1770		1583		5072		469	5085	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	979	23	35	66	0	41	0	937	16	3	816	0
RTOR Reduction (vph)	0	26	0	0	0	39	0	1	0	0	0	0
Lane Group Flow (vph)	979	32	0	66	0	2	0	952	0	3	816	0
Turn Type	pm+pt	NA		Prot		Perm		NA		Perm	NA	
Protected Phases	7	4		3				2			6	
Permitted Phases	4					8				6		
Actuated Green, G (s)	34.3	22.3		7.5		3.3		46.7		46.7	46.7	
Effective Green, g (s)	34.3	22.3		7.5		3.3		46.7		46.7	46.7	
Actuated g/C Ratio	0.38	0.25		0.08		0.04		0.52		0.52	0.52	
Clearance Time (s)	4.5	4.5		4.5		4.5		4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	1308	419		147		58		2631		243	2638	
v/s Ratio Prot	c0.22	0.02		0.04				c0.19			0.16	
v/s Ratio Perm	0.06					0.00				0.01		
v/c Ratio	0.75	0.08		0.45		0.03		0.36		0.01	0.31	
Uniform Delay, d1	24.1	25.9		39.3		41.8		12.8		10.5	12.4	
Progression Factor	0.31	0.19		1.00		1.00		0.35		0.75	0.69	
Incremental Delay, d2	1.8	0.1		2.2		0.2		0.3		0.1	0.3	
Delay (s)	9.2	5.0		41.5		42.0		4.8		8.0	8.8	
Level of Service	A	A		D		D		A		A	A	
Approach Delay (s)		9.0			41.7			4.8			8.8	
Approach LOS		A			D			A			A	

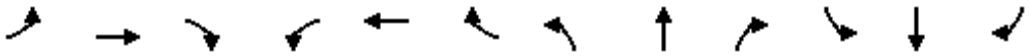
Intersection Summary			
HCM 2000 Control Delay	8.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	58.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



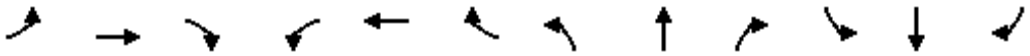
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	979	0	0	1170	22	402	856	234	0	0	0
Future Volume (vph)	76	979	0	0	1170	22	402	856	234	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5		4.5	4.5				
Lane Util. Factor	1.00	0.95			0.91		0.86	0.86				
Frt	1.00	1.00			1.00		1.00	0.97				
Flt Protected	0.95	1.00			1.00		0.95	1.00				
Satd. Flow (prot)	1770	3539			5071		1522	4648				
Flt Permitted	0.16	1.00			1.00		0.95	1.00				
Satd. Flow (perm)	290	3539			5071		1522	4648				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	83	1064	0	0	1272	24	437	930	254	0	0	0
RTOR Reduction (vph)	0	0	0	0	2	0	0	46	0	0	0	0
Lane Group Flow (vph)	83	1064	0	0	1294	0	393	1182	0	0	0	0
Turn Type	Perm	NA			NA		pm+pt	NA				
Protected Phases		4			8		6	2				
Permitted Phases	4						2					
Actuated Green, G (s)	47.5	47.5			47.5		33.5	33.5				
Effective Green, g (s)	47.5	47.5			47.5		33.5	33.5				
Actuated g/C Ratio	0.53	0.53			0.53		0.37	0.37				
Clearance Time (s)	4.5	4.5			4.5		4.5	4.5				
Lane Grp Cap (vph)	153	1867			2676		566	1730				
v/s Ratio Prot		c0.30			0.26		c0.26	0.25				
v/s Ratio Perm	0.29											
v/c Ratio	0.54	0.57			0.48		0.69	0.68				
Uniform Delay, d1	14.1	14.4			13.5		23.9	23.8				
Progression Factor	1.00	1.00			0.78		1.00	1.00				
Incremental Delay, d2	13.1	1.3			0.6		6.9	2.2				
Delay (s)	27.2	15.6			11.0		30.8	26.0				
Level of Service	C	B			B		C	C				
Approach Delay (s)		16.5			11.0			27.2			0.0	
Approach LOS		B			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



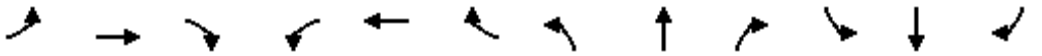
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	94	479	20	184	1048	0	0	149	38
Future Volume (vph)	0	0	0	94	479	20	184	1048	0	0	149	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.5		4.5	4.5			4.5	
Lane Util. Factor					0.91		1.00	0.95			0.95	
Frt					0.99		1.00	1.00			0.97	
Flt Protected					0.99		0.95	1.00			1.00	
Satd. Flow (prot)					5020		1770	3539			3432	
Flt Permitted					0.99		0.62	1.00			1.00	
Satd. Flow (perm)					5020		1163	3539			3432	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	102	521	22	200	1139	0	0	162	41
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	0	0	15	0
Lane Group Flow (vph)	0	0	0	0	641	0	200	1139	0	0	188	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8			2					
Actuated Green, G (s)					24.5		56.5	56.5			56.5	
Effective Green, g (s)					24.5		56.5	56.5			56.5	
Actuated g/C Ratio					0.27		0.63	0.63			0.63	
Clearance Time (s)					4.5		4.5	4.5			4.5	
Lane Grp Cap (vph)					1366		730	2221			2154	
v/s Ratio Prot								c0.32			0.05	
v/s Ratio Perm					0.13		0.17					
v/c Ratio					0.47		0.27	0.51			0.09	
Uniform Delay, d1					27.3		7.5	9.2			6.6	
Progression Factor					0.25		0.35	0.32			1.00	
Incremental Delay, d2					1.0		0.7	0.7			0.1	
Delay (s)					7.8		3.3	3.6			6.7	
Level of Service					A		A	A			A	
Approach Delay (s)		0.0			7.8			3.6			6.7	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



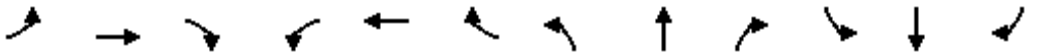
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑						↑↑			↑↑	
Traffic Volume (vph)	79	280	20	0	0	0	0	1153	180	0	243	0
Future Volume (vph)	79	280	20	0	0	0	0	1153	180	0	243	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5						4.5			4.5	
Lane Util. Factor		0.95						0.95			0.95	
Frt		0.99						0.98			1.00	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		3475						3467			3539	
Flt Permitted		0.99						1.00			1.00	
Satd. Flow (perm)		3475						3467			3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	86	304	22	0	0	0	0	1253	196	0	264	0
RTOR Reduction (vph)	0	5	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	407	0	0	0	0	0	1449	0	0	264	0
Turn Type	Perm	NA						NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4											
Actuated Green, G (s)		20.5						60.5			60.5	
Effective Green, g (s)		20.5						60.5			60.5	
Actuated g/C Ratio		0.23						0.67			0.67	
Clearance Time (s)		4.5						4.5			4.5	
Lane Grp Cap (vph)		791						2330			2378	
v/s Ratio Prot								c0.42			0.07	
v/s Ratio Perm		0.12										
v/c Ratio		0.52						0.62			0.11	
Uniform Delay, d1		30.4						8.3			5.2	
Progression Factor		1.00						0.59			1.38	
Incremental Delay, d2		2.4						1.0			0.1	
Delay (s)		32.8						5.9			7.3	
Level of Service		C						A			A	
Approach Delay (s)		32.8			0.0			5.9			7.3	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	673	110	70	401	237	145	1080	71	84	387	158
Future Volume (vph)	120	673	110	70	401	237	145	1080	71	84	387	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.98		1.00	0.94		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3464		1770	3342		1770	3507		1770	3539	1583
Flt Permitted	0.27	1.00		0.18	1.00		0.49	1.00		0.13	1.00	1.00
Satd. Flow (perm)	497	3464		341	3342		917	3507		249	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	732	120	76	436	258	158	1174	77	91	421	172
RTOR Reduction (vph)	0	15	0	0	38	0	0	5	0	0	0	79
Lane Group Flow (vph)	130	837	0	76	656	0	158	1246	0	91	421	93
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	32.5	32.5		32.5	32.5		48.5	48.5		48.5	48.5	48.5
Effective Green, g (s)	32.5	32.5		32.5	32.5		48.5	48.5		48.5	48.5	48.5
Actuated g/C Ratio	0.36	0.36		0.36	0.36		0.54	0.54		0.54	0.54	0.54
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Grp Cap (vph)	179	1250		123	1206		494	1889		134	1907	853
v/s Ratio Prot		0.24			0.20			0.36			0.12	
v/s Ratio Perm	c0.26			0.22			0.17			c0.37		0.06
v/c Ratio	0.73	0.67		0.62	0.54		0.32	0.66		0.68	0.22	0.11
Uniform Delay, d1	24.9	24.2		23.6	22.9		11.6	14.8		15.1	10.9	10.2
Progression Factor	1.00	1.00		0.71	0.69		0.52	0.45		0.88	0.81	0.42
Incremental Delay, d2	22.6	2.9		20.7	1.7		1.4	1.4		24.3	0.3	0.3
Delay (s)	47.4	27.1		37.5	17.5		7.3	8.1		37.5	9.0	4.5
Level of Service	D	C		D	B		A	A		D	A	A
Approach Delay (s)		29.8			19.5			8.0			11.7	
Approach LOS		C			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	16.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	78.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

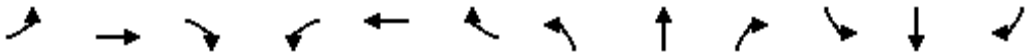


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	802	123	91	469	229	133	1004	82	83	447	170
Future Volume (vph)	108	802	123	91	469	229	133	1004	82	83	447	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.99		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3469		1770	3539	1583	1770	3499		1770	3393	
Flt Permitted	0.41	1.00		0.15	1.00	1.00	0.33	1.00		0.13	1.00	
Satd. Flow (perm)	756	3469		285	3539	1583	622	3499		241	3393	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	117	872	134	99	510	249	145	1091	89	90	486	185
RTOR Reduction (vph)	0	13	0	0	0	31	0	7	0	0	44	0
Lane Group Flow (vph)	117	993	0	99	510	218	145	1173	0	90	627	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	37.5	37.5		37.5	37.5	37.5	43.5	43.5		43.5	43.5	
Effective Green, g (s)	37.5	37.5		37.5	37.5	37.5	43.5	43.5		43.5	43.5	
Actuated g/C Ratio	0.42	0.42		0.42	0.42	0.42	0.48	0.48		0.48	0.48	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)	315	1445		118	1474	659	300	1691		116	1639	
v/s Ratio Prot		0.29			0.14			0.34			0.18	
v/s Ratio Perm	0.15			c0.35		0.14	0.23			c0.37		
v/c Ratio	0.37	0.69		0.84	0.35	0.33	0.48	0.69		0.78	0.38	
Uniform Delay, d1	18.1	21.5		23.5	17.9	17.8	15.7	18.1		19.2	14.7	
Progression Factor	1.00	1.00		0.49	0.42	0.31	1.00	1.00		0.86	0.83	
Incremental Delay, d2	3.3	2.7		44.4	0.6	1.2	5.5	2.4		37.9	0.7	
Delay (s)	21.5	24.1		55.9	8.1	6.7	21.2	20.4		54.5	13.0	
Level of Service	C	C		E	A	A	C	C		D	B	
Approach Delay (s)		23.9			13.2			20.5			17.9	
Approach LOS		C			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	19.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	81.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

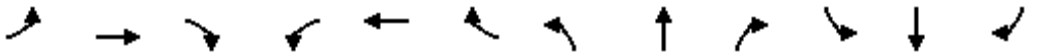
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	724	102	93	449	299	271
Future Volume (vph)	724	102	93	449	299	271
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	0.97	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3474		1770	3539	3433	1583
Flt Permitted	1.00		0.26	1.00	0.95	1.00
Satd. Flow (perm)	3474		479	3539	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	787	111	101	488	325	295
RTOR Reduction (vph)	12	0	0	0	0	114
Lane Group Flow (vph)	886	0	101	488	325	181
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Actuated Green, G (s)	50.5		50.5	50.5	30.5	30.5
Effective Green, g (s)	50.5		50.5	50.5	30.5	30.5
Actuated g/C Ratio	0.56		0.56	0.56	0.34	0.34
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	1949		268	1985	1163	536
v/s Ratio Prot	c0.25			0.14	0.09	
v/s Ratio Perm			0.21			c0.11
v/c Ratio	0.45		0.38	0.25	0.28	0.34
Uniform Delay, d1	11.6		11.0	10.1	21.7	22.2
Progression Factor	0.26		0.94	0.91	0.64	0.37
Incremental Delay, d2	0.6		3.8	0.3	0.5	1.4
Delay (s)	3.6		14.1	9.4	14.3	9.5
Level of Service	A		B	A	B	A
Approach Delay (s)	3.6			10.2	12.0	
Approach LOS	A			B	B	

Intersection Summary			
HCM 2000 Control Delay	7.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	48.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	784	125	67	556	78	178	412	136	31	184	62
Future Volume (vph)	83	784	125	67	556	78	178	412	136	31	184	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.98		1.00	0.98			0.97			0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	3466		1770	3474			3398			3402	
Flt Permitted	0.32	1.00		0.19	1.00			0.77			0.83	
Satd. Flow (perm)	599	3466		353	3474			2640			2835	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	90	852	136	73	604	85	193	448	148	34	200	67
RTOR Reduction (vph)	0	14	0	0	12	0	0	22	0	0	29	0
Lane Group Flow (vph)	90	974	0	73	677	0	0	767	0	0	272	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	42.6	42.6		42.6	42.6			38.4			38.4	
Effective Green, g (s)	42.6	42.6		42.6	42.6			38.4			38.4	
Actuated g/C Ratio	0.47	0.47		0.47	0.47			0.43			0.43	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Grp Cap (vph)	283	1640		167	1644			1126			1209	
v/s Ratio Prot		c0.28			0.19							
v/s Ratio Perm	0.15			0.21				c0.29			0.10	
v/c Ratio	0.32	0.59		0.44	0.41			0.68			0.22	
Uniform Delay, d1	14.7	17.4		15.7	15.5			20.8			16.4	
Progression Factor	0.40	0.37		1.13	1.14			1.00			0.39	
Incremental Delay, d2	2.1	1.2		7.8	0.7			3.3			0.4	
Delay (s)	8.0	7.5		25.5	18.4			24.2			6.7	
Level of Service	A	A		C	B			C			A	
Approach Delay (s)		7.6			19.1			24.2			6.7	
Approach LOS		A			B			C			A	

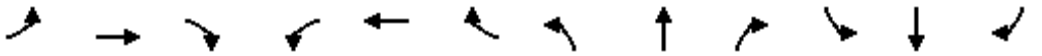
Intersection Summary			
HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	73.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	423	630	294	152	589	35	223	543	79	37	539	365
Future Volume (vph)	423	630	294	152	589	35	223	543	79	37	539	365
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.91	0.91		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.96		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1610	3228		1770	3509		1770	3539	1583	1770	3539	1583
Flt Permitted	0.16	0.65		0.25	1.00		0.27	1.00	1.00	0.30	1.00	1.00
Satd. Flow (perm)	273	2104		462	3509		508	3539	1583	551	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	460	685	320	165	640	38	242	590	86	40	586	397
RTOR Reduction (vph)	0	48	0	0	5	0	0	0	52	0	0	44
Lane Group Flow (vph)	368	1049	0	165	673	0	242	590	34	40	586	353
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	pm+ov
Protected Phases	7	4		3	8		5	2			6	7
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	44.9	44.9		27.2	20.3		36.1	36.1	36.1	21.7	21.7	41.8
Effective Green, g (s)	44.9	44.9		27.2	20.3		36.1	36.1	36.1	21.7	21.7	41.8
Actuated g/C Ratio	0.50	0.50		0.30	0.23		0.40	0.40	0.40	0.24	0.24	0.46
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	434	1300		239	791		342	1419	634	132	853	735
v/s Ratio Prot	c0.19	c0.18		0.05	0.19		c0.08	0.17			0.17	0.11
v/s Ratio Perm	c0.23	0.22		0.16			c0.21		0.02	0.07		0.12
v/c Ratio	0.85	0.81		0.69	0.85		0.71	0.42	0.05	0.30	0.69	0.48
Uniform Delay, d1	21.5	18.9		24.2	33.4		28.9	19.4	16.5	28.0	31.1	16.6
Progression Factor	1.08	0.44		1.00	1.00		0.73	0.66	0.54	1.00	1.00	1.00
Incremental Delay, d2	10.1	2.6		8.3	8.8		3.8	0.5	0.1	5.8	4.5	0.5
Delay (s)	33.3	10.8		32.5	42.2		24.9	13.2	9.0	33.8	35.5	17.1
Level of Service	C	B		C	D		C	B	A	C	D	B
Approach Delay (s)		16.5			40.3			15.9			28.3	
Approach LOS		B			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	23.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	85.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	468	395	10	6	237	159	16	303	4	92	128	201
Future Volume (vph)	468	395	10	6	237	159	16	303	4	92	128	201
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.94		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1856		1770	1751		1770	1859		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.63	1.00		0.28	1.00	1.00
Satd. Flow (perm)	1770	1856		1770	1751		1177	1859		524	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	509	429	11	7	258	173	17	329	4	100	139	218
RTOR Reduction (vph)	0	1	0	0	27	0	0	1	0	0	0	165
Lane Group Flow (vph)	509	439	0	7	404	0	17	332	0	100	139	53
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		6
Actuated Green, G (s)	31.8	53.5		1.0	22.7		22.0	22.0		22.0	22.0	22.0
Effective Green, g (s)	31.8	53.5		1.0	22.7		22.0	22.0		22.0	22.0	22.0
Actuated g/C Ratio	0.35	0.59		0.01	0.25		0.24	0.24		0.24	0.24	0.24
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	625	1103		19	441		287	454		128	455	386
v/s Ratio Prot	c0.29	0.24		0.00	c0.23			0.18			0.07	
v/s Ratio Perm							0.01			c0.19		0.03
v/c Ratio	0.81	0.40		0.37	0.92		0.06	0.73		0.78	0.31	0.14
Uniform Delay, d1	26.4	9.7		44.2	32.7		26.1	31.3		31.8	27.8	26.6
Progression Factor	0.76	0.29		1.00	1.00		1.00	1.00		0.80	0.83	0.97
Incremental Delay, d2	6.9	0.2		11.7	23.5		0.4	10.0		27.0	1.2	0.5
Delay (s)	26.9	3.0		55.9	56.3		26.5	41.3		52.2	24.2	26.4
Level of Service	C	A		E	E		C	D		D	C	C
Approach Delay (s)		15.8			56.3			40.6			31.4	
Approach LOS		B			E			D			C	

Intersection Summary			
HCM 2000 Control Delay	31.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	84.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	702	203	103	457	247	265
Future Volume (vph)	702	203	103	457	247	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.97		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3420		1770	3539	1770	1583
Flt Permitted	1.00		0.24	1.00	0.95	1.00
Satd. Flow (perm)	3420		444	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	763	221	112	497	268	288
RTOR Reduction (vph)	30	0	0	0	0	148
Lane Group Flow (vph)	954	0	112	497	268	140
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases			6			8
Actuated Green, G (s)	54.5		54.5	54.5	26.5	26.5
Effective Green, g (s)	54.5		54.5	54.5	26.5	26.5
Actuated g/C Ratio	0.61		0.61	0.61	0.29	0.29
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	2071		268	2143	521	466
v/s Ratio Prot	c0.28			0.14	c0.15	
v/s Ratio Perm			0.25			0.09
v/c Ratio	0.46		0.42	0.23	0.51	0.30
Uniform Delay, d1	9.7		9.4	8.1	26.4	24.6
Progression Factor	0.30		1.20	0.66	1.00	1.00
Incremental Delay, d2	0.6		4.7	0.2	3.6	1.6
Delay (s)	3.5		15.9	5.6	30.0	26.2
Level of Service	A		B	A	C	C
Approach Delay (s)	3.5			7.5	28.0	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	56.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	5	18	203	14	101	24	870	58	19	362	12
Future Volume (vph)	14	5	18	203	14	101	24	870	58	19	362	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frt		0.93		1.00	0.87		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1705		1770	1617		1770	3539	1583	1770	3522	
Flt Permitted		0.90		0.73	1.00		0.51	1.00	1.00	0.27	1.00	
Satd. Flow (perm)		1555		1362	1617		956	3539	1583	502	3522	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	15	5	20	221	15	110	26	946	63	21	393	13
RTOR Reduction (vph)	0	16	0	0	75	0	0	0	20	0	2	0
Lane Group Flow (vph)	0	24	0	221	50	0	26	946	43	21	404	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		20.1		20.1	20.1		60.9	60.9	60.9	60.9	60.9	
Effective Green, g (s)		20.1		20.1	20.1		60.9	60.9	60.9	60.9	60.9	
Actuated g/C Ratio		0.22		0.22	0.22		0.68	0.68	0.68	0.68	0.68	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		347		304	361		646	2394	1071	339	2383	
v/s Ratio Prot					0.03			c0.27			0.11	
v/s Ratio Perm		0.02		c0.16			0.03		0.03	0.04		
v/c Ratio		0.07		0.73	0.14		0.04	0.40	0.04	0.06	0.17	
Uniform Delay, d1		27.6		32.4	28.0		4.8	6.4	4.8	4.9	5.3	
Progression Factor		1.00		1.00	1.00		2.40	2.79	5.23	0.96	1.05	
Incremental Delay, d2		0.1		8.4	0.2		0.1	0.4	0.1	0.3	0.1	
Delay (s)		27.7		40.8	28.2		11.7	18.3	25.3	5.0	5.7	
Level of Service		C		D	C		B	B	C	A	A	
Approach Delay (s)		27.7			36.2			18.5			5.7	
Approach LOS		C			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	49.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	19	16	795	14	12	383
Future Volume (Veh/h)	19	16	795	14	12	383
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	21	17	864	15	13	416
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						540
pX, platoon unblocked						
vC, conflicting volume	1106	440			879	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1106	440			879	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	90	97			98	
cM capacity (veh/h)	201	565			764	

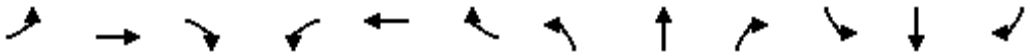
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	21	17	576	303	13	208	208
Volume Left	21	0	0	0	13	0	0
Volume Right	0	17	0	15	0	0	0
cSH	201	565	1700	1700	764	1700	1700
Volume to Capacity	0.10	0.03	0.34	0.18	0.02	0.12	0.12
Queue Length 95th (ft)	9	2	0	0	1	0	0
Control Delay (s)	25.0	11.6	0.0	0.0	9.8	0.0	0.0
Lane LOS	C	B			A		
Approach Delay (s)	19.0		0.0		0.3		
Approach LOS	C						

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	32.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1088	61	66	1017	114	107
Future Volume (vph)	1088	61	66	1017	114	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3511		1770	3539	1770	1583
Flt Permitted	1.00		0.14	1.00	0.95	1.00
Satd. Flow (perm)	3511		264	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1183	66	72	1105	124	116
RTOR Reduction (vph)	8	0	0	0	0	37
Lane Group Flow (vph)	1241	0	72	1105	124	79
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Actuated Green, G (s)	28.2		28.2	28.2	22.8	22.8
Effective Green, g (s)	28.2		28.2	28.2	22.8	22.8
Actuated g/C Ratio	0.47		0.47	0.47	0.38	0.38
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1650		124	1663	672	601
v/s Ratio Prot	c0.35			0.31	c0.07	
v/s Ratio Perm			0.27			0.05
v/c Ratio	0.75		0.58	0.66	0.18	0.13
Uniform Delay, d1	13.0		11.6	12.3	12.4	12.1
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	2.0		6.8	1.0	0.6	0.5
Delay (s)	15.0		18.3	13.3	13.0	12.6
Level of Service	B		B	B	B	B
Approach Delay (s)	15.0			13.6	12.8	
Approach LOS	B			B	B	

Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	53.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	134	53	59	0	827	0	0	820	108
Future Volume (vph)	0	0	0	134	53	59	0	827	0	0	820	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5	4.5	4.5		4.5			4.5	
Lane Util. Factor				1.00	1.00	1.00		0.91			0.86	
Frt				1.00	1.00	0.85		1.00			0.98	
Flt Protected				0.95	1.00	1.00		1.00			1.00	
Satd. Flow (prot)				1770	1863	1583		5085			6296	
Flt Permitted				0.95	1.00	1.00		1.00			1.00	
Satd. Flow (perm)				1770	1863	1583		5085			6296	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	146	58	64	0	899	0	0	891	117
RTOR Reduction (vph)	0	0	0	0	0	55	0	0	0	0	13	0
Lane Group Flow (vph)	0	0	0	146	58	9	0	899	0	0	995	0
Turn Type				Prot	NA	Perm		NA			NA	
Protected Phases				3	8			2			6	
Permitted Phases						8						
Actuated Green, G (s)				12.8	12.8	12.8		68.2			68.2	
Effective Green, g (s)				12.8	12.8	12.8		68.2			68.2	
Actuated g/C Ratio				0.14	0.14	0.14		0.76			0.76	
Clearance Time (s)				4.5	4.5	4.5		4.5			4.5	
Vehicle Extension (s)				3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)				251	264	225		3853			4770	
v/s Ratio Prot				c0.08	0.03			c0.18			0.16	
v/s Ratio Perm						0.01						
v/c Ratio				0.58	0.22	0.04		0.23			0.21	
Uniform Delay, d1				36.1	34.2	33.3		3.2			3.1	
Progression Factor				1.00	1.00	1.00		0.36			0.33	
Incremental Delay, d2				3.4	0.4	0.1		0.1			0.1	
Delay (s)				39.5	34.6	33.4		1.3			1.1	
Level of Service				D	C	C		A			A	
Approach Delay (s)		0.0			37.0			1.3			1.1	
Approach LOS		A			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	51.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Appendix E:
Bus Schedule and Information

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DASH

DOWNTOWN LOS ANGELES

EFFECTIVE JULY 11, 2016
EFECTIVO 11 JULIO, 2016

Note: Schedules are subject to traffic, weather and other conditions. Please be patient as these conditions are out of the control of the driver and LADOT. Also remember to allow sufficient time to make transfers to other services./Nota: Los horarios están sujetos al tráfico, el clima y otras condiciones. Favor de ser paciente porque dichas condiciones están fuera del control del conductor y de LADOT. Recuerde el darse su ficiente tiempo para hacer transbordes a otros servicios.

WEEKDAY SCHEDULE/ HORARIO DE DÍA LABORABLE

ROUTE/ RUTA A	Every/ Cada 7 minutes from/ minutos de	6:00 AM - 6:30 PM
ROUTE/ RUTA B	Every/ Cada 8 minutes from/ minutos de	5:50 AM - 6:30 PM
ROUTE/ RUTA D	Every/ Cada 5 minutes from/ minutos de	5:50 AM - 6:00 PM
	then every/ entonces cada 15 minutes from/ minutos de	6:00 PM - 7:00 PM
ROUTE/ RUTA E	Every/ Cada 5 minutes from/ minutos de	6:30 AM - 7:00 PM
ROUTE/ RUTA F	Every/ Cada 10 minutes from/ minutos de	6:30 AM - 5:50 PM
	then every/ entonces cada 20 minutes from/ minutos de	5:50 PM - 6:30 PM

WEEKEND SCHEDULE/ HORARIO DE FIN DE SEMANA

ROUTE/ RUTA E — Early service on Saturday only/ Servicio a primera hora solamente los sábados

*Leaves/ Sale Trinity @ Washington	Los Angeles @ 9th	7th @ Flower (westbound/ rumbo al oeste)	*Wilshire @ Witmer	7th @ Grand (eastbound/ rumbo al este)	7th @ Los Angeles	Arrives/ Llega Trinity @ Washington
SATURDAY/ SÁBADO — Every/ Cada 10 minutes from/ minutos de — 6:30 AM - 5:00 PM						
SUNDAY/ DOMINGO — Every/ Cada 15 minutes from/ minutos de — 10:00 AM - 5:00 PM						
:00	:07	:14	:19	:25	:30	:40
:15	:22	:29	:34	:40	:45	:55
:30	:37	:44	:49	:55	:00	:10
:45	:52	:59	:04	:10	:15	:25

* First buses leave these points at 6:30 AM on Saturday and 10:00 AM on Sunday. Last buses leave these points at 5:00 PM on Saturday and Sunday./Los primeros autobuses salen de estos puntos a las 6:30 AM los sábados y a las 10:00 AM los domingos. Los últimos autobuses salen de estos puntos a las 5:00 PM los sábados y domingos.

ROUTE/ RUTA F — Every/ Cada 20 minutes from/ minutos de — 10:00 AM - 5:00 PM

*Leaves/Sale Beaudry betw./entre 3rd & 4th	*Flower @ 7th	Figueroa @ Washington	Vermont @ Exposition	Jefferson @ Hoover	Figueroa @ 7th	Arrives/Llega Beaudry betw./entre 3rd & 4th
SATURDAY AND SUNDAY/SÁBADO Y DOMINGO						
:00	:04	:15	:18	:22	:28	:35
:20	:24	:35	:38	:42	:48	:55
:40	:44	:55	:58	:02	:08	:15

* First buses leave these points at 10:00 AM, last buses leave these points at 5:00 PM./Los primeros autobuses salen de estos puntos a las 10:00 AM, los últimos autobuses salen de estos puntos a las 5:00 PM.

Times are approximate and may vary due to traffic and weather conditions. Please plan your trip accordingly./Los horarios son aproximados y pueden variar debido al tráfico y a las condiciones climáticas. Planee su viaje en consecuencia.

LADOT

City of Los Angeles
Department of Transportation

(213, 310, 323 or/o 818) 808-2273
www.ladottransit.com

DASH
DOWNTOWN LOS ANGELES

EFFECTIVE JULY 11, 2016
EFECTIVO 11 JULIO, 2016

LEGEND/LEYENDA

- **Route/Ruta A** Little Tokyo, City West
- **Route/Ruta B** Chinatown, Financial District
- **Route/Ruta D** Union Station, South Park
- **Route/Ruta E** City West, Fashion District
- **Route/Ruta F** Financial District, Exposition Park, USC
- DASH Pico Union/Echo Park
- DASH Lincoln Heights/Chinatown
- DASH Southeast
- DASH King-East
- Metro Purple Line
- Metro Blue Line
- Metro Red Line
- Metro Gold Line
- Metro Expo Line
- Bus stop - matches route color (Parada de Autobús - corresponde al color de la ruta)
- Multiple Route stop (Parada de Rutas Múltiples)
- Point of Interest (Punto de Interés)
- Transfer Point (Punto de Transbordo)
- Metro Station and Entrances (Estación y Entrada de Metro)
- Tunnel (Túnel)

PATSAOURAS TRANSIT PLAZA WILL BE CLOSED JULY 11– OCTOBER 2016.

EXPOSITION PARK, USC INSET/RECUADRO

stop closed through 08/19 /16

SEE EXPOSITION PARK, USC INSET/ CONSULTE EL RECUADRO EXPOSITION PARK, USC

LADOT
City of Los Angeles
Department of Transportation

(213, 310, 323 or/o 818) 808-2273
www.ladottransit.com

DOWNTOWN LOS ANGELES

Bus Service to Downtown Subway Stations

Union Station

40, 68, 70, 71, 76, 78, 79, 378, 442, 485, 487, 489, 704, 728, 733, 745, 770, 910, 950X, AV785, BBBR10, DASH B, D, Bunker Hill Shuttle, Lincoln Heights/Chinatown, CE431, 534, FT481, 493, 495, 496, 497, 498, 499, 699, Silver Streak, SC794, 799, OC701, T4, USC Shuttle, LAX FlyAway (FA), Dodger Shuttle (DS) Commerce Citadel Outlets Express

Civic Center/Grand Park

2, 4, 10, 14, 28, 30, 37, 40, 45, 48, 68, 70, 71, 76, 78, 79, 81, 83, 90, 91, 92, 94, 96, 302, 330, 378, 442, 487, 489, 728, 733, 745, 770, 794, 910, 950X, AV785, BBBR10, CE409, 419, 422, 423, 431, 437, 438, 448, 534, DASH A, B, D, FT493, 495, 496, 497, 498, 499, 699, Silver Streak, OC701, SC799, T4

Pershing Square

2, 4, 10, 14, 16, 18, 28, 30, 33, 37, 40, 45, 48, 53, 55, 62, 70, 71, 76, 78, 79, 81, 83, 90, 91, 92, 94, 96, 442, 302, 316, 330, 355, 378, 460, 487, 489, 720, 728, 733, 745, 770, 794, CE419, DASH B, D, FT Silver Streak, M40, 50, M341, 342, OC701, 721, T4

7th St/Metro Center

14, 16, 18, 20, 37, 51, 52, 53, 55, 60, 62, 66, 70, 71, 76, 78, 79, 81, 96, 316, 352, 355, 378, 442, 487, 489, 720, 760, 770, 910, 950X, AV785, BBBR10, CE409, 422, 423, 431, 437, 438, 448, 534, DASH A, B, E, F, FT493, 495, 496, 497, 498, 499, 699, Silver Streak, M40, 50, 341, 342, OC701,721, SC799, T4

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Appendix F:
Pedestrian and Bicycle Counts

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PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 15-5663-002
N/S Street: N Garey St
E/W Street: E Commercial St
DATE: 11/5/2015 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	1	0	0	0	0
6:45 AM	0	0	1	2	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	1	0	0	0	0	0
7:45 AM	0	0	0	1	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	1	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**3**	**4**	**0**	**0**	**0**	**0**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	1	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
TOTALS	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	0	0	2	1	0	0	0	0
3:30 PM	0	0	1	0	0	0	0	0
3:45 PM	0	0	1	0	0	0	0	0
4:00 PM	0	0	3	0	0	0	0	0
4:15 PM	0	0	0	1	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	2	1	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	3	0	0	0	0
TOTALS	**0**	**0**	**9**	**6**	**0**	**0**	**0**	**0**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-002 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Garey St			N Garey St			E Commercial St			E Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	1	1	2	1	0	1	2	0	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	1
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	1	0	0	1
APPROACH %'s :										100.00%	0.00%	0.00%	

PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :		0.000			0.000			0.000			0.000		0.000

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-002 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Garey St			N Garey St			E Commercial St			E Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	1	1	2	1	0	1	2	0	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	
3:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	1
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	1	0	0	0	0	0	0	0	1	0	2
APPROACH %'s :	0.00%	0.00%	100.00%							0.00%	100.00%	0.00%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	1	0	1
PEAK HR FACTOR :		0.000			0.000			0.000			0.250		0.250

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 15-5663-003
N/S Street: N Vignes St
E/W Street: E Commercial St
DATE: 11/5/2015 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	0	1	0	0	0	0
6:15 AM	0	0	0	0	1	0	0	0
6:30 AM	0	0	0	1	0	0	0	0
6:45 AM	0	0	1	2	0	0	0	0
7:00 AM	0	0	1	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	1	0	1	0	1	0	0
7:45 AM	0	0	0	2	0	1	0	0
8:00 AM	0	0	0	0	1	1	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	1	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
TOTALS	**0**	**1**	**3**	**7**	**2**	**3**	**0**	**0**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	0	0	3	0	1	0	0	0
3:30 PM	0	0	1	0	0	0	0	0
3:45 PM	0	0	1	0	0	0	0	0
4:00 PM	0	0	3	0	0	0	0	0
4:15 PM	1	0	0	1	1	0	0	0
4:30 PM	0	0	0	0	3	0	0	0
4:45 PM	0	0	0	1	0	0	0	0
5:00 PM	0	0	2	1	2	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	4	0	0	0	0
TOTALS	**1**	**0**	**10**	**7**	**7**	**0**	**0**	**0**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-003 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Vignes St			N Vignes St			E Commercial St			E Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	0	1	0	0	0	0	1	0	1	1	0	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 AM	0	0	0	0	0	0	0	0	0	1	1	0	2
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	1	0	0	0	0	0	0	2	1	0	4
APPROACH %'s :	0.00%	0.00%	100.00%							66.67%	33.33%	0.00%	

PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	1	0	0	1
PEAK HR FACTOR :		0.000			0.000			0.000			0.250		0.250

CONTROL : 3-Way Stop (NB,EB,WB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-003 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Vignes St			N Vignes St			E Commercial St			E Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	0	1	0	0	0	0	1	0	1	1	0	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	
3:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:00 PM	0	0	4	0	0	0	0	0	0	0	0	0	4
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	4	0	0	0	0	1	0	1	1	0	7
APPROACH %'s :	0.00%	0.00%	100.00%				0.00%	100.00%	0.00%	50.00%	50.00%	0.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	1	0	0	1
PEAK HR FACTOR :		0.000			0.000			0.000			0.250		0.250

CONTROL : 3-Way Stop (NB,EB,WB)

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 15-5663-004
N/S Street: Center St
E/W Street: E Commercial St
DATE: 11/5/2015 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	1	0	0	1	3	1	1	0
6:15 AM	0	0	0	0	0	1	0	0
6:30 AM	0	0	0	1	0	0	0	0
6:45 AM	2	0	1	1	0	0	1	0
7:00 AM	1	0	1	0	1	2	0	0
7:15 AM	0	0	0	0	1	0	0	0
7:30 AM	0	2	0	0	0	0	0	0
7:45 AM	0	1	1	1	1	1	0	1
8:00 AM	0	0	0	0	0	1	0	0
8:15 AM	0	0	1	0	1	1	0	2
8:30 AM	0	0	0	1	0	2	0	0
8:45 AM	0	0	0	0	1	1	0	0
TOTALS	**4**	**3**	**4**	**5**	**8**	**10**	**2**	**3**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	1	0	0	0	0	0
3:15 PM	1	0	1	0	0	2	1	1
3:30 PM	0	0	0	2	4	5	1	0
3:45 PM	0	0	0	1	2	2	1	0
4:00 PM	0	0	2	0	1	1	0	0
4:15 PM	1	0	2	1	0	0	2	0
4:30 PM	0	0	1	0	1	0	0	0
4:45 PM	0	1	0	1	4	6	0	0
5:00 PM	0	0	1	0	1	0	1	0
5:15 PM	0	0	0	0	0	0	1	0
5:30 PM	0	0	0	1	1	1	0	0
5:45 PM	0	0	0	4	1	1	0	0
TOTALS	**2**	**1**	**8**	**10**	**15**	**18**	**7**	**1**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-004 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	Center St			Center St			E Commercial St			E Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	1	1	0	1	0	0	1	0	
6:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
6:15 AM	0	0	0	1	2	0	0	0	0	0	0	0	3
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 AM	0	1	0	0	0	1	0	0	0	0	0	0	2
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	2
7:30 AM	0	1	0	0	5	0	0	0	0	0	0	0	6
7:45 AM	1	1	0	0	3	1	0	1	0	0	0	0	7
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	1	0	0	1	0	1	0	0	0	0	0	3
8:45 AM	0	1	1	0	0	0	0	0	0	0	0	0	2
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	6	1	1	13	2	1	1	0	0	0	0	26
APPROACH %'s :	12.50%	75.00%	12.50%	6.25%	81.25%	12.50%	50.00%	50.00%	0.00%				
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	1	2	0	0	8	1	0	1	0	0	0	0	13
PEAK HR FACTOR :		0.375			0.450			0.250			0.000		0.464

CONTROL : 4-Way Stop

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-004 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	Center St			Center St			E Commercial St			E Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	1	1	0	1	0	0	1	0	
3:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
3:15 PM	0	0	0	0	2	0	0	0	0	0	0	0	2
3:30 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
3:45 PM	0	2	0	0	2	0	0	0	0	0	0	0	4
4:00 PM	0	7	0	0	1	0	5	0	0	0	0	0	13
4:15 PM	0	7	0	0	0	0	0	0	0	0	0	0	7
4:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
4:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	2	0	0	5	0	0	0	0	0	0	0	7
5:30 PM	0	1	0	0	0	1	0	0	0	0	0	0	2
5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	25	0	0	12	1	5	0	0	0	0	0	43
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	92.31%	7.69%	100.00%	0.00%	0.00%				
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	0	3	0	0	7	0	0	0	0	0	0	0	10
PEAK HR FACTOR :		0.375			0.350			0.000			0.000		0.357

CONTROL : 4-Way Stop

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 15-5663-005
N/S Street: N Alameda St
E/W Street: E Temple St
DATE: 11/5/2015 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	1	3	2	9	2	7	1	2
6:15 AM	0	1	3	8	12	1	4	1
6:30 AM	1	3	1	18	4	2	10	2
6:45 AM	1	5	5	14	14	5	9	5
7:00 AM	0	7	3	16	11	1	7	3
7:15 AM	3	3	3	16	10	3	8	4
7:30 AM	0	5	1	22	17	3	14	5
7:45 AM	0	7	2	19	20	3	11	6
8:00 AM	1	2	0	13	15	1	6	2
8:15 AM	0	4	3	26	14	4	18	6
8:30 AM	0	5	2	18	16	5	5	4
8:45 AM	0	10	3	14	11	5	7	5
TOTALS	**7**	**55**	**28**	**193**	**146**	**40**	**100**	**45**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	2	0	0	0
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	1	0	0	0
7:45 AM	0	0	0	0	1	0	0	0
8:00 AM	0	0	0	0	1	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	3	0	0
8:45 AM	0	0	0	0	1	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**6**	**3**	**0**	**0**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	2	8	0	3	0	3	10
3:15 PM	6	5	8	4	3	2	2	12
3:30 PM	9	0	16	2	8	12	1	7
3:45 PM	6	0	23	5	4	4	7	4
4:00 PM	5	2	16	1	2	8	1	11
4:15 PM	5	6	20	2	2	2	4	16
4:30 PM	5	0	32	4	12	12	10	10
4:45 PM	4	3	17	7	3	8	8	6
5:00 PM	8	2	18	7	9	10	8	11
5:15 PM	2	2	15	4	4	1	10	5
5:30 PM	4	3	12	2	5	3	8	7
5:45 PM	0	1	17	2	9	0	17	7
TOTALS	**54**	**26**	**202**	**40**	**64**	**62**	**79**	**106**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	1	0	0	2	0	0
4:45 PM	0	0	0	0	2	2	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**1**	**0**	**2**	**4**	**0**	**0**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-005

Day: Thursday

BIKES

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	N Alameda St			N Alameda St			E Temple St			E Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	1	1	2	0	1	2	0	
6:00 AM	0	1	0	0	2	1	0	0	0	0	1	0	5
6:15 AM	0	1	0	0	2	0	0	1	0	0	0	1	5
6:30 AM	0	4	0	0	1	0	0	0	0	0	0	0	5
6:45 AM	0	1	0	0	4	0	0	0	1	0	0	0	6
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:15 AM	0	1	0	0	1	0	0	1	0	0	0	0	3
7:30 AM	0	4	0	0	2	0	0	0	0	0	0	0	6
7:45 AM	0	1	0	0	3	0	1	0	1	0	0	0	6
8:00 AM	0	0	0	0	4	0	0	0	0	0	1	0	5
8:15 AM	0	1	0	0	0	0	1	1	0	0	0	0	3
8:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	3	0	0	0	1	0	0	0	4
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	14	0	0	23	1	2	3	3	0	3	1	50
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	95.83%	4.17%	25.00%	37.50%	37.50%	0.00%	75.00%	25.00%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	2	0	0	8	0	2	1	1	0	1	0	15
PEAK HR FACTOR :		0.500			0.500			0.500			0.250		0.625

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-005 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Alameda St			N Alameda St			E Temple St			E Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	1	1	2	0	1	2	0	
3:00 PM	0	1	0	0	3	0	0	0	0	0	0	0	4
3:15 PM	0	3	0	0	0	0	0	0	0	0	0	0	3
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	
3:45 PM	0	2	0	0	1	0	1	0	0	0	1	0	5
4:00 PM	0	3	0	0	0	0	0	0	0	0	0	0	3
4:15 PM	0	1	0	0	2	0	0	1	0	0	0	0	4
4:30 PM	0	0	0	0	1	0	0	0	0	0	1	0	2
4:45 PM	0	4	0	0	1	0	0	0	0	0	1	0	6
5:00 PM	0	2	0	0	3	0	1	0	1	0	0	0	7
5:15 PM	0	0	0	0	4	0	0	1	0	0	0	0	5
5:30 PM	0	2	0	1	3	0	0	0	0	0	1	0	7
5:45 PM	0	0	0	0	2	0	0	0	0	0	0	0	2
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	18	0	1	20	0	2	2	1	0	4	0	48
APPROACH %'s :	0.00%	100.00%	0.00%	4.76%	95.24%	0.00%	40.00%	40.00%	20.00%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	400 PM												TOTAL
PEAK HR VOL :	0	8	0	0	4	0	0	1	0	0	2	0	15
PEAK HR FACTOR :		0.500			0.500			0.250			0.500		0.625

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 15-5663-006
N/S Street: N Vignes St
E/W Street: E Temple St
DATE: 11/5/2015 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	7	2	2	0	1	11	0	0
6:15 AM	5	1	8	0	1	6	1	2
6:30 AM	7	0	5	0	0	12	1	1
6:45 AM	6	1	18	1	2	13	1	4
7:00 AM	9	2	14	1	2	17	2	0
7:15 AM	4	2	15	4	2	6	2	1
7:30 AM	6	2	13	2	2	9	2	5
7:45 AM	3	2	15	1	2	6	1	1
8:00 AM	3	0	12	11	1	5	3	2
8:15 AM	4	0	13	13	2	9	0	1
8:30 AM	1	0	17	9	5	7	2	3
8:45 AM	2	1	9	3	2	5	1	4
TOTALS	**57**	**13**	**141**	**45**	**22**	**106**	**16**	**24**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	1	0	0	0	0	1	0	0
6:15 AM	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0
6:45 AM	1	0	0	0	0	1	1	0
7:00 AM	0	0	0	0	0	1	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	1	0	0	0	0	1	0	0
7:45 AM	0	0	1	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	1	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	1	0	1
TOTALS	**3**	**0**	**1**	**0**	**0**	**5**	**2**	**1**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	1	3	8	8	6	3	1
3:15 PM	0	0	3	5	6	3	2	0
3:30 PM	0	1	1	8	8	2	1	0
3:45 PM	0	0	4	4	4	1	0	0
4:00 PM	0	1	3	7	12	0	2	0
4:15 PM	0	4	2	13	17	2	0	0
4:30 PM	1	4	2	16	14	1	4	2
4:45 PM	0	2	4	15	8	5	1	0
5:00 PM	1	5	0	24	13	3	1	0
5:15 PM	1	2	1	9	7	2	0	0
5:30 PM	0	2	2	6	2	0	1	1
5:45 PM	0	0	3	6	3	7	1	0
TOTALS	**3**	**22**	**28**	**121**	**102**	**32**	**16**	**4**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	1	0	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	1	0
3:45 PM	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	1	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	2	0	0	1	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**1**	**2**	**0**	**1**	**2**	**0**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-006 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Vignes St			N Vignes St			E Temple St			E Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	1	0	1	0	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 AM	1	0	0	0	0	0	1	0	0	0	0	0	2
6:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	1
6:45 AM	2	0	0	0	0	0	0	0	0	0	0	0	2
7:00 AM	0	0	0	0	0	0	0	0	2	0	0	0	2
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	2	0	0	0	1	0	0	0	3
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	2	0	0	0	0	0	0	0	0	0	0	0	2
8:30 AM	0	1	0	0	1	0	0	0	1	0	0	0	3
8:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	5	1	0	0	3	0	1	1	5	0	0	0	16
APPROACH %'s :	83.33%	16.67%	0.00%	0.00%	100.00%	0.00%	14.29%	14.29%	71.43%				
PEAK HR START TIME :	645 AM												TOTAL
PEAK HR VOL :	2	0	0	0	0	0	0	0	2	0	0	0	4
PEAK HR FACTOR :	0.250			0.000			0.250			0.000			0.500

CONTROL : 4-Way Stop

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-006 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Vignes St			N Vignes St			E Temple St			E Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	1	0	1	0	
3:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	1
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	
3:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	1
4:00 PM	0	4	2	0	0	0	0	1	0	0	1	0	8
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	1	1	0	0	0	0	0	2
4:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	1	1	0	0	1	0	0	0	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	4	2	0	2	2	3	1	1	0	1	0	17
APPROACH %'s :	14.29%	57.14%	28.57%	0.00%	50.00%	50.00%	60.00%	20.00%	20.00%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	1	0	0	0	1	1	0	0	1	0	0	0	4
PEAK HR FACTOR :	0.250			0.250			0.250			0.000			0.333

CONTROL : 4-Way Stop

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 15-5663-007
N/S Street: N Alameda St
E/W Street: E 1st St
DATE: 11/5/2015 DAY: Thursday
CITY: Los Angeles

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Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	5	5	1	4	5	8	0	0
6:15 AM	0	10	1	7	2	5	2	3
6:30 AM	5	11	0	10	1	17	2	3
6:45 AM	4	14	5	9	2	11	1	8
7:00 AM	4	21	3	11	0	14	1	2
7:15 AM	10	23	2	1	6	11	3	0
7:30 AM	2	22	3	5	3	9	2	4
7:45 AM	8	34	1	10	4	19	5	1
8:00 AM	3	15	5	5	11	7	1	0
8:15 AM	4	33	3	20	7	32	0	3
8:30 AM	2	31	3	16	9	24	0	0
8:45 AM	4	24	10	6	4	17	0	1
TOTALS	**51**	**243**	**37**	**104**	**54**	**174**	**17**	**25**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0
7:00 AM	0	2	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	1	0	0	0	0	0	0
8:30 AM	1	0	0	0	0	0	0	0
8:45 AM	0	1	0	2	0	0	0	0
TOTALS	**1**	**4**	**0**	**2**	**0**	**0**	**0**	**0**

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Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	25	23	8	4	12	11	6	7
3:15 PM	15	16	4	27	8	6	3	3
3:30 PM	22	13	5	6	8	12	3	11
3:45 PM	34	12	5	17	8	9	6	1
4:00 PM	24	15	10	14	8	12	8	6
4:15 PM	45	19	11	12	17	17	13	9
4:30 PM	34	12	4	8	15	16	9	5
4:45 PM	36	32	6	12	16	16	12	5
5:00 PM	50	23	6	8	18	18	21	3
5:15 PM	44	41	12	11	13	15	17	4
5:30 PM	29	18	12	4	11	11	15	3
5:45 PM	40	3	4	8	5	1	12	2
TOTALS	**398**	**227**	**87**	**131**	**139**	**144**	**125**	**59**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	1	0	0	0	0	0	0	0
3:30 PM	1	0	0	0	0	0	0	0
3:45 PM	2	1	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	2	0	0	0	0	0	0	0
4:30 PM	2	2	1	0	0	1	0	1
4:45 PM	1	1	0	0	1	0	0	0
5:00 PM	0	2	0	0	0	0	0	0
5:15 PM	1	0	0	0	0	0	0	0
5:30 PM	1	1	0	0	0	0	1	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**11**	**7**	**1**	**0**	**1**	**1**	**1**	**1**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-007

Day: Thursday

BIKES

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	N Alameda St			N Alameda St			E 1st St			E 1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	1	1	2	0	0	2	1	
6:00 AM	1	0	0	0	2	0	0	2	0	0	1	0	6
6:15 AM	0	2	0	0	2	0	0	1	0	0	2	0	7
6:30 AM	0	1	0	0	0	0	0	0	1	0	2	0	4
6:45 AM	0	1	0	0	2	0	0	2	0	0	5	0	10
7:00 AM	0	0	0	0	0	0	0	2	0	0	3	0	5
7:15 AM	0	2	0	0	0	0	0	1	0	0	6	0	9
7:30 AM	0	2	0	0	1	1	2	0	0	0	2	0	8
7:45 AM	0	0	0	0	1	0	0	0	0	0	4	0	5
8:00 AM	0	0	1	1	3	2	0	0	0	0	3	0	10
8:15 AM	0	0	0	1	0	0	1	0	0	0	6	0	8
8:30 AM	0	1	0	0	1	1	0	1	0	0	3	0	7
8:45 AM	0	0	2	0	7	0	0	0	0	0	3	0	12
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	9	3	2	19	4	3	9	1	0	40	0	91
APPROACH %'s :	7.69%	69.23%	23.08%	8.00%	76.00%	16.00%	23.08%	69.23%	7.69%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	2	1	2	5	3	3	0	0	0	15	0	31
PEAK HR FACTOR :		0.375			0.417			0.375			0.625		0.775

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-007

Day: Thursday

BIKES

City: Los Angeles

Date: 11/5/2015

PM

NS/EW Streets:	N Alameda St			N Alameda St			E 1st St			E 1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	1	1	2	0	0	2	1	
3:00 PM	0	4	0	0	0	1	0	2	0	0	3	0	10
3:15 PM	0	6	0	0	0	0	1	3	0	0	1	0	11
3:30 PM	0	0	0	0	1	1	0	4	1	0	1	0	8
3:45 PM	0	1	0	0	1	1	0	2	0	0	1	0	6
4:00 PM	0	3	0	0	1	0	2	5	1	0	4	0	16
4:15 PM	0	0	0	0	3	1	0	4	0	0	4	0	12
4:30 PM	0	3	0	0	2	1	0	4	0	0	8	0	18
4:45 PM	0	6	0	1	0	1	0	7	0	0	3	0	18
5:00 PM	0	4	0	1	0	1	0	5	0	0	5	0	16
5:15 PM	0	5	0	0	1	0	0	7	1	0	9	0	23
5:30 PM	0	2	0	0	2	0	0	1	0	0	2	0	7
5:45 PM	0	3	0	0	0	2	0	5	0	0	2	0	12
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	37	0	2	11	9	3	49	3	0	43	0	157
APPROACH %'s :	0.00%	100.00%	0.00%	9.09%	50.00%	40.91%	5.45%	89.09%	5.45%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	400 PM												TOTAL
PEAK HR VOL :	0	12	0	1	6	3	2	20	1	0	19	0	64
PEAK HR FACTOR :		0.500			0.625			0.719			0.594		0.889

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 15-5663-008
N/S Street: N Vignes St
E/W Street: E 1st St
DATE: 11/5/2015 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	2	1	0	0	0	0	3
6:15 AM	1	0	0	2	0	0	1	0
6:30 AM	0	3	0	1	0	0	2	1
6:45 AM	0	5	0	0	0	0	2	0
7:00 AM	0	0	1	0	0	0	0	5
7:15 AM	0	2	0	0	0	0	1	1
7:30 AM	1	0	0	1	0	0	3	0
7:45 AM	1	1	1	0	0	0	0	1
8:00 AM	0	3	0	0	0	0	0	1
8:15 AM	0	0	1	3	0	0	1	2
8:30 AM	0	3	0	0	0	0	2	1
8:45 AM	1	6	0	1	0	0	1	3
TOTALS	**4**	**25**	**4**	**8**	**0**	**0**	**13**	**18**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	1	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	1	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	1	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	1	0
8:45 AM	0	0	0	0	0	0	0	0
TOTALS	**0**	**2**	**0**	**0**	**0**	**0**	**2**	**0**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	3	0	0	1	5	1
3:15 PM	0	7	1	2	0	0	2	3
3:30 PM	3	1	1	0	0	0	4	0
3:45 PM	0	0	2	1	0	0	4	0
4:00 PM	0	0	2	0	0	0	1	4
4:15 PM	0	1	3	3	0	0	0	1
4:30 PM	2	1	1	1	0	0	2	1
4:45 PM	0	0	3	1	0	0	1	2
5:00 PM	0	3	1	2	0	0	5	1
5:15 PM	0	1	0	0	0	0	2	2
5:30 PM	3	2	2	0	0	0	5	2
5:45 PM	1	8	0	1	0	0	1	5
TOTALS	**9**	**24**	**19**	**11**	**0**	**1**	**32**	**22**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	1	1	0	0	2	2
5:00 PM	0	2	0	0	0	0	1	2
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**2**	**1**	**1**	**0**	**0**	**3**	**4**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-008 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Vignes St			N Vignes St			E 1st St			E 1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0.5	1.5	1	0.5	1	0.5	
6:00 AM	0	0	0	0	0	0	1	0	0	1	1	0	3
6:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
6:30 AM	0	0	0	0	0	1	0	0	0	0	1	1	3
6:45 AM	0	2	0	0	0	0	0	0	0	0	3	0	5
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	3	3	6
7:30 AM	0	0	0	0	0	0	0	1	0	0	2	0	3
7:45 AM	0	0	0	0	0	0	0	0	0	1	3	0	4
8:00 AM	0	0	0	0	0	0	0	2	0	0	4	0	6
8:15 AM	0	3	0	0	0	0	0	0	0	0	5	0	8
8:30 AM	0	0	0	0	0	0	1	0	0	0	1	0	2
8:45 AM	0	1	0	0	2	0	0	2	0	0	1	0	6
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	6	0	0	2	1	2	5	0	2	25	4	47
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	66.67%	33.33%	28.57%	71.43%	0.00%	6.45%	80.65%	12.90%	
PEAK HR START TIME :	645 AM												TOTAL
PEAK HR VOL :	0	2	0	0	0	0	0	1	0	0	8	3	14
PEAK HR FACTOR :		0.250			0.000			0.250			0.458		0.583

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-008 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Vignes St			N Vignes St			E 1st St			E 1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0.5	1.5	1	0.5	1	0.5	
3:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	2
3:15 PM	0	0	0	0	1	0	0	2	1	0	1	0	5
3:30 PM	0	0	1	0	0	0	0	1	2	0	1	0	5
3:45 PM	0	2	1	0	0	0	0	1	0	0	2	0	6
4:00 PM	0	4	0	2	0	0	2	1	0	1	1	0	11
4:15 PM	0	0	0	0	1	1	0	1	0	0	4	1	8
4:30 PM	1	0	1	0	0	0	0	3	0	0	5	0	10
4:45 PM	0	0	1	0	1	0	0	3	0	1	3	0	9
5:00 PM	0	0	1	0	0	0	0	6	0	0	3	0	10
5:15 PM	0	1	1	0	2	0	0	5	0	1	4	0	14
5:30 PM	0	0	1	0	1	2	0	2	0	0	3	0	9
5:45 PM	0	0	0	0	0	1	0	2	0	0	2	0	5
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	7	7	2	6	4	2	27	3	3	31	1	94
APPROACH %'s :	6.67%	46.67%	46.67%	16.67%	50.00%	33.33%	6.25%	84.38%	9.38%	8.57%	88.57%	2.86%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	1	3	0	3	3	0	15	0	1	12	0	38
PEAK HR FACTOR :		0.500			0.500			0.625			0.650		0.679

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 15-5663-012
N/S Street: N Alameda St
E/W Street: N Vignes St_Alpine St
DATE: 11/5/2015 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	1	0	1	0	0	3	0	1
6:15 AM	2	1	0	0	0	0	0	1
6:30 AM	1	3	4	0	2	0	0	4
6:45 AM	0	0	2	1	0	1	4	0
7:00 AM	1	0	1	0	1	0	0	2
7:15 AM	0	2	4	3	0	0	3	4
7:30 AM	1	1	3	0	1	1	1	0
7:45 AM	0	2	1	2	3	2	1	2
8:00 AM	0	2	1	2	1	2	2	2
8:15 AM	4	9	3	0	1	1	0	7
8:30 AM	4	2	2	2	0	2	2	4
8:45 AM	1	2	5	1	1	2	2	3
TOTALS	**15**	**24**	**27**	**11**	**10**	**14**	**15**	**30**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	1	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	3	3	1	2	1	2	1	1
3:15 PM	3	2	1	3	1	0	3	5
3:30 PM	0	3	3	8	0	7	1	3
3:45 PM	1	1	3	4	3	0	4	0
4:00 PM	5	5	0	1	0	0	0	1
4:15 PM	3	2	0	4	0	1	0	4
4:30 PM	1	2	2	4	4	0	2	3
4:45 PM	7	4	1	6	4	7	3	2
5:00 PM	3	2	2	4	1	1	0	2
5:15 PM	1	0	1	4	0	0	0	3
5:30 PM	0	0	1	1	2	0	0	2
5:45 PM	0	1	3	3	1	1	2	0
TOTALS	**27**	**25**	**18**	**44**	**17**	**19**	**16**	**26**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-012 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Alameda St			N Alameda St			N Vignes St_Alpine St			N Vignes St_Alpine St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	3	0	1	2	0	1	2	1	
6:00 AM	0	0	0	0	0	0	1	0	0	0	1	0	2
6:15 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
6:30 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
6:45 AM	0	0	0	0	0	0	0	1	0	0	2	0	3
7:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	2
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	4	1	0	1	0	0	1	0	0	3	0	10
7:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	1
8:00 AM	1	1	0	1	1	0	0	0	0	0	0	0	4
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
8:30 AM	1	1	0	0	0	0	0	1	0	0	0	0	3
8:45 AM	0	0	0	0	1	0	0	1	0	0	4	0	6
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	2	6	1	1	3	0	1	6	0	1	15	0	36
APPROACH %'s :	22.22%	66.67%	11.11%	25.00%	75.00%	0.00%	14.29%	85.71%	0.00%	6.25%	93.75%	0.00%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	1	5	1	1	2	0	0	1	0	1	4	0	16
PEAK HR FACTOR :		0.350			0.375			0.250			0.417		0.400

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-012 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Alameda St			N Alameda St			N Vignes St_Alpine St			N Vignes St_Alpine St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	3	0	1	2	0	1	2	1	
3:00 PM	0	0	0	0	0	2	0	0	0	1	1	0	4
3:15 PM	0	0	1	1	0	0	0	2	1	0	1	0	6
3:30 PM	0	0	0	0	0	0	0	1	0	0	2	0	3
3:45 PM	0	0	0	0	2	0	0	0	0	0	3	0	5
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:15 PM	0	0	3	0	0	0	0	1	0	0	2	0	6
4:30 PM	2	0	0	1	0	0	0	2	0	0	1	0	6
4:45 PM	0	0	0	0	0	2	0	3	0	0	0	0	5
5:00 PM	1	0	0	1	0	2	0	1	0	3	0	1	9
5:15 PM	1	0	0	1	0	0	0	1	0	0	2	0	5
5:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:45 PM	0	2	0	0	0	0	0	3	0	0	0	0	5
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	4	2	4	4	2	6	0	16	1	4	12	1	56
APPROACH %'s :	40.00%	20.00%	40.00%	33.33%	16.67%	50.00%	0.00%	94.12%	5.88%	23.53%	70.59%	5.88%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	2	2	0	2	0	2	0	6	0	3	2	1	20
PEAK HR FACTOR :	0.500			0.333			0.500			0.375			0.556

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 15-5663-015
N/S Street: N Vignes St
E/W Street: N Main St
DATE: 11/5/2015 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	1	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	1	0	0	0
6:30 AM	2	0	0	0	0	2	0	0
6:45 AM	1	0	3	2	1	5	0	3
7:00 AM	1	2	2	0	0	1	0	0
7:15 AM	0	1	2	1	0	0	1	0
7:30 AM	1	0	0	1	0	5	1	0
7:45 AM	1	2	0	0	1	0	0	1
8:00 AM	1	1	2	0	1	1	1	0
8:15 AM	0	0	4	0	1	0	0	1
8:30 AM	1	2	6	0	3	1	1	1
8:45 AM	0	8	1	0	5	4	0	0
TOTALS	**9**	**16**	**20**	**4**	**13**	**19**	**4**	**6**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	1	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	1	0	0	0	0	0	0
TOTALS	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	1	2	3	2	0	2
3:15 PM	0	0	3	0	2	2	1	1
3:30 PM	5	2	1	4	1	1	1	0
3:45 PM	4	2	4	0	3	1	2	2
4:00 PM	1	0	0	0	3	2	1	2
4:15 PM	0	0	6	1	0	1	1	0
4:30 PM	0	1	1	0	0	0	0	0
4:45 PM	1	0	2	0	2	0	0	2
5:00 PM	6	0	2	3	0	2	0	1
5:15 PM	0	1	2	0	2	2	0	0
5:30 PM	1	1	1	1	3	0	2	0
5:45 PM	1	0	0	0	1	2	0	0
TOTALS	**19**	**7**	**23**	**11**	**20**	**15**	**8**	**10**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-015

Day: Thursday

BIKES

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	N Vignes St			N Vignes St			N Main St			N Main St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	1	2	0	1	2	0	1	2	0	
6:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
6:15 AM	0	0	0	0	0	1	0	3	0	0	0	0	4
6:30 AM	0	0	0	0	0	0	0	2	0	0	2	0	4
6:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
7:00 AM	0	0	0	0	0	0	0	2	0	0	0	0	2
7:15 AM	0	0	0	0	0	0	0	2	0	0	0	0	2
7:30 AM	0	0	0	0	0	0	0	3	1	0	0	0	4
7:45 AM	0	1	0	0	0	0	0	2	0	0	0	0	3
8:00 AM	1	1	0	0	0	0	0	3	1	0	1	0	7
8:15 AM	0	0	0	0	1	0	1	0	0	0	2	0	4
8:30 AM	0	0	0	0	1	0	0	0	1	0	0	0	2
8:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	2	0	0	2	1	1	20	3	0	5	0	35
APPROACH %'s :	33.33%	66.67%	0.00%	0.00%	66.67%	33.33%	4.17%	83.33%	12.50%	0.00%	100.00%	0.00%	

PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	1	2	0	0	1	0	1	8	2	0	3	0	18
PEAK HR FACTOR :		0.375			0.250			0.688			0.375		0.643

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-015 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Vignes St			N Vignes St			N Main St			N Main St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	1	2	0	1	2	0	1	2	0	
3:00 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
3:15 PM	0	0	0	0	0	0	0	1	0	0	2	0	3
3:30 PM	0	0	0	0	0	0	1	1	0	0	2	0	4
3:45 PM	0	1	0	0	0	0	0	2	0	0	2	0	5
4:00 PM	0	0	0	0	0	1	0	2	0	0	3	0	6
4:15 PM	0	0	0	0	3	2	0	4	0	0	1	0	10
4:30 PM	0	0	0	0	0	0	0	3	1	0	2	0	6
4:45 PM	0	0	0	0	0	0	0	2	0	0	1	0	3
5:00 PM	0	3	0	0	0	0	0	4	0	0	1	0	8
5:15 PM	0	0	0	0	0	0	0	2	0	0	4	0	6
5:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	1	0	0	2	0	3
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	4	0	0	3	3	1	24	1	0	21	0	57
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	50.00%	50.00%	3.85%	92.31%	3.85%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	3	0	0	0	0	0	8	0	0	7	0	18
PEAK HR FACTOR :		0.250			0.000			0.500			0.438		0.563

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 15-5663-016
N/S Street: N Alameda St_N Spring St
E/W Street: W College St
DATE: 11/5/2015 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	1	0	1	1	0	0	1	1
6:15 AM	3	0	3	2	0	0	1	4
6:30 AM	6	1	4	1	1	0	5	2
6:45 AM	1	0	12	3	1	0	1	2
7:00 AM	9	2	5	2	0	0	3	1
7:15 AM	1	2	5	5	2	3	0	1
7:30 AM	6	2	13	6	0	0	3	2
7:45 AM	2	1	14	9	3	2	1	1
8:00 AM	2	0	14	8	1	0	1	1
8:15 AM	6	1	14	6	0	4	5	7
8:30 AM	6	6	4	6	3	3	2	4
8:45 AM	0	1	9	5	2	2	1	3
TOTALS	**43**	**16**	**98**	**54**	**13**	**14**	**24**	**29**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0
6:45 AM	0	0	1	0	0	0	0	0
7:00 AM	2	1	0	0	0	0	0	0
7:15 AM	0	0	1	1	1	0	1	0
7:30 AM	0	0	2	0	0	0	0	0
7:45 AM	0	0	0	1	0	0	0	0
8:00 AM	0	0	1	1	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
TOTALS	**2**	**1**	**5**	**3**	**1**	**0**	**1**	**0**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	4	3	13	4	5	2	0	4
3:15 PM	2	3	13	6	2	2	4	14
3:30 PM	4	2	13	12	3	1	6	11
3:45 PM	5	1	10	6	3	2	8	6
4:00 PM	2	6	6	11	0	2	1	3
4:15 PM	2	1	8	7	2	1	3	7
4:30 PM	0	0	4	5	0	1	3	1
4:45 PM	2	2	10	7	4	3	3	4
5:00 PM	3	6	5	16	1	3	3	2
5:15 PM	1	4	7	8	3	1	0	2
5:30 PM	2	1	6	3	0	0	3	0
5:45 PM	1	0	4	1	1	0	2	4
TOTALS	**28**	**29**	**99**	**86**	**24**	**18**	**36**	**58**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	1	0	0	0	0
3:30 PM	0	0	3	0	1	0	0	0
3:45 PM	0	0	1	0	0	0	0	0
4:00 PM	0	0	0	0	1	0	0	0
4:15 PM	0	0	0	0	0	1	0	0
4:30 PM	0	0	1	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	1	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**5**	**1**	**3**	**1**	**0**	**0**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-016 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Alameda St_N Spring St			N Alameda St_N Spring St			W College St			W College St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	3	0	1	1	1	1	1	0	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 AM	0	2	0	0	1	0	0	0	0	0	0	0	3
6:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	2
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	2	0	0	0	0	0	2
7:30 AM	0	1	0	0	2	1	0	0	1	0	0	0	5
7:45 AM	0	0	0	0	0	1	0	0	1	0	2	0	4
8:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
8:30 AM	0	3	0	0	1	0	0	0	0	0	0	0	4
8:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	8	0	0	7	2	2	1	2	0	2	0	24
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	77.78%	22.22%	40.00%	20.00%	40.00%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	0	3	0	0	3	0	0	1	0	0	0	0	7
PEAK HR FACTOR :		0.250			0.750			0.250			0.000		0.438

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-016 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Alameda St_N Spring St			N Alameda St_N Spring St			W College St			W College St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	3	0	1	1	1	1	1	0	
3:00 PM	0	0	0	0	0	0	0	1	1	0	0	0	2
3:15 PM	0	3	1	0	2	0	0	1	0	0	1	0	8
3:30 PM	0	0	0	0	0	0	0	0	1	0	1	0	2
3:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
4:00 PM	0	1	0	0	2	0	0	0	0	0	0	0	3
4:15 PM	0	4	0	0	2	0	1	0	0	0	1	0	8
4:30 PM	0	3	0	0	3	0	0	0	0	1	1	0	8
4:45 PM	0	1	0	0	1	0	1	0	0	0	0	0	3
5:00 PM	0	1	0	0	3	0	0	2	0	0	0	1	7
5:15 PM	0	0	1	0	0	0	1	0	0	0	0	0	2
5:30 PM	0	1	0	0	1	0	0	0	0	0	1	0	3
5:45 PM	0	3	0	0	0	0	0	0	0	0	0	0	3
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	17	2	0	14	0	3	4	3	1	5	1	50
APPROACH %'s :	0.00%	89.47%	10.53%	0.00%	100.00%	0.00%	30.00%	40.00%	30.00%	14.29%	71.43%	14.29%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	5	1	0	4	0	1	2	0	0	1	1	15
PEAK HR FACTOR :		0.500			0.333			0.375			0.500		0.536

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 15-5663-021
N/S Street: N Los Angeles St
E/W Street: Arcadia St
DATE: 11/5/2015 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	1	1	0	0	0	12	0	2
6:15 AM	2	4	1	2	4	10	3	3
6:30 AM	3	2	0	0	3	19	1	10
6:45 AM	1	3	0	0	2	24	0	7
7:00 AM	5	4	0	0	3	22	4	9
7:15 AM	0	5	0	0	0	22	2	9
7:30 AM	3	4	0	0	6	19	1	5
7:45 AM	2	9	0	0	0	21	1	10
8:00 AM	0	4	0	0	1	13	1	6
8:15 AM	1	5	0	0	5	26	5	10
8:30 AM	2	3	0	0	3	16	0	3
8:45 AM	2	5	0	0	5	8	3	4
TOTALS	**22**	**49**	**1**	**2**	**32**	**212**	**21**	**78**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	0	0	0	0	0	0
6:15 AM	1	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	1	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
TOTALS	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	7	3	0	0	22	4	4	1
3:15 PM	2	0	0	0	10	2	6	4
3:30 PM	3	3	0	0	12	2	6	6
3:45 PM	10	4	0	0	11	7	10	2
4:00 PM	5	1	0	0	17	1	11	7
4:15 PM	6	1	0	0	16	0	4	1
4:30 PM	7	2	0	0	16	1	16	4
4:45 PM	4	3	0	0	9	2	3	3
5:00 PM	7	4	0	0	8	0	13	3
5:15 PM	3	3	0	0	22	4	4	2
5:30 PM	3	1	0	0	8	0	9	8
5:45 PM	11	1	0	0	4	1	10	1
TOTALS	**68**	**26**	**0**	**0**	**155**	**24**	**96**	**42**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	1
3:45 PM	0	0	0	0	0	0	0	1
4:00 PM	1	0	0	0	0	1	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	1	0	0	0	0	0	0	0
5:00 PM	1	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**3**	**0**	**0**	**0**	**0**	**1**	**0**	**2**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-021 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			Arcadia St			Arcadia St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	2	0	0	0	0	0	3	0	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 AM	1	0	0	0	1	0	0	0	0	0	0	0	2
6:30 AM	0	2	0	0	4	0	0	0	0	0	1	0	7
6:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	2
7:00 AM	0	0	0	0	2	0	0	0	0	0	0	0	2
7:15 AM	0	0	0	0	2	0	0	0	0	0	0	0	2
7:30 AM	0	1	0	0	4	0	0	0	0	0	0	0	5
7:45 AM	0	0	0	0	3	0	0	0	0	0	0	0	3
8:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:15 AM	0	0	0	0	8	0	0	0	0	1	0	0	9
8:30 AM	0	0	0	0	4	0	0	0	0	0	0	0	4
8:45 AM	0	1	0	0	4	1	0	0	0	0	2	0	8
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	5	0	0	33	1	0	1	0	1	3	0	45
APPROACH %'s :	16.67%	83.33%	0.00%	0.00%	97.06%	2.94%	0.00%	100.00%	0.00%	25.00%	75.00%	0.00%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	0	0	0	15	0	0	1	0	1	0	0	17
PEAK HR FACTOR :		0.000			0.469			0.250			0.250		0.472

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-021 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			Arcadia St			Arcadia St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	2	0	0	0	0	0	3	0	
3:00 PM	0	2	0	0	1	0	0	0	0	0	1	0	4
3:15 PM	0	2	0	0	0	0	0	1	0	0	0	0	3
3:30 PM	0	0	0	0	2	0	0	0	0	0	0	0	2
3:45 PM	0	0	0	0	2	0	0	0	0	0	0	0	2
4:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
4:15 PM	1	4	0	0	0	0	1	0	0	0	0	0	6
4:30 PM	0	1	0	0	0	0	0	0	0	1	0	0	2
4:45 PM	0	0	0	0	2	0	0	0	0	0	1	0	3
5:00 PM	0	3	0	0	1	0	0	0	0	0	0	0	4
5:15 PM	0	4	0	0	0	0	0	0	0	0	0	0	4
5:30 PM	0	2	0	0	3	0	0	0	0	0	0	0	5
5:45 PM	0	1	0	0	0	0	0	0	0	0	1	0	2
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	21	0	0	11	0	1	1	0	1	3	0	39
APPROACH %'s :	4.55%	95.45%	0.00%	0.00%	100.00%	0.00%	50.00%	50.00%	0.00%	25.00%	75.00%	0.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	10	0	0	4	0	0	0	0	0	1	0	15
PEAK HR FACTOR :		0.625			0.333			0.000			0.250		0.750

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 15-5663-022
N/S Street: N Los Angeles St
E/W Street: E Aliso St
DATE: 11/5/2015 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	6	9	0	10	0	4
6:15 AM	0	0	1	3	4	13	5	3
6:30 AM	0	0	6	7	4	23	0	11
6:45 AM	0	0	3	9	3	23	0	8
7:00 AM	0	0	5	4	4	27	1	9
7:15 AM	0	0	0	3	2	26	0	9
7:30 AM	0	0	5	11	5	17	1	6
7:45 AM	0	0	3	11	1	33	1	10
8:00 AM	0	0	0	3	1	17	2	5
8:15 AM	0	1	1	6	4	30	5	11
8:30 AM	0	0	7	9	1	17	3	4
8:45 AM	0	0	2	7	6	8	2	4
TOTALS	**0**	**1**	**39**	**82**	**35**	**244**	**20**	**84**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	6	3	20	3	3	1
3:15 PM	0	0	1	1	7	2	0	4
3:30 PM	0	0	5	6	17	3	8	9
3:45 PM	0	0	4	7	19	7	6	5
4:00 PM	0	0	6	10	16	3	8	5
4:15 PM	0	0	6	15	24	0	5	2
4:30 PM	0	0	8	22	29	1	8	0
4:45 PM	0	0	4	16	12	2	1	0
5:00 PM	1	0	16	11	17	0	11	1
5:15 PM	0	0	6	5	25	3	7	3
5:30 PM	0	0	12	1	15	0	2	4
5:45 PM	0	0	6	4	5	0	5	0
TOTALS	**1**	**0**	**80**	**101**	**206**	**24**	**64**	**34**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	1	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	1	0	0	0
3:45 PM	0	0	0	1	0	0	0	1
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**1**	**1**	**1**	**0**	**0**	**1**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-022 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			E Aliso St			E Aliso St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	0	2	0	0	4	0	0	0	0	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 AM	0	1	0	0	1	0	0	1	0	0	0	0	3
6:30 AM	0	2	0	0	3	0	0	0	0	0	0	0	5
6:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	2
7:00 AM	0	0	0	0	3	0	0	0	0	0	0	0	3
7:15 AM	0	0	0	0	2	0	0	0	0	0	0	0	2
7:30 AM	0	1	0	1	3	0	0	0	0	0	0	0	5
7:45 AM	0	0	0	0	2	0	0	0	0	0	0	0	2
8:00 AM	0	0	0	0	2	0	0	0	0	2	1	0	5
8:15 AM	0	0	0	0	8	0	1	0	0	0	0	0	9
8:30 AM	0	0	0	0	3	0	0	0	1	0	0	0	4
8:45 AM	0	1	0	0	6	0	0	0	0	0	0	0	7
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	6	0	1	34	0	1	1	1	2	1	0	47
APPROACH %'s :	0.00%	100.00%	0.00%	2.86%	97.14%	0.00%	33.33%	33.33%	33.33%	66.67%	33.33%	0.00%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	0	0	0	15	0	1	0	1	2	1	0	20
PEAK HR FACTOR :		0.000			0.469			0.500			0.250		0.556

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-022 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			E Aliso St			E Aliso St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	0	2	0	0	4	0	0	0	0	
3:00 PM	0	1	1	0	1	0	0	0	0	0	0	0	3
3:15 PM	0	0	0	0	2	0	0	0	0	0	0	0	2
3:30 PM	0	0	0	0	4	0	0	0	0	0	0	0	4
3:45 PM	0	1	0	0	3	0	0	0	0	0	0	0	4
4:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	5	0	0	0	0	0	0	0	0	0	0	5
4:30 PM	1	1	0	0	0	0	0	0	0	0	0	0	2
4:45 PM	0	0	0	0	2	0	0	0	0	0	0	0	2
5:00 PM	0	1	0	0	1	0	1	2	0	0	0	0	5
5:15 PM	0	4	0	0	0	0	0	0	0	0	0	0	4
5:30 PM	0	1	0	0	4	0	0	0	0	0	0	0	5
5:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	15	1	0	17	0	1	3	0	0	0	0	38
APPROACH %'s :	5.88%	88.24%	5.88%	0.00%	100.00%	0.00%	25.00%	75.00%	0.00%				
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	6	0	0	5	0	1	3	0	0	0	0	15
PEAK HR FACTOR :		0.375			0.313			0.333			0.000		0.750

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 15-5663-023
N/S Street: N Los Angeles St
E/W Street: Temple St
DATE: 11/5/2015 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	3	3	6	3	6	9	2	3
6:15 AM	6	9	2	5	4	5	6	8
6:30 AM	9	2	4	12	9	18	0	7
6:45 AM	10	7	10	19	18	23	2	14
7:00 AM	4	13	3	19	17	20	4	12
7:15 AM	12	10	11	21	11	15	3	10
7:30 AM	3	8	5	24	13	10	4	9
7:45 AM	13	17	7	29	20	27	8	21
8:00 AM	16	11	4	33	18	9	12	9
8:15 AM	15	10	5	39	15	20	7	11
8:30 AM	19	13	4	52	17	16	7	8
8:45 AM	8	13	6	28	14	19	1	5
TOTALS	**118**	**116**	**67**	**284**	**162**	**191**	**56**	**117**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	1	0	0	0
7:45 AM	0	0	0	0	1	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	1	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	7	8	18	8	19	9	6	7
3:15 PM	7	5	11	4	11	7	9	0
3:30 PM	9	5	17	14	20	12	21	11
3:45 PM	13	11	33	13	23	13	7	5
4:00 PM	19	6	22	6	14	12	17	3
4:15 PM	5	15	20	5	22	6	8	9
4:30 PM	15	14	47	7	26	11	16	5
4:45 PM	6	4	16	2	7	5	3	7
5:00 PM	10	5	45	10	24	4	8	4
5:15 PM	8	8	26	3	21	9	16	1
5:30 PM	7	2	22	5	12	11	6	1
5:45 PM	2	1	14	6	6	3	3	5
TOTALS	**108**	**84**	**291**	**83**	**205**	**102**	**120**	**58**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	1	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-023 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			Temple St			Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	1	2	1	1	2	0	1	2	1	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 AM	0	0	0	0	1	0	0	1	1	0	0	0	3
6:30 AM	0	2	0	0	3	0	0	0	0	0	0	0	5
6:45 AM	0	0	0	0	2	0	0	2	0	0	0	0	4
7:00 AM	0	0	0	0	3	0	0	1	0	0	0	0	4
7:15 AM	0	0	0	0	2	0	0	0	0	0	0	0	2
7:30 AM	0	0	0	0	3	0	0	0	0	0	0	0	3
7:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:15 AM	0	0	0	0	7	2	0	1	0	0	1	0	11
8:30 AM	0	0	0	0	3	0	0	0	1	0	0	0	4
8:45 AM	0	1	0	0	5	0	0	0	0	0	0	0	6
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	3	1	0	29	2	0	6	2	0	1	0	44
APPROACH %'s :	0.00%	75.00%	25.00%	0.00%	93.55%	6.45%	0.00%	75.00%	25.00%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	0	1	0	10	2	0	2	1	0	1	0	17
PEAK HR FACTOR :		0.250			0.333			0.750			0.250		0.386

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-023 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			Temple St			Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	1	2	1	1	2	0	1	2	1	
3:00 PM	0	0	0	0	0	0	1	0	0	0	1	0	2
3:15 PM	1	1	0	0	1	0	0	0	0	0	0	0	3
3:30 PM	0	0	0	0	1	0	1	0	0	0	0	0	2
3:45 PM	0	0	0	0	2	0	0	3	0	0	0	0	5
4:00 PM	1	0	0	0	1	0	0	2	0	0	1	0	5
4:15 PM	0	5	0	0	1	0	1	0	0	0	0	0	7
4:30 PM	0	2	0	0	3	0	0	0	0	0	1	0	6
4:45 PM	0	0	0	1	1	0	0	1	0	0	0	0	3
5:00 PM	0	3	0	0	1	0	0	0	0	0	0	0	4
5:15 PM	0	2	0	0	1	0	0	1	0	0	0	0	4
5:30 PM	0	1	0	0	2	0	0	0	0	0	0	0	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	2	14	0	1	14	0	3	7	0	0	3	0	44
APPROACH %'s :	12.50%	87.50%	0.00%	6.67%	93.33%	0.00%	30.00%	70.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	0	6	0	1	5	0	0	2	0	0	0	0	14
PEAK HR FACTOR :		0.500			0.750			0.500			0.000		0.875

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 15-5663-024
N/S Street: N Los Angeles St
E/W Street: 1st St
DATE: 11/5/2015 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	3	8	15	18	6	16	2	4
6:15 AM	3	5	20	19	7	7	7	2
6:30 AM	7	6	43	27	6	11	7	6
6:45 AM	9	11	25	33	11	27	10	20
7:00 AM	5	27	25	39	13	21	4	14
7:15 AM	2	16	29	39	11	11	11	14
7:30 AM	5	7	43	34	9	6	9	11
7:45 AM	12	24	40	44	22	13	12	21
8:00 AM	9	23	40	63	19	12	18	15
8:15 AM	11	31	23	56	16	17	15	15
8:30 AM	14	29	34	44	13	18	11	7
8:45 AM	8	23	39	26	12	22	8	19
TOTALS	**88**	**210**	**376**	**442**	**145**	**181**	**114**	**148**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	26	9	38	43	21	29	16	12
3:15 PM	16	19	38	40	20	13	19	12
3:30 PM	22	15	41	38	22	14	14	12
3:45 PM	32	22	47	43	19	15	27	12
4:00 PM	20	20	53	31	21	13	20	11
4:15 PM	21	9	38	31	18	23	10	2
4:30 PM	18	13	38	27	19	18	9	1
4:45 PM	13	10	29	27	9	11	7	5
5:00 PM	30	3	58	28	25	17	12	9
5:15 PM	13	9	34	23	16	11	16	7
5:30 PM	10	3	33	16	13	18	6	6
5:45 PM	7	1	32	18	6	11	5	4
TOTALS	**228**	**133**	**479**	**365**	**209**	**193**	**161**	**93**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	2	0	0	0	0	0
3:15 PM	0	0	4	1	0	1	0	0
3:30 PM	0	0	1	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	1	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	2	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**1**	**0**	**9**	**1**	**0**	**1**	**0**	**1**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-024

Day: Thursday

BIKES

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	3	0	1	3	0	1	2	1	
6:00 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
6:15 AM	0	0	2	0	0	0	0	0	0	0	1	0	3
6:30 AM	0	2	0	0	0	3	0	2	0	0	1	0	8
6:45 AM	0	0	0	0	0	1	0	2	0	0	3	0	6
7:00 AM	0	0	0	0	1	0	0	1	0	0	2	0	4
7:15 AM	0	0	0	0	2	0	0	1	0	0	2	0	5
7:30 AM	0	0	1	0	3	1	0	1	0	0	3	0	9
7:45 AM	0	1	1	0	2	0	0	0	0	0	5	0	9
8:00 AM	0	0	0	0	0	0	0	1	0	1	2	0	4
8:15 AM	0	0	1	0	9	0	0	0	0	1	5	0	16
8:30 AM	0	0	0	0	2	0	0	0	0	0	1	0	3
8:45 AM	0	0	0	0	2	2	1	4	0	0	0	0	9
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	3	5	0	21	7	1	13	0	2	26	0	78
APPROACH %'s :	0.00%	37.50%	62.50%	0.00%	75.00%	25.00%	7.14%	92.86%	0.00%	7.14%	92.86%	0.00%	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	0	0	1	0	13	2	1	5	0	2	8	0	32
PEAK HR FACTOR :		0.250			0.417			0.300			0.417		0.500

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-024 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	N Los Angeles St			N Los Angeles St			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	3	0	1	3	0	1	2	1	
3:00 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
3:15 PM	0	2	0	0	1	0	0	2	0	1	3	0	9
3:30 PM	1	1	1	0	2	0	0	1	0	0	3	0	9
3:45 PM	0	1	0	0	3	1	1	3	0	0	0	0	9
4:00 PM	0	1	0	0	1	1	0	4	0	2	2	1	12
4:15 PM	0	3	0	0	2	0	0	4	0	2	5	0	16
4:30 PM	0	1	0	0	2	0	3	7	0	0	3	0	16
4:45 PM	0	0	0	0	2	0	1	4	0	0	5	0	12
5:00 PM	1	2	0	0	3	0	0	7	0	0	4	0	17
5:15 PM	0	1	0	0	1	0	0	2	0	0	3	0	7
5:30 PM	0	0	0	0	3	0	0	1	0	0	1	0	5
5:45 PM	0	1	0	0	2	0	0	4	0	2	0	0	9
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	2	13	1	0	22	2	5	40	0	7	30	1	123
APPROACH %'s :	12.50%	81.25%	6.25%	0.00%	91.67%	8.33%	11.11%	88.89%	0.00%	18.42%	78.95%	2.63%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	1	4	0	0	9	0	0	14	0	2	8	0	38
PEAK HR FACTOR :		0.417			0.750			0.500			0.625		0.559

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 15-5663-025
N/S Street: Judge John Aiso St
E/W Street: Temple St
DATE: 11/5/2015 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	7	4	4	7	2	0	0	0
6:15 AM	0	1	1	9	7	1	0	0
6:30 AM	0	0	3	8	9	0	0	0
6:45 AM	0	2	3	8	14	0	0	0
7:00 AM	0	3	6	12	17	1	0	0
7:15 AM	1	1	5	19	25	3	0	0
7:30 AM	0	0	4	22	24	3	0	0
7:45 AM	2	3	7	23	29	2	1	0
8:00 AM	2	5	1	27	21	3	0	0
8:15 AM	2	1	7	48	27	8	1	0
8:30 AM	1	3	6	32	30	8	0	0
8:45 AM	3	3	6	20	30	8	0	0
TOTALS	**18**	**26**	**53**	**235**	**235**	**37**	**2**	**0**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	1	0	1	0	0
6:30 AM	0	0	0	2	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	2	1	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**5**	**1**	**1**	**0**	**0**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	11	7	10	33	0	0
3:15 PM	0	0	14	14	11	30	0	0
3:30 PM	0	0	22	6	4	42	0	0
3:45 PM	0	0	12	11	38	31	0	0
4:00 PM	0	0	24	12	6	29	0	0
4:15 PM	0	0	19	0	8	15	0	0
4:30 PM	0	0	27	2	3	48	0	0
4:45 PM	0	0	14	4	2	26	0	0
5:00 PM	0	0	35	5	0	14	1	0
5:15 PM	0	0	15	3	3	7	0	0
5:30 PM	0	0	19	2	13	4	0	0
5:45 PM	0	0	14	4	3	4	0	0
TOTALS	**0**	**0**	**226**	**70**	**101**	**283**	**1**	**0**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	2	0	0
3:15 PM	0	0	1	2	0	1	0	0
3:30 PM	0	0	0	0	3	0	0	0
3:45 PM	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	2	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	1	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**2**	**2**	**3**	**5**	**0**	**0**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-025 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	Judge John Aiso St			Judge John Aiso St			Temple St			Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	0	1	0	0	0	0	2	0	1	2	0	
6:00 AM	0	0	0	0	0	0	0	0	0	2	0	0	2
6:15 AM	1	1	0	0	0	0	0	2	0	1	0	0	5
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
7:00 AM	0	0	0	0	0	0	0	2	0	1	1	0	4
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	1	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	1	0	0	0	0	0	0	1	0	0	0	2
8:15 AM	1	0	0	0	0	0	0	1	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	3	2	1	0	0	0	0	6	1	4	2	0	19
APPROACH %'s :	50.00%	33.33%	16.67%				0.00%	85.71%	14.29%	66.67%	33.33%	0.00%	

PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	1	1	1	0	0	0	0	1	1	0	1	0	6
PEAK HR FACTOR :		0.750			0.000			0.500			0.250		0.750

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-025 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	Judge John Aiso St			Judge John Aiso St			Temple St			Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	0	1	0	0	0	0	2	0	1	2	0	
3:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	1
3:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
3:30 PM	0	0	0	0	1	0	0	0	0	1	1	0	3
3:45 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
4:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	2
4:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	1
4:45 PM	1	0	1	0	0	0	0	1	0	0	0	0	3
5:00 PM	1	0	0	0	0	0	0	0	0	1	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	1	0	0	0	0	0	0	1	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	1	0	0	1	0	2
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	3	0	3	0	1	0	0	5	0	2	6	0	20
APPROACH %'s :	50.00%	0.00%	50.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	25.00%	75.00%	0.00%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	3	0	1	0	0	0	0	2	0	1	0	0	7
PEAK HR FACTOR :	0.500			0.000			0.500			0.250			0.583

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 15-5663-026
N/S Street: Judge John Aiso St_San Pedro St
E/W Street: 1st St
DATE: 11/5/2015 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	1	6	0	6	1	2	1	0
6:15 AM	2	6	8	6	2	4	0	2
6:30 AM	3	8	4	3	5	4	2	0
6:45 AM	3	18	6	10	9	5	2	2
7:00 AM	4	9	5	7	2	6	8	6
7:15 AM	2	13	9	14	5	5	1	5
7:30 AM	2	8	4	8	4	8	2	3
7:45 AM	3	19	9	12	5	12	3	7
8:00 AM	2	12	7	14	7	11	1	5
8:15 AM	5	12	5	15	8	12	3	10
8:30 AM	6	15	13	7	12	6	5	6
8:45 AM	6	14	12	6	10	10	5	14
TOTALS	**39**	**140**	**82**	**108**	**70**	**85**	**33**	**60**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	2	0	0	0	0
6:30 AM	0	0	0	1	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	2	1	0	0	0
7:15 AM	0	0	0	1	0	0	0	0
7:30 AM	0	0	0	0	0	1	0	0
7:45 AM	0	0	0	1	0	0	0	0
8:00 AM	0	0	0	4	1	0	0	0
8:15 AM	0	0	1	0	0	0	0	0
8:30 AM	0	0	1	1	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**2**	**12**	**2**	**1**	**0**	**0**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	7	18	34	26	20	15	6	6
3:15 PM	19	16	22	30	13	10	13	6
3:30 PM	16	10	23	24	15	10	17	3
3:45 PM	18	19	15	30	6	11	10	4
4:00 PM	18	26	27	16	26	11	10	7
4:15 PM	15	12	31	35	19	12	5	3
4:30 PM	19	9	28	25	10	15	12	2
4:45 PM	20	12	34	20	20	20	10	12
5:00 PM	15	14	22	31	14	12	15	5
5:15 PM	17	14	37	38	16	14	21	2
5:30 PM	8	7	22	17	16	18	18	4
5:45 PM	9	5	27	13	17	8	12	13
TOTALS	**181**	**162**	**322**	**305**	**192**	**156**	**149**	**67**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	1	2	4	2	2	1	0	0
3:15 PM	0	0	0	2	1	0	0	0
3:30 PM	0	0	2	3	1	0	0	0
3:45 PM	0	3	3	1	0	0	1	1
4:00 PM	0	0	0	2	0	0	1	0
4:15 PM	0	0	2	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	1	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	1	0	0	0	0
TOTALS	**1**	**5**	**12**	**11**	**4**	**1**	**2**	**1**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-026 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/5/2015

AM

NS/EW Streets:	Judge John Aiso St_San Pedro St			Judge John Aiso St_San Pedro St			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	2	0	1	3	0	1	2	0	
6:00 AM	0	0	0	0	1	0	0	1	0	0	1	0	3
6:15 AM	0	0	0	0	1	0	1	1	0	1	0	0	4
6:30 AM	0	0	0	0	0	0	0	2	0	0	1	0	3
6:45 AM	0	0	0	0	0	0	0	1	0	0	3	0	4
7:00 AM	0	0	0	0	0	0	0	1	0	1	1	0	3
7:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	2
7:30 AM	0	0	0	0	0	0	0	3	0	1	3	0	7
7:45 AM	0	1	0	0	1	0	0	2	0	0	3	0	7
8:00 AM	0	0	0	0	0	0	0	0	0	0	4	1	5
8:15 AM	0	0	0	0	0	0	0	0	0	0	4	0	4
8:30 AM	0	0	1	0	1	0	0	0	0	1	3	1	7
8:45 AM	0	0	0	0	2	1	0	2	0	0	1	0	6
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	1	1	0	6	1	1	13	0	4	26	2	55
APPROACH %'s :	0.00%	50.00%	50.00%	0.00%	85.71%	14.29%	7.14%	92.86%	0.00%	12.50%	81.25%	6.25%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	1	1	0	2	0	0	2	0	1	14	2	23
PEAK HR FACTOR :		0.500			0.500			0.250			0.850		0.821

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-026 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	Judge John Aiso St_San Pedro St			Judge John Aiso St_San Pedro St			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	2	0	1	3	0	1	2	0	
3:00 PM	0	0	0	0	0	0	0	2	0	1	1	0	4
3:15 PM	0	1	0	0	0	0	0	3	0	1	2	0	7
3:30 PM	0	0	1	0	1	0	0	3	0	0	2	0	7
3:45 PM	0	1	0	0	0	0	2	0	0	0	1	0	4
4:00 PM	0	2	1	0	1	0	0	3	0	1	3	0	11
4:15 PM	0	0	0	0	0	0	0	2	0	0	5	0	7
4:30 PM	0	0	0	0	0	0	3	4	0	3	2	0	12
4:45 PM	0	1	0	0	1	0	0	3	0	0	4	0	9
5:00 PM	0	2	0	0	0	0	0	7	0	0	2	0	11
5:15 PM	0	1	1	0	0	0	0	1	0	0	2	0	5
5:30 PM	0	0	0	0	0	0	0	1	0	1	3	0	5
5:45 PM	0	0	0	0	0	0	0	3	0	0	3	0	6
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	8	3	0	3	0	5	32	0	7	30	0	88
APPROACH %'s :	0.00%	72.73%	27.27%	0.00%	100.00%	0.00%	13.51%	86.49%	0.00%	18.92%	81.08%	0.00%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	0	4	1	0	1	0	0	12	0	1	11	0	30
PEAK HR FACTOR :		0.625			0.250			0.429			0.750		0.682

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 15-5663-027
N/S Street: Mission Rd
E/W Street: Cesar Chavez Ave
DATE: 11/5/2015 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	1	0	1	1	1	0	1
6:15 AM	0	1	3	0	0	0	0	0
6:30 AM	0	2	0	3	0	0	0	2
6:45 AM	2	1	0	0	0	0	0	2
7:00 AM	0	5	0	1	1	0	0	0
7:15 AM	2	0	0	1	5	2	0	1
7:30 AM	0	1	0	2	0	3	2	0
7:45 AM	0	1	1	3	1	1	0	1
8:00 AM	5	1	0	2	0	1	0	0
8:15 AM	0	1	0	5	3	0	0	0
8:30 AM	0	1	0	3	0	0	1	0
8:45 AM	5	0	0	3	1	0	2	0
TOTALS	**14**	**15**	**4**	**24**	**12**	**8**	**5**	**7**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	2	0	2	2	0	1	0	0
3:15 PM	1	1	0	0	0	0	0	0
3:30 PM	4	0	1	0	3	1	2	0
3:45 PM	3	1	4	0	1	0	0	2
4:00 PM	0	0	2	0	0	0	0	0
4:15 PM	0	0	1	0	2	0	0	1
4:30 PM	0	1	0	0	0	0	0	0
4:45 PM	0	0	0	0	1	0	0	0
5:00 PM	2	1	2	0	0	0	0	0
5:15 PM	2	0	2	0	0	0	3	0
5:30 PM	0	0	4	0	0	0	0	1
5:45 PM	0	0	2	0	0	0	0	0
TOTALS	**14**	**4**	**20**	**2**	**7**	**2**	**5**	**4**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-027

Day: Thursday

BIKES

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	Mission Rd			Mission Rd			Cesar Chavez Ave			Cesar Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	1	1.5	1.5	0	1	2	0	
6:00 AM	0	0	0	0	1	0	0	0	0	1	2	0	4
6:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
6:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
6:45 AM	0	0	0	0	1	0	0	1	0	0	0	0	2
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:15 AM	0	0	0	0	1	0	0	0	0	0	1	0	2
7:30 AM	0	0	0	0	0	0	0	1	0	0	4	0	5
7:45 AM	0	1	0	0	0	1	0	1	0	0	0	0	3
8:00 AM	0	1	0	0	0	0	0	0	0	0	2	0	3
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
8:30 AM	0	0	0	0	1	0	0	0	0	0	1	0	2
8:45 AM	0	0	0	0	1	0	0	1	0	0	1	0	3
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	2	0	0	5	1	0	4	0	1	15	0	28
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	83.33%	16.67%	0.00%	100.00%	0.00%	6.25%	93.75%	0.00%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	2	0	0	0	1	0	2	0	0	7	0	12
PEAK HR FACTOR :		0.500			0.250			0.500			0.438		0.600

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-027 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	Mission Rd			Mission Rd			Cesar Chavez Ave			Cesar Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	1	1.5	1.5	0	1	2	0	
3:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	1
3:15 PM	0	0	0	0	1	0	0	2	0	0	0	0	3
3:30 PM	0	0	0	0	0	0	0	2	0	0	1	0	3
3:45 PM	0	1	0	0	1	0	0	0	0	0	1	0	3
4:00 PM	0	0	0	0	0	1	3	0	0	0	2	0	6
4:15 PM	0	0	0	0	1	0	6	1	0	0	0	0	8
4:30 PM	0	9	0	0	0	0	0	1	0	0	0	0	10
4:45 PM	0	1	0	0	0	1	0	4	0	0	0	0	6
5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:15 PM	0	1	0	0	0	0	1	2	0	0	2	0	6
5:30 PM	1	1	0	0	1	1	1	3	0	0	0	0	8
5:45 PM	0	0	0	0	0	1	0	1	0	0	3	0	5
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	13	0	0	4	4	12	17	0	0	9	0	60
APPROACH %'s :	7.14%	92.86%	0.00%	0.00%	50.00%	50.00%	41.38%	58.62%	0.00%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	1	3	0	0	1	2	2	10	0	0	2	0	21
PEAK HR FACTOR :	0.500			0.375			0.750			0.250			0.656

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 15-5663-028
N/S Street: Mission Rd
E/W Street: 1st St
DATE: 11/5/2015 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	2	1	1	0	0	0	0
6:15 AM	0	0	0	1	0	0	0	0
6:30 AM	1	3	0	1	1	1	0	0
6:45 AM	3	3	0	0	1	0	0	0
7:00 AM	5	1	2	1	0	0	0	0
7:15 AM	0	0	1	1	0	0	0	0
7:30 AM	1	0	0	1	2	0	0	0
7:45 AM	1	4	0	3	0	1	0	0
8:00 AM	0	0	1	3	4	0	0	0
8:15 AM	1	1	1	5	0	0	0	0
8:30 AM	1	3	1	0	0	1	0	0
8:45 AM	1	2	1	2	2	1	0	0
TOTALS	**14**	**19**	**8**	**19**	**10**	**4**	**0**	**0**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0
6:45 AM	0	1	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
TOTALS	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	5	3	0	1	0	0	0
3:15 PM	1	3	1	0	1	3	0	0
3:30 PM	0	0	1	1	1	2	0	0
3:45 PM	0	0	1	0	0	0	0	0
4:00 PM	0	1	2	6	2	0	0	0
4:15 PM	0	1	5	4	0	0	0	0
4:30 PM	2	1	3	2	1	1	1	0
4:45 PM	1	0	0	0	0	0	0	0
5:00 PM	0	1	2	1	2	0	1	0
5:15 PM	2	2	2	0	0	0	0	0
5:30 PM	0	1	5	1	0	0	0	0
5:45 PM	0	0	0	0	2	0	0	0
TOTALS	**6**	**15**	**25**	**15**	**10**	**6**	**2**	**0**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-028

Day: Thursday

BIKES

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	Mission Rd			Mission Rd			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	0	1	1	1	1	0.5	0.5	1	0.5	0.5	
6:00 AM	0	0	0	1	0	0	0	0	0	0	2	1	4
6:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	2
6:30 AM	0	0	0	0	0	1	0	0	0	0	2	0	3
6:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	2
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	6	0	6
7:30 AM	0	0	0	0	0	0	0	1	0	0	4	0	5
7:45 AM	0	0	0	0	0	0	0	0	0	0	5	0	5
8:00 AM	0	0	0	0	0	1	1	0	0	0	1	0	3
8:15 AM	0	0	0	0	0	2	0	0	0	0	5	0	7
8:30 AM	0	0	0	0	0	0	0	1	0	0	2	0	3
8:45 AM													

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	1	0	4	1	2	0	0	32	1	41
APPROACH %'s :				20.00%	0.00%	80.00%	33.33%	66.67%	0.00%	0.00%	96.97%	3.03%	

PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	0	0	0	0	0	1	1	1	0	0	16	0	19
PEAK HR FACTOR :		0.000			0.250			0.500			0.667		0.792

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-028 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	Mission Rd			Mission Rd			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	0	1	1	1	1	0.5	0.5	1	0.5	0.5	
3:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	2
3:15 PM	0	0	0	0	0	1	0	4	0	0	1	0	6
3:30 PM	0	0	0	1	0	0	0	1	0	0	2	0	4
3:45 PM	0	0	0	0	1	0	0	3	0	0	2	1	7
4:00 PM	0	0	0	0	0	0	0	3	0	0	1	0	4
4:15 PM	0	0	0	0	0	1	0	2	0	0	2	0	5
4:30 PM	0	7	0	0	0	2	1	0	0	1	2	0	13
4:45 PM	0	0	1	0	0	1	0	6	0	0	4	0	12
5:00 PM	0	3	0	0	0	0	0	5	0	0	2	0	10
5:15 PM	0	0	0	1	0	0	0	6	0	0	3	0	10
5:30 PM	0	0	0	0	1	0	0	4	0	0	2	0	7
5:45 PM	0	0	0	0	0	1	0	3	0	0	1	0	5
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	10	1	2	2	6	1	37	0	1	24	1	85
APPROACH %'s :	0.00%	90.91%	9.09%	20.00%	20.00%	60.00%	2.63%	97.37%	0.00%	3.85%	92.31%	3.85%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	3	0	1	1	1	0	18	0	0	8	0	32
PEAK HR FACTOR :		0.250			0.750			0.750			0.667		0.800

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 15-5663-029
N/S Street: Central Ave
E/W Street: 1st St
DATE: 11/5/2015 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	3	4	2	4	1	1	2	2
6:15 AM	4	10	7	6	0	0	1	4
6:30 AM	1	6	7	4	0	0	1	2
6:45 AM	1	8	6	9	1	0	0	4
7:00 AM	3	14	2	8	0	0	2	6
7:15 AM	5	19	2	4	1	2	2	14
7:30 AM	1	21	3	5	0	0	4	11
7:45 AM	6	27	5	11	1	3	7	16
8:00 AM	3	18	5	3	1	1	3	3
8:15 AM	1	16	3	15	0	4	1	11
8:30 AM	3	25	5	16	0	0	3	21
8:45 AM	7	23	5	14	2	7	3	13
TOTALS	**38**	**191**	**52**	**99**	**7**	**18**	**29**	**107**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0
6:30 AM	0	0	2	0	0	0	0	0
6:45 AM	0	0	0	2	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**0**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	17	18	12	6	5	2	33	30
3:15 PM	6	12	8	33	5	0	7	23
3:30 PM	23	22	9	12	4	0	29	20
3:45 PM	29	18	20	14	4	0	28	15
4:00 PM	19	16	15	7	3	0	27	20
4:15 PM	23	16	31	14	8	1	28	26
4:30 PM	26	12	15	11	6	2	35	15
4:45 PM	20	31	17	6	17	2	26	35
5:00 PM	38	17	26	7	4	3	27	21
5:15 PM	29	28	33	24	8	5	26	33
5:30 PM	16	21	25	14	9	7	16	21
5:45 PM	19	9	20	12	3	2	22	19
TOTALS	**265**	**220**	**231**	**160**	**76**	**24**	**304**	**278**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	1
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	2	0
3:45 PM	0	0	0	0	0	0	0	1
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	1	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	1	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**2**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-029

Day: Thursday

BIKES

City: Los Angeles

Date: 11/5/2015

AM

NS/EW Streets:	Central Ave			Central Ave			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	0	1	0	0	0	0	2	0	1	2	0	
6:00 AM	0	0	0	0	0	0	0	1	0	0	1	1	3
6:15 AM	0	0	0	0	0	0	0	1	0	2	2	0	5
6:30 AM	0	0	1	0	0	0	0	1	0	1	2	0	5
6:45 AM	0	0	1	0	2	0	0	1	0	1	5	0	10
7:00 AM	0	0	0	0	0	0	0	2	0	3	1	0	6
7:15 AM	0	0	1	0	0	0	0	0	0	2	4	0	7
7:30 AM	0	0	2	0	0	0	0	1	2	1	3	0	9
7:45 AM	0	0	0	0	0	0	1	1	0	2	6	0	10
8:00 AM	0	0	0	0	0	0	0	0	0	1	4	0	5
8:15 AM	0	0	1	0	0	0	0	0	0	4	7	0	12
8:30 AM	0	0	0	0	0	0	0	0	0	0	3	0	3
8:45 AM	0	1	0	0	0	0	0	2	0	2	2	0	7
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	1	6	0	2	0	1	10	2	19	40	1	82
APPROACH %'s :	0.00%	14.29%	85.71%	0.00%	100.00%	0.00%	7.69%	76.92%	15.38%	31.67%	66.67%	1.67%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	0	1	0	0	0	1	1	0	7	20	0	30
PEAK HR FACTOR :		0.250			0.000			0.250			0.614		0.625

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5663-029 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/5/2015

PM

NS/EW Streets:	Central Ave			Central Ave			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	0	1	0	0	0	0	2	0	1	2	0	
3:00 PM	0	0	0	0	0	0	0	1	0	1	3	0	5
3:15 PM	1	0	0	0	0	0	0	2	1	0	1	0	5
3:30 PM	0	0	0	0	0	0	0	4	1	0	2	0	7
3:45 PM	0	0	1	0	0	0	0	1	0	0	1	0	3
4:00 PM	0	0	2	0	0	0	0	3	0	1	4	0	10
4:15 PM	0	0	2	0	1	0	0	2	0	0	3	0	8
4:30 PM	0	0	0	0	0	0	0	4	0	1	8	0	13
4:45 PM	0	0	2	0	0	0	0	4	1	0	6	0	13
5:00 PM	0	0	0	0	0	0	0	4	1	0	4	0	9
5:15 PM	0	0	3	0	0	0	0	2	0	2	4	0	11
5:30 PM	0	0	0	0	0	0	0	0	1	0	1	0	2
5:45 PM	1	0	1	0	0	0	0	3	0	0	3	1	9
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	2	0	11	0	1	0	0	30	5	5	40	1	95
APPROACH %'s :	15.38%	0.00%	84.62%	0.00%	100.00%	0.00%	0.00%	85.71%	14.29%	10.87%	86.96%	2.17%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	1	0	4	0	0	0	0	9	2	2	12	1	31
PEAK HR FACTOR :		0.417			0.000			0.550			0.625		0.705

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 15-5779-005
N/S Street: Alameda St
E/W Street: Ord St_Main St
DATE: 11/19/2015 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	1	0	0	2	1	4	2
6:15 AM	2	0	0	0	5	2	20	1
6:30 AM	0	0	0	0	2	3	25	8
6:45 AM	0	1	0	0	3	1	5	8
7:00 AM	0	0	0	0	2	2	9	6
7:15 AM	0	0	0	0	0	4	6	14
7:30 AM	0	0	0	0	5	0	9	2
7:45 AM	0	0	0	0	2	5	5	9
8:00 AM	0	0	0	0	4	1	8	2
8:15 AM	0	0	0	0	5	1	8	13
8:30 AM	0	0	0	0	5	3	3	5
8:45 AM	0	0	0	0	0	1	7	6
TOTALS	**2**	**2**	**0**	**0**	**35**	**24**	**109**	**76**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	1	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	3	2	9	9
3:15 PM	0	0	0	0	0	4	1	5
3:30 PM	0	0	0	0	2	2	7	8
3:45 PM	0	1	0	0	0	2	13	12
4:00 PM	0	0	0	0	0	1	8	9
4:15 PM	0	0	0	0	3	1	2	5
4:30 PM	0	0	0	0	1	7	2	6
4:45 PM	0	0	0	1	3	4	7	15
5:00 PM	0	0	0	0	1	5	4	6
5:15 PM	0	0	0	0	1	6	8	7
5:30 PM	0	0	0	0	1	2	9	11
5:45 PM	0	0	0	0	2	0	3	3
TOTALS	**0**	**1**	**0**	**1**	**17**	**36**	**73**	**96**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	1
4:00 PM	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	1	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**3**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-005 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/19/2015

AM

NS/EW Streets:	Alameda St			Alameda St			Ord St_Main St			Ord St_Main St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	0	3	0	0	0	1	0	0	0	
6:00 AM	0	0	1	0	3	0	0	0	0	0	0	0	4
6:15 AM	0	1	1	0	0	0	0	0	0	0	0	0	2
6:30 AM	0	1	1	0	2	0	0	0	0	0	0	0	4
6:45 AM	0	2	1	0	1	0	0	0	0	0	0	0	4
7:00 AM	0	0	0	0	2	0	0	0	0	0	0	0	2
7:15 AM	0	0	1	0	2	1	0	0	0	0	0	0	4
7:30 AM	0	1	0	0	7	0	0	0	0	0	0	0	8
7:45 AM	0	1	0	0	4	1	0	0	0	0	0	0	6
8:00 AM	1	0	1	0	1	0	0	0	0	0	0	0	3
8:15 AM	0	1	1	0	0	1	0	0	0	0	0	0	3
8:30 AM	0	1	1	0	4	0	0	0	0	0	0	0	6
8:45 AM	0	2	0	0	5	1	0	0	0	0	0	0	8
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	10	8	0	31	4	0	0	0	0	0	0	54
APPROACH %'s :	5.26%	52.63%	42.11%	0.00%	88.57%	11.43%							
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	1	3	3	0	9	2	0	0	0	0	0	0	18
PEAK HR FACTOR :	0.875			0.550			0.000			0.000			0.750

CONTROL : 1-Way Stop (EB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-005 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/19/2015

PM

NS/EW Streets:	Alameda St			Alameda St			Ord St_Main St			Ord St_Main St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	0	3	0	0	0	1	0	0	0	
3:00 PM	0	1	1	0	3	0	0	0	0	0	0	0	5
3:15 PM	0	4	1	0	1	0	0	0	0	0	0	0	6
3:30 PM	1	2	1	0	2	0	0	0	0	0	0	0	6
3:45 PM	0	2	0	0	1	0	0	0	1	0	0	0	4
4:00 PM	0	1	5	0	1	0	0	0	0	2	0	0	9
4:15 PM	0	1	1	0	2	0	0	0	0	2	0	0	6
4:30 PM	0	3	1	0	1	0	0	0	2	0	0	0	7
4:45 PM	0	1	0	0	3	0	0	0	0	0	0	0	4
5:00 PM	0	0	4	0	2	0	0	1	0	0	0	0	7
5:15 PM	0	1	1	0	2	0	0	0	0	0	0	0	4
5:30 PM	0	4	3	0	1	0	0	0	0	0	0	0	8
5:45 PM	1	0	3	0	4	0	0	0	0	0	0	0	8
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	2	20	21	0	23	0	0	1	3	4	0	0	74
APPROACH %'s :	4.65%	46.51%	48.84%	0.00%	100.00%	0.00%	0.00%	25.00%	75.00%	100.00%	0.00%	0.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	1	5	11	0	9	0	0	1	0	0	0	0	27
PEAK HR FACTOR :		0.607			0.563			0.250			0.000		0.844

CONTROL : 1-Way Stop (EB)

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 15-5779-006
N/S Street: Alameda St
E/W Street: Main St
DATE: 11/19/2015 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	0	0	3	2	4	1
6:15 AM	0	0	1	2	6	2	12	6
6:30 AM	0	0	0	1	3	2	3	4
6:45 AM	0	0	3	6	13	5	1	10
7:00 AM	0	0	2	1	7	3	11	7
7:15 AM	0	0	0	0	8	4	4	15
7:30 AM	0	0	2	1	10	0	6	6
7:45 AM	0	1	0	3	4	8	18	6
8:00 AM	0	0	0	1	12	1	6	9
8:15 AM	0	0	2	4	10	3	12	13
8:30 AM	0	0	4	3	19	4	4	3
8:45 AM	0	0	1	2	6	3	7	10
TOTALS	**0**	**1**	**15**	**24**	**101**	**37**	**88**	**90**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	1
6:30 AM	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	1	0	0	0
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	1
TOTALS	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**2**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	2	7	3	4	5	11	15
3:15 PM	0	0	5	2	3	6	4	9
3:30 PM	0	0	2	11	3	8	11	16
3:45 PM	0	0	5	5	4	10	11	21
4:00 PM	0	0	1	4	3	8	8	10
4:15 PM	0	0	1	2	3	1	6	6
4:30 PM	0	0	6	3	10	6	2	16
4:45 PM	0	0	0	2	5	11	11	6
5:00 PM	0	0	0	1	2	8	7	3
5:15 PM	0	0	4	0	5	11	5	5
5:30 PM	0	0	3	1	5	10	4	8
5:45 PM	0	0	1	0	3	3	6	9
TOTALS	**0**	**2**	**35**	**34**	**50**	**87**	**86**	**124**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	1
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	1	0
3:45 PM	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	1	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	1	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**1**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-006

Day: Thursday

BIKES

City: Los Angeles

Date: 11/19/2015

AM

NS/EW Streets:	Alameda St			Alameda St			Main St			Main St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	1	3	0	2.5	0	0.5	1	0	1	
6:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
6:15 AM	0	2	0	0	0	0	0	0	0	0	0	0	2
6:30 AM	0	1	0	0	3	0	0	0	0	0	0	0	4
6:45 AM	0	4	1	0	2	0	0	0	0	0	0	0	7
7:00 AM	0	0	0	0	2	0	0	0	0	0	0	0	2
7:15 AM	0	0	0	0	3	0	0	0	0	0	0	0	3
7:30 AM	0	1	0	1	3	0	0	0	0	0	0	0	5
7:45 AM	0	2	0	0	2	0	0	1	0	0	0	0	5
8:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	2
8:15 AM	0	3	0	0	0	0	0	0	0	0	0	0	3
8:30 AM	0	1	0	0	7	0	0	0	0	0	0	1	9
8:45 AM	0	0	0	0	2	0	0	1	0	0	0	0	3
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	16	1	1	25	0	0	2	0	0	0	1	46
APPROACH %'s :	0.00%	94.12%	5.88%	3.85%	96.15%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	7	0	0	10	0	0	1	0	0	0	1	19
PEAK HR FACTOR :		0.583			0.357			0.250			0.250		0.528

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-006 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/19/2015

PM

NS/EW Streets:	Alameda St			Alameda St			Main St			Main St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	1	3	0	2.5	0	0.5	1	0	1	
3:00 PM	0	1	0	0	3	0	1	0	0	0	0	0	5
3:15 PM	0	1	0	0	2	0	2	0	0	0	0	0	5
3:30 PM	0	1	0	0	2	0	2	0	0	0	0	0	5
3:45 PM	0	0	0	0	2	0	1	0	0	0	0	0	3
4:00 PM	0	1	0	0	3	0	4	0	0	0	0	0	8
4:15 PM	0	2	0	0	3	0	0	0	0	0	0	0	5
4:30 PM	0	2	0	0	1	0	1	0	0	0	0	0	4
4:45 PM	0	2	0	0	0	0	1	0	0	0	0	0	3
5:00 PM	0	2	0	0	2	0	2	0	0	0	0	0	6
5:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:30 PM	0	2	0	0	2	0	5	0	0	0	0	0	9
5:45 PM	0	2	0	0	3	1	1	0	0	0	0	1	8
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	16	0	0	24	1	20	0	0	0	0	1	62
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	96.00%	4.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	0	6	0	0	5	0	8	0	0	0	0	0	19
PEAK HR FACTOR :		0.750			0.625			0.400			0.000		0.528

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 15-5779-009
N/S Street: Main St
E/W Street: Cesar E. Chavez Ave
DATE: 11/19/2015 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	2	5	5	4	2	2	0	0
6:15 AM	1	7	12	3	13	3	0	0
6:30 AM	5	4	3	3	0	3	0	1
6:45 AM	1	6	3	1	5	1	0	0
7:00 AM	2	4	5	0	9	3	0	0
7:15 AM	7	5	7	1	4	4	1	0
7:30 AM	8	5	7	0	9	7	0	1
7:45 AM	7	9	3	6	6	4	0	0
8:00 AM	12	5	6	3	3	11	0	0
8:15 AM	9	3	4	1	5	10	0	0
8:30 AM	9	4	10	3	5	8	0	0
8:45 AM	7	4	1	6	2	6	0	0
TOTALS	**70**	**61**	**66**	**31**	**63**	**62**	**1**	**2**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	1	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	18	13	2	8	10	11	0	0
3:15 PM	13	17	9	8	13	2	0	0
3:30 PM	15	16	8	6	18	5	0	0
3:45 PM	17	16	9	5	10	10	0	0
4:00 PM	16	26	13	8	13	11	1	0
4:15 PM	14	16	10	18	13	9	1	1
4:30 PM	15	19	12	7	13	3	1	0
4:45 PM	16	15	10	4	20	8	0	0
5:00 PM	11	9	20	7	10	7	0	0
5:15 PM	7	19	13	7	17	3	0	0
5:30 PM	6	26	11	7	26	3	0	0
5:45 PM	7	16	9	7	17	1	0	0
TOTALS	**155**	**208**	**126**	**92**	**180**	**73**	**3**	**1**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	0	0	5	0	0	0	0	0
3:30 PM	0	0	17	0	5	0	0	0
3:45 PM	0	0	0	0	0	0	0	0
4:00 PM	0	0	3	1	0	0	1	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	1	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	1	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	1	1	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**28**	**2**	**5**	**0**	**1**	**0**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-009

Day: Thursday

BIKES

City: Los Angeles

Date: 11/19/2015

AM

NS/EW Streets:	Main St			Main St			Cesar E. Chavez Ave			Cesar E. Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1.5	2.5	0	0	0	0	1	2	0	0	3	0	
6:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
6:15 AM	2	0	0	0	1	0	0	2	0	0	0	0	5
6:30 AM	1	0	1	0	2	0	0	1	0	0	1	0	6
6:45 AM	0	1	0	0	0	0	0	1	0	0	0	0	2
7:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
7:15 AM	0	0	0	0	1	0	0	2	0	1	1	0	5
7:30 AM	0	0	0	0	3	0	0	0	0	0	1	0	4
7:45 AM	1	1	0	0	0	1	0	0	0	0	1	0	4
8:00 AM	2	0	0	0	0	0	0	0	1	0	0	0	3
8:15 AM	0	0	0	0	0	0	0	2	0	0	2	0	4
8:30 AM	0	0	0	0	0	0	0	0	0	0	4	0	4
8:45 AM	0	1	1	0	0	1	1	1	0	0	3	0	8
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	6	3	2	0	7	2	1	11	1	1	13	0	47
APPROACH %'s :	54.55%	27.27%	18.18%	0.00%	77.78%	22.22%	7.69%	84.62%	7.69%	7.14%	92.86%	0.00%	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	2	1	1	0	0	1	1	3	1	0	9	0	19
PEAK HR FACTOR :		0.500			0.250			0.625			0.563		0.594

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-009

Day: Thursday

BIKES

City: Los Angeles

Date: 11/19/2015

PM

NS/EW Streets:	Main St			Main St			Cesar E. Chavez Ave			Cesar E. Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1.5	2.5	0	0	0	0	1	2	0	0	3	0	
3:00 PM	2	1	0	0	3	0	0	5	0	0	0	0	11
3:15 PM	1	5	1	0	0	0	0	0	0	0	1	0	8
3:30 PM	2	2	0	0	1	0	0	1	1	0	0	0	7
3:45 PM	1	2	1	0	0	0	0	2	0	0	0	0	6
4:00 PM	2	4	0	0	0	0	1	2	0	0	3	0	12
4:15 PM	1	0	0	0	0	0	0	0	0	0	2	0	3
4:30 PM	2	1	0	0	0	0	1	2	0	0	1	0	7
4:45 PM	0	0	0	0	1	0	1	0	0	0	3	0	5
5:00 PM	1	2	0	0	1	0	0	6	0	0	1	0	11
5:15 PM	1	0	0	0	0	0	0	4	0	0	4	0	9
5:30 PM	2	7	0	0	0	0	0	2	0	0	0	0	11
5:45 PM	1	3	0	0	0	0	0	1	0	0	2	0	7
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	16	27	2	0	6	0	3	25	1	0	17	0	97
APPROACH %'s :	35.56%	60.00%	4.44%	0.00%	100.00%	0.00%	10.34%	86.21%	3.45%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	5	12	0	0	1	0	0	13	0	0	7	0	38
PEAK HR FACTOR :		0.472			0.250			0.542			0.438		0.864

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 15-5779-010
N/S Street: Alameda St
E/W Street: Cesar E. Chavez Ave
DATE: 11/19/2015 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	7	3	10	1	6	5	6	3
6:15 AM	7	8	9	2	9	11	2	6
6:30 AM	1	2	6	5	11	3	9	5
6:45 AM	1	7	5	2	7	6	3	9
7:00 AM	7	4	6	4	6	4	10	9
7:15 AM	1	10	11	9	8	1	12	11
7:30 AM	5	3	4	0	10	6	5	11
7:45 AM	3	4	10	9	8	5	9	6
8:00 AM	4	5	2	6	6	4	4	12
8:15 AM	4	10	4	4	5	5	5	6
8:30 AM	8	8	2	7	5	9	8	8
8:45 AM	7	6	5	1	10	7	6	9
TOTALS	**55**	**70**	**74**	**50**	**91**	**66**	**79**	**95**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	0	0	0	0	0	0
6:15 AM	0	0	2	0	0	0	0	2
6:30 AM	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	1	0
7:00 AM	0	1	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	1	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
TOTALS	**0**	**2**	**2**	**0**	**0**	**0**	**1**	**3**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	9	15	5	8	16	11	8	2
3:15 PM	6	20	5	2	20	9	14	6
3:30 PM	6	25	6	4	25	2	16	13
3:45 PM	7	23	7	7	16	14	20	4
4:00 PM	2	14	8	5	11	11	10	12
4:15 PM	11	24	9	5	14	10	4	13
4:30 PM	12	19	5	5	20	10	7	10
4:45 PM	9	23	3	8	6	10	16	7
5:00 PM	3	16	3	8	4	11	20	4
5:15 PM	3	10	2	4	9	10	19	5
5:30 PM	6	23	4	8	11	5	24	7
5:45 PM	18	10	5	5	9	7	4	7
TOTALS	**92**	**222**	**62**	**69**	**161**	**110**	**162**	**90**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	2	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-010

Day: Thursday

BIKES

City: Los Angeles

Date: 11/19/2015

AM

NS/EW Streets:	Alameda St			Alameda St			Cesar E. Chavez Ave			Cesar E. Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	1	2	0	1	2	1	1	3	0	
6:00 AM	0	4	0	0	1	0	0	0	0	0	1	0	6
6:15 AM	0	1	0	0	3	0	0	1	0	0	2	0	7
6:30 AM	0	1	0	0	2	0	0	0	0	0	0	0	3
6:45 AM	0	2	0	0	4	0	0	1	0	0	2	0	9
7:00 AM	0	1	0	0	0	0	0	1	0	0	1	0	3
7:15 AM	0	1	0	0	0	0	0	2	0	0	1	0	4
7:30 AM	0	3	0	0	0	0	0	0	0	0	0	0	3
7:45 AM	1	5	0	0	1	2	0	3	0	0	0	0	12
8:00 AM	0	0	0	0	1	1	0	0	0	0	0	0	2
8:15 AM	0	3	0	0	0	0	0	2	0	1	1	0	7
8:30 AM	1	4	0	0	0	0	0	3	0	0	0	0	8
8:45 AM	0	3	0	1	0	0	0	1	0	0	1	0	6
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	2	28	0	1	12	3	0	14	0	1	9	0	70
APPROACH %'s :	6.67%	93.33%	0.00%	6.25%	75.00%	18.75%	0.00%	100.00%	0.00%	10.00%	90.00%	0.00%	

PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	2	12	0	0	2	3	0	8	0	1	1	0	29
PEAK HR FACTOR :		0.583			0.417			0.667			0.250		0.604

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-010 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/19/2015

PM

NS/EW Streets:	Alameda St			Alameda St			Cesar E. Chavez Ave			Cesar E. Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	1	2	0	1	2	1	1	3	0	
3:00 PM	2	2	0	0	1	0	0	2	0	0	3	0	10
3:15 PM	0	1	0	0	0	0	0	2	0	0	2	0	5
3:30 PM	0	2	0	0	1	0	0	1	0	0	0	0	4
3:45 PM	1	0	0	0	0	0	0	0	0	0	2	0	3
4:00 PM	0	1	1	0	3	0	0	3	0	0	1	1	10
4:15 PM	1	2	0	0	1	0	1	2	1	0	1	0	9
4:30 PM	0	2	0	0	2	0	0	0	0	0	2	0	6
4:45 PM	0	2	0	0	1	0	0	1	0	0	0	0	4
5:00 PM	0	2	0	0	2	0	0	3	0	0	4	0	11
5:15 PM	0	4	0	0	1	0	0	3	0	0	4	0	12
5:30 PM	0	2	0	0	2	0	0	0	0	0	4	0	8
5:45 PM	0	4	0	0	2	0	0	1	0	0	2	0	9
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	4	24	1	0	16	0	1	18	1	0	25	1	91
APPROACH %'s :	13.79%	82.76%	3.45%	0.00%	100.00%	0.00%	5.00%	90.00%	5.00%	0.00%	96.15%	3.85%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	0	10	0	0	6	0	0	7	0	0	12	0	35
PEAK HR FACTOR :		0.625			0.750			0.583			0.750		0.729

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 15-5779-012
N/S Street: Vignes St
E/W Street: Cesar E. Chavez Ave
DATE: 11/19/2015 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	6	2	4	2	5	0	17	28
6:15 AM	3	1	3	3	4	2	8	46
6:30 AM	2	1	9	4	3	0	8	43
6:45 AM	0	1	2	0	0	1	13	50
7:00 AM	3	1	4	3	3	0	8	43
7:15 AM	3	1	2	2	2	1	12	63
7:30 AM	6	3	2	9	4	4	25	43
7:45 AM	8	3	4	2	2	1	7	49
8:00 AM	0	1	1	4	0	0	11	81
8:15 AM	5	0	0	4	1	0	11	53
8:30 AM	1	3	2	2	0	1	6	45
8:45 AM	2	0	4	2	1	4	6	59
TOTALS	**39**	**17**	**37**	**37**	**25**	**14**	**132**	**603**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	1
6:30 AM	0	0	0	0	0	0	0	3
6:45 AM	0	0	0	0	0	0	0	1
7:00 AM	0	1	0	1	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
TOTALS	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**5**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	1	1	3	10	3	8	2	30
3:15 PM	1	4	1	3	0	4	7	66
3:30 PM	2	4	6	9	1	4	9	67
3:45 PM	0	6	1	6	0	4	7	61
4:00 PM	1	12	7	7	2	6	7	65
4:15 PM	2	4	8	3	2	2	14	72
4:30 PM	0	4	4	5	0	2	9	57
4:45 PM	2	2	2	10	1	3	8	80
5:00 PM	0	2	6	1	6	2	4	56
5:15 PM	0	0	2	2	1	3	2	32
5:30 PM	0	1	3	4	2	1	7	56
5:45 PM	0	3	2	8	0	2	3	21
TOTALS	**9**	**43**	**45**	**68**	**18**	**41**	**79**	**663**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	1
3:30 PM	0	0	1	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	1	0	0	0	0	0
4:30 PM	0	0	1	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**1**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-012

Day: Thursday

BIKES

City: Los Angeles

Date: 11/19/2015

AM

NS/EW Streets:	Vignes St			Vignes St			Cesar E. Chavez Ave			Cesar E. Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	0	1	2	1	1	2	1	
6:00 AM	0	1	0	0	2	0	0	0	0	0	0	0	3
6:15 AM	0	2	0	0	2	0	0	0	1	0	0	0	5
6:30 AM	0	0	0	0	0	0	0	3	1	0	0	0	4
6:45 AM	0	0	0	0	2	0	0	1	0	0	1	0	4
7:00 AM	0	1	0	0	1	0	0	1	0	0	0	0	3
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	2	0	0	0	0	0	3	0	5
7:45 AM	1	1	0	0	1	0	0	1	0	0	1	0	5
8:00 AM	1	0	0	0	1	0	0	1	0	0	2	0	5
8:15 AM	0	0	0	0	2	0	0	0	0	0	6	0	8
8:30 AM	0	1	0	0	1	0	0	1	0	0	3	0	6
8:45 AM	0	0	0	0	2	0	0	1	0	0	0	0	3
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	2	6	0	0	16	0	0	9	2	0	16	0	51
APPROACH %'s :	25.00%	75.00%	0.00%	0.00%	100.00%	0.00%	0.00%	81.82%	18.18%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	2	1	0	0	6	0	0	2	0	0	12	0	23
PEAK HR FACTOR :		0.375			0.750			0.500			0.500		0.719

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-012 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/19/2015

PM

NS/EW Streets:	Vignes St			Vignes St			Cesar E. Chavez Ave			Cesar E. Chavez Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	0	1	2	1	1	2	1	
3:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
3:15 PM	0	0	0	0	1	0	0	0	0	0	3	0	4
3:30 PM	0	1	0	0	0	0	0	2	0	0	0	0	3
3:45 PM	0	2	1	0	0	0	0	0	0	0	0	0	3
4:00 PM	0	2	0	0	1	0	0	1	0	0	2	0	6
4:15 PM	1	0	1	0	0	0	0	1	0	0	2	0	5
4:30 PM	0	2	0	0	1	0	0	1	0	0	0	0	4
4:45 PM	1	0	0	0	3	0	0	0	0	0	0	0	4
5:00 PM	0	0	0	0	0	0	0	1	0	0	4	0	5
5:15 PM	2	1	0	0	1	0	0	5	0	0	3	0	12
5:30 PM	0	2	0	0	2	0	0	3	0	0	0	0	7
5:45 PM	0	0	0	0	2	0	0	0	0	0	0	0	2
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	4	10	2	0	11	0	0	15	0	0	14	0	56
APPROACH %'s :	25.00%	62.50%	12.50%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	2	3	0	0	5	0	0	9	0	0	7	0	26
PEAK HR FACTOR :		0.417			0.625			0.450			0.438		0.542

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 15-5779-015
N/S Street: Alameda St (North)
E/W Street: Los Angeles St
DATE: 11/19/2015 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	1	35	0	0	4	1	3	2
6:15 AM	5	20	0	0	3	3	1	3
6:30 AM	3	62	0	0	1	2	0	3
6:45 AM	2	37	0	0	1	2	2	1
7:00 AM	5	83	0	0	3	3	1	1
7:15 AM	7	18	0	0	2	5	2	3
7:30 AM	5	75	0	0	4	1	2	0
7:45 AM	5	70	0	0	2	6	1	0
8:00 AM	15	53	0	0	1	1	2	3
8:15 AM	6	49	0	0	7	1	2	0
8:30 AM	7	39	0	0	4	1	2	2
8:45 AM	3	25	0	0	9	2	2	1
TOTALS	**64**	**566**	**0**	**0**	**41**	**28**	**20**	**19**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	1	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
TOTALS	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	36	38	0	0	1	3	3	4
3:15 PM	28	20	0	0	3	2	4	4
3:30 PM	36	26	0	0	6	2	0	2
3:45 PM	36	25	0	0	7	4	1	5
4:00 PM	57	17	0	0	4	4	4	7
4:15 PM	37	17	0	0	4	1	6	1
4:30 PM	69	26	0	0	6	6	1	5
4:45 PM	46	15	0	0	3	2	2	0
5:00 PM	74	19	0	0	0	5	7	3
5:15 PM	88	23	0	0	4	3	3	4
5:30 PM	46	27	0	0	1	2	4	2
5:45 PM	35	24	0	0	2	3	3	2
TOTALS	**588**	**277**	**0**	**0**	**41**	**37**	**38**	**39**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	1	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	1	0	0	0	0	0	0	0
3:45 PM	0	2	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	1	0	0	0	0	0	0	0
5:15 PM	2	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**5**	**2**	**0**	**0**	**0**	**0**	**0**	**0**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-015 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/19/2015

AM

NS/EW Streets:	Alameda St (North)			Alameda St (North)			Los Angeles St			Los Angeles St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	0	4	0	0	0	0	1	1	1	
6:00 AM	0	0	0	0	4	0	0	0	0	0	0	0	4
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	1
6:30 AM	0	0	0	0	2	0	0	0	1	0	4	0	7
6:45 AM	0	3	0	0	0	0	0	0	0	0	0	0	3
7:00 AM	0	0	0	0	2	0	0	0	0	1	1	0	4
7:15 AM	0	2	0	0	0	1	0	0	0	0	0	0	3
7:30 AM	0	1	0	0	2	1	0	0	0	0	1	0	5
7:45 AM	0	0	0	0	4	0	0	0	0	0	0	0	4
8:00 AM	0	0	0	0	1	2	0	0	0	0	1	0	4
8:15 AM	0	1	0	0	0	0	1	0	0	1	4	0	7
8:30 AM	0	1	0	0	1	1	0	0	0	0	1	1	5
8:45 AM	0	1	0	0	0	1	0	0	0	1	0	0	3
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	9	0	0	16	6	1	0	1	3	12	2	50
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	72.73%	27.27%	50.00%	0.00%	50.00%	17.65%	70.59%	11.76%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	2	0	0	6	3	1	0	0	1	6	1	20
PEAK HR FACTOR :		0.500			0.563			0.250			0.400		0.714

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-015 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/19/2015

PM

NS/EW Streets:	Alameda St (North)			Alameda St (North)			Los Angeles St			Los Angeles St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	0	4	0	0	0	0	1	1	1	
3:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
3:30 PM	0	0	0	1	3	0	0	0	0	1	0	0	5
3:45 PM	0	2	0	0	0	0	0	0	0	0	0	2	4
4:00 PM	0	1	0	0	0	1	0	1	0	0	0	0	3
4:15 PM	0	2	0	1	2	0	0	0	0	0	0	0	5
4:30 PM	0	4	0	1	4	0	0	1	0	0	0	1	11
4:45 PM	0	3	0	0	4	0	0	0	0	0	1	0	8
5:00 PM	0	3	0	0	0	0	0	0	0	0	1	1	5
5:15 PM	0	2	0	0	0	0	0	1	0	0	0	0	3
5:30 PM	0	1	0	0	3	0	1	0	0	0	0	0	5
5:45 PM	0	2	0	0	0	0	0	0	0	0	2	0	4
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	21	0	3	16	1	1	3	0	1	4	4	54
APPROACH %'s :	0.00%	100.00%	0.00%	15.00%	80.00%	5.00%	25.00%	75.00%	0.00%	11.11%	44.44%	44.44%	
PEAK HR START TIME :	330 PM												TOTAL
PEAK HR VOL :	0	5	0	2	5	1	0	1	0	1	0	2	17
PEAK HR FACTOR :		0.625			0.500			0.250			0.375		0.850

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 15-5779-016
N/S Street: Alameda St
E/W Street: US-101 NB Ramp
DATE: 11/19/2015 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	0	0	3	1	2	2
6:15 AM	0	0	0	0	1	0	0	1
6:30 AM	0	0	0	0	1	0	3	3
6:45 AM	0	0	1	0	1	1	7	5
7:00 AM	0	0	0	0	2	0	9	5
7:15 AM	0	0	0	0	2	3	7	3
7:30 AM	0	0	0	0	1	0	4	1
7:45 AM	0	0	0	0	3	1	14	5
8:00 AM	0	0	0	0	0	1	5	5
8:15 AM	0	0	0	0	6	0	4	2
8:30 AM	0	0	0	0	1	0	10	8
8:45 AM	0	0	0	0	5	0	13	5
TOTALS	**0**	**0**	**1**	**0**	**26**	**7**	**78**	**45**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	1	1
6:30 AM	0	0	0	0	1	0	0	0
6:45 AM	0	0	0	0	1	0	1	0
7:00 AM	0	0	0	0	1	0	1	0
7:15 AM	0	0	0	0	1	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	2	1	1
8:45 AM	0	0	0	0	0	1	0	0
TOTALS	**0**	**0**	**0**	**0**	**4**	**3**	**4**	**2**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	3	3	11	5
3:15 PM	1	0	0	0	8	4	6	7
3:30 PM	0	0	0	0	2	4	3	1
3:45 PM	0	0	0	0	5	3	8	8
4:00 PM	0	0	0	0	2	1	8	7
4:15 PM	0	0	0	0	4	0	6	7
4:30 PM	0	0	0	0	3	6	5	3
4:45 PM	0	0	0	0	2	0	7	2
5:00 PM	0	0	0	0	2	3	2	2
5:15 PM	0	0	0	0	1	4	7	7
5:30 PM	0	0	0	0	2	6	18	8
5:45 PM	0	0	0	0	0	0	7	9
TOTALS	**1**	**0**	**0**	**0**	**34**	**34**	**88**	**66**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	1	0	0
3:15 PM	0	0	0	0	0	3	0	0
3:30 PM	0	0	0	0	0	2	0	0
3:45 PM	0	0	0	0	0	1	0	0
4:00 PM	0	0	0	0	1	0	0	1
4:15 PM	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	1	0
4:45 PM	0	0	0	0	0	1	0	0
5:00 PM	0	0	0	0	0	1	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	3	3	0
TOTALS	**0**	**0**	**0**	**0**	**1**	**12**	**4**	**2**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-016 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/19/2015

AM

NS/EW Streets:	Alameda St			Alameda St			US-101 NB Ramp			US-101 NB Ramp			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	3	0	0	0	0	0	0	0	
6:00 AM	0	0	0	0	3	0	0	0	0	0	0	0	3
6:15 AM	0	0	0	0	2	0	0	0	0	0	0	1	3
6:30 AM	0	2	0	0	1	0	0	0	0	0	0	0	3
6:45 AM	0	2	0	0	0	0	0	0	0	0	0	0	2
7:00 AM	0	0	0	0	2	0	0	0	0	0	0	0	2
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	1	0	0	5	0	0	0	0	0	0	0	6
7:45 AM	0	3	0	0	1	0	0	0	0	0	0	0	4
8:00 AM	0	0	0	0	3	0	0	0	0	0	0	0	3
8:15 AM	0	1	0	0	2	0	0	0	0	0	0	0	3
8:30 AM	0	2	0	0	3	0	0	0	0	0	0	0	5
8:45 AM	0	2	0	0	2	0	0	0	0	0	0	0	4
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	13	0	0	24	0	0	0	0	0	0	1	38
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%				0.00%	0.00%	100.00%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	5	0	0	11	0	0	0	0	0	0	0	16
PEAK HR FACTOR :		0.417			0.550			0.000			0.000		0.667

CONTROL : No Control

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-016 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/19/2015

PM

NS/EW Streets:	Alameda St			Alameda St			US-101 NB Ramp			US-101 NB Ramp			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	3	0	0	0	0	0	0	0	
3:00 PM	0	1	0	0	2	0	0	0	0	0	0	0	3
3:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
3:30 PM	0	2	0	0	2	0	0	0	0	0	0	0	4
3:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
4:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	2	0	0	0	0	0	0	0	2
4:30 PM	0	3	0	0	2	0	0	0	0	0	0	0	5
4:45 PM	0	2	0	0	1	0	0	0	0	0	0	0	3
5:00 PM	0	5	0	0	1	0	0	0	0	0	0	0	6
5:15 PM	0	2	0	0	2	0	0	0	0	0	0	0	4
5:30 PM	0	3	0	0	3	0	0	0	0	0	0	0	6
5:45 PM	0	3	0	0	0	0	0	0	0	0	0	0	3
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	23	0	0	16	0	0	0	0	0	0	0	39
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%							
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	0	4	0	0	5	0	0	0	0	0	0	0	9
PEAK HR FACTOR :		0.500			0.625			0.000			0.000		0.563

CONTROL : No Control

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 15-5779-017
N/S Street: Alameda St
E/W Street: Express Lanes Entrance_Exit
DATE: 11/19/2015 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	0	0	31	39	0	0
6:15 AM	0	0	0	0	26	29	0	2
6:30 AM	0	0	0	0	37	85	0	0
6:45 AM	0	0	0	0	29	55	0	2
7:00 AM	0	0	0	0	55	85	0	0
7:15 AM	0	0	0	0	39	95	0	0
7:30 AM	0	0	0	0	28	92	0	0
7:45 AM	0	0	0	0	36	66	0	0
8:00 AM	0	0	0	0	34	87	0	0
8:15 AM	0	0	0	0	36	69	4	7
8:30 AM	0	0	0	0	28	67	2	1
8:45 AM	0	0	0	0	32	58	0	3
TOTALS	**0**	**0**	**0**	**0**	**411**	**827**	**6**	**15**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	0	0	1	0	0	0
6:15 AM	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	1	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	2	0	0
TOTALS	**0**	**0**	**0**	**0**	**1**	**3**	**0**	**0**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	41	30	0	6
3:15 PM	0	0	0	0	59	18	0	4
3:30 PM	0	0	0	0	87	38	0	0
3:45 PM	0	0	0	0	75	31	0	0
4:00 PM	0	0	0	0	103	29	0	0
4:15 PM	0	0	0	0	149	45	0	0
4:30 PM	0	0	0	0	137	49	1	0
4:45 PM	0	0	0	1	95	30	0	0
5:00 PM	0	0	0	0	58	51	0	0
5:15 PM	0	0	0	0	56	39	0	0
5:30 PM	0	0	0	0	31	67	0	0
5:45 PM	0	0	0	0	45	38	0	0
TOTALS	**0**	**0**	**0**	**1**	**936**	**465**	**1**	**10**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-017 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/19/2015

AM

NS/EW Streets:	Alameda St			Alameda St			Express Lanes Entrance_Exit			Express Lanes Entrance_Exit			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1.5	1.5	1	3	0	0	0	0	0	0	0	
6:00 AM	0	1	0	0	4	0	0	0	0	0	0	0	5
6:15 AM	0	0	0	0	2	0	0	0	0	0	0	0	2
6:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	2
6:45 AM	0	2	0	0	1	0	0	0	0	0	0	0	3
7:00 AM	0	0	0	0	2	0	0	0	0	0	0	0	2
7:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
7:30 AM	0	1	0	0	3	0	0	0	0	0	0	0	4
7:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	2
8:00 AM	0	2	0	0	1	0	0	0	0	0	0	0	3
8:15 AM	0	2	0	0	1	0	0	0	0	0	0	0	3
8:30 AM	0	1	0	0	4	0	0	0	0	0	0	0	5
8:45 AM	0	1	0	0	2	0	0	0	0	0	0	0	3
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	12	0	0	23	0	0	0	0	0	0	0	35
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%							
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	6	0	0	6	0	0	0	0	0	0	0	12
PEAK HR FACTOR :		0.750			0.500			0.000			0.000		0.750

CONTROL : Unsignalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-017 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/19/2015

PM

NS/EW Streets:	Alameda St			Alameda St			Express Lanes Entrance_Exit			Express Lanes Entrance_Exit			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1.5	1.5	1	3	0	0	0	0	0	0	0	
3:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	2
3:15 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
3:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
3:45 PM	0	2	0	0	2	0	0	0	0	0	0	0	4
4:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	2
4:15 PM	0	2	0	0	1	0	0	0	0	0	0	0	3
4:30 PM	0	2	0	0	2	0	0	0	0	0	0	0	4
4:45 PM	0	2	0	0	2	0	0	0	0	0	0	0	4
5:00 PM	0	4	0	0	1	0	0	0	0	0	0	0	5
5:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	2	0	0	0	0	0	0	0	2
5:45 PM	0	2	0	0	1	0	0	0	0	0	0	0	3
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	20	0	1	13	0	0	0	0	0	0	0	34
APPROACH %'s :	0.00%	100.00%	0.00%	7.14%	92.86%	0.00%							
PEAK HR START TIME :	330 PM												TOTAL
PEAK HR VOL :	0	6	0	0	4	0	0	0	0	0	0	0	10
PEAK HR FACTOR :		0.750			0.500			0.000			0.000		0.625

CONTROL : Unsignalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 15-5779-018
N/S Street: Alameda St
E/W Street: Arcadia St_US-101 NB Off Ramp
DATE: 11/19/2015 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	1	18	0	0	1	26	1	6
6:15 AM	2	9	0	0	0	14	1	8
6:30 AM	4	22	0	0	6	48	3	18
6:45 AM	1	12	0	0	1	39	0	12
7:00 AM	1	14	0	0	5	35	0	13
7:15 AM	1	13	0	0	2	41	1	12
7:30 AM	7	14	0	0	3	40	1	7
7:45 AM	2	12	0	0	1	33	2	11
8:00 AM	3	18	0	0	2	52	2	17
8:15 AM	4	16	0	0	3	46	5	17
8:30 AM	1	5	0	0	3	23	7	5
8:45 AM	2	9	0	0	0	32	1	6
TOTALS	**29**	**162**	**0**	**0**	**27**	**429**	**24**	**132**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	1	1	0	0
7:00 AM	0	1	0	0	1	2	0	0
7:15 AM	0	0	0	0	0	2	0	0
7:30 AM	0	0	0	0	0	1	0	0
7:45 AM	0	0	0	0	1	2	0	0
8:00 AM	0	0	0	0	0	1	0	0
8:15 AM	0	1	0	0	1	2	0	0
8:30 AM	0	0	0	0	0	1	0	0
8:45 AM	0	0	0	0	0	0	0	0
TOTALS	**0**	**2**	**0**	**0**	**4**	**12**	**0**	**0**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	16	3	0	0	13	5	14	5
3:15 PM	16	1	0	0	18	2	16	6
3:30 PM	28	0	0	0	16	9	33	1
3:45 PM	25	1	0	0	18	6	25	0
4:00 PM	44	3	0	0	37	3	44	2
4:15 PM	27	3	0	0	26	4	39	4
4:30 PM	58	1	0	0	23	3	70	1
4:45 PM	40	8	0	0	14	9	39	2
5:00 PM	14	1	0	0	26	10	19	0
5:15 PM	2	0	0	0	15	2	5	0
5:30 PM	8	1	0	0	9	10	14	0
5:45 PM	6	0	0	0	17	6	6	0
TOTALS	**284**	**22**	**0**	**0**	**232**	**69**	**324**	**21**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	1	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-018

Day: Thursday

BIKES

City: Los Angeles

Date: 11/19/2015

AM

NS/EW Streets:	Alameda St			Alameda St			Arcadia St_US-101 NB Off Ramp			Arcadia St_US-101 NB Off Ramp			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	0	3	0	0	0	0	1.5	1	1.5	
6:00 AM	0	0	0	0	3	0	0	0	0	0	1	0	4
6:15 AM	0	0	0	0	2	0	0	0	0	0	0	0	2
6:30 AM	0	2	0	1	1	0	0	0	0	0	0	0	4
6:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	2
7:00 AM	0	0	0	0	2	0	0	0	0	0	0	0	2
7:15 AM	0	1	0	0	2	0	0	0	0	0	2	0	5
7:30 AM	1	1	0	0	6	0	0	0	0	0	2	0	10
7:45 AM	0	2	0	0	2	0	0	0	0	0	0	0	4
8:00 AM	0	0	0	0	4	0	0	0	0	0	2	0	6
8:15 AM	0	0	0	0	2	0	0	0	0	0	0	0	2
8:30 AM	0	2	0	0	5	1	0	0	0	0	0	0	8
8:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	2
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1	10	0	1	31	1	0	0	0	0	7	0	51
APPROACH %'s :	9.09%	90.91%	0.00%	3.03%	93.94%	3.03%				0.00%	100.00%	0.00%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	1	3	0	0	14	0	0	0	0	0	4	0	22
PEAK HR FACTOR :		0.500			0.583			0.000			0.500		0.550

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-018 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/19/2015

PM

NS/EW Streets:	Alameda St			Alameda St			Arcadia St_US-101 NB Off Ramp			Arcadia St_US-101 NB Off Ramp			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	0	3	0	0	0	0	1.5	1	1.5	
3:00 PM	0	2	0	0	1	0	0	0	0	0	0	0	3
3:15 PM	0	4	0	0	1	0	0	0	0	0	0	0	5
3:30 PM	0	2	0	0	1	0	0	0	0	0	0	0	3
3:45 PM	0	1	0	0	2	0	0	0	0	0	0	0	3
4:00 PM	0	2	0	0	1	0	0	0	0	0	0	0	3
4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	1	0	0	3	0	0	0	0	0	0	0	4
4:45 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	3	0	0	0	0	0	0	0	0	0	0	3
5:15 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	3	0	0	3	0	0	0	0	0	0	0	6
5:45 PM	0	5	0	0	2	0	0	0	0	0	0	0	7
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	28	0	0	14	0	0	0	0	0	0	0	42
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%							
PEAK HR START TIME :	330 PM												TOTAL
PEAK HR VOL :	0	6	0	0	4	0	0	0	0	0	0	0	10
PEAK HR FACTOR :		0.750			0.500			0.000			0.000		0.833

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 15-5779-019
N/S Street: Alameda St
E/W Street: Aliso St_Commercial St
DATE: 11/19/2015 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	16	41	0	21	0	4
6:15 AM	0	0	1	33	0	17	1	9
6:30 AM	0	0	2	48	5	27	1	17
6:45 AM	0	0	0	70	1	45	0	8
7:00 AM	0	0	3	67	5	34	0	13
7:15 AM	0	0	0	62	0	38	2	12
7:30 AM	0	0	2	47	2	39	1	6
7:45 AM	0	0	2	60	2	23	1	7
8:00 AM	0	0	7	74	1	46	2	11
8:15 AM	0	0	5	49	4	40	3	12
8:30 AM	0	0	7	41	3	24	0	2
8:45 AM	0	0	4	43	0	27	1	6
TOTALS	**0**	**0**	**49**	**635**	**23**	**381**	**12**	**107**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	1	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	1	0	1	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**2**	**0**	**1**	**0**	**0**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	36	5	12	6	16	3
3:15 PM	0	0	36	5	6	2	18	6
3:30 PM	0	0	38	6	18	8	33	1
3:45 PM	0	0	22	10	11	5	28	2
4:00 PM	0	1	57	1	33	0	44	4
4:15 PM	0	0	27	10	23	8	28	3
4:30 PM	0	0	69	5	21	4	73	2
4:45 PM	0	0	37	0	15	5	30	4
5:00 PM	0	0	37	10	18	7	20	1
5:15 PM	0	0	17	4	8	4	11	1
5:30 PM	0	0	15	6	8	12	12	0
5:45 PM	0	0	18	5	9	5	6	0
TOTALS	**0**	**1**	**409**	**67**	**182**	**66**	**319**	**27**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	2
4:30 PM	0	0	0	0	0	1	0	0
4:45 PM	0	0	0	0	1	0	1	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**1**	**1**	**1**	**2**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-019

Day: Thursday

BIKES

City: Los Angeles

Date: 11/19/2015

AM

NS/EW Streets:	Alameda St			Alameda St			Aliso St_Commercial St			Aliso St_Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	1	1	3	0	2	1	1	1	0	1	
6:00 AM	0	0	0	0	3	0	0	0	0	0	0	0	3
6:15 AM	0	0	0	0	3	0	0	0	0	0	0	0	3
6:30 AM	0	2	1	1	0	0	0	1	0	0	0	0	5
6:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
7:00 AM	0	0	1	0	2	0	0	0	0	0	0	0	3
7:15 AM	0	0	0	0	3	0	0	0	0	0	0	0	3
7:30 AM	0	0	0	0	8	0	0	0	0	0	1	0	9
7:45 AM	0	3	0	0	1	0	0	0	0	0	0	0	4
8:00 AM	0	0	0	0	4	0	0	0	0	0	0	0	4
8:15 AM	0	3	0	0	1	0	0	0	0	0	0	0	4
8:30 AM	0	1	0	1	3	0	0	0	0	0	0	0	5
8:45 AM	0	1	0	0	2	0	0	0	0	0	0	0	3
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	11	2	2	30	0	0	1	0	0	1	0	47
APPROACH %'s :	0.00%	84.62%	15.38%	6.25%	93.75%	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	7	0	1	9	0	0	0	0	0	0	0	17
PEAK HR FACTOR :		0.583			0.625			0.000			0.000		0.850

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-019 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/19/2015

PM

NS/EW Streets:	Alameda St			Alameda St			Aliso St_Commercial St			Aliso St_Commercial St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	1	1	3	0	2	1	1	1	0	1	
3:00 PM	0	2	0	0	1	0	0	0	0	0	0	0	3
3:15 PM	0	5	0	0	1	0	0	0	0	0	0	0	6
3:30 PM	0	3	0	0	1	0	1	0	0	0	0	0	5
3:45 PM	0	0	0	0	3	0	0	0	0	0	0	0	3
4:00 PM	0	2	0	0	1	0	0	0	0	0	0	0	3
4:15 PM	0	2	0	0	0	0	0	0	0	0	0	1	3
4:30 PM	0	2	0	0	1	0	0	0	0	0	0	0	3
4:45 PM	0	4	0	0	2	0	0	1	0	0	0	0	7
5:00 PM	0	6	0	0	1	0	0	0	0	0	0	0	7
5:15 PM	0	3	0	0	2	0	0	0	0	0	0	0	5
5:30 PM	0	4	0	0	2	0	1	0	0	0	0	0	7
5:45 PM	0	6	0	0	1	0	0	0	0	0	0	0	7
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	39	0	0	16	0	2	1	0	0	0	1	59
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	66.67%	33.33%	0.00%	0.00%	0.00%	100.00%	
PEAK HR START TIME :	330 PM												TOTAL
PEAK HR VOL :	0	7	0	0	5	0	1	0	0	0	0	1	14
PEAK HR FACTOR :		0.583			0.417			0.250			0.250		0.700

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 15-5779-021
N/S Street: Vignes St_US-101 NB Ramps
E/W Street: Ramirez St
DATE: 11/19/2015 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	14	1	3	0	1	0	0	0
6:15 AM	18	1	0	0	0	1	0	0
6:30 AM	11	0	0	0	0	3	0	0
6:45 AM	11	1	0	0	0	1	0	0
7:00 AM	4	0	0	0	0	0	0	0
7:15 AM	8	3	0	0	0	1	0	0
7:30 AM	7	3	0	0	2	1	1	0
7:45 AM	5	1	0	0	1	1	0	0
8:00 AM	7	1	0	0	0	3	0	0
8:15 AM	12	1	0	0	1	4	2	0
8:30 AM	4	4	0	0	0	0	0	1
8:45 AM	0	0	3	1	0	2	2	0
TOTALS	**101**	**16**	**6**	**1**	**5**	**17**	**5**	**1**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	1	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
TOTALS	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	1	11	0	0	1	0	1	0
3:15 PM	5	29	1	0	4	3	0	0
3:30 PM	5	13	0	0	1	0	0	0
3:45 PM	7	15	0	0	2	4	1	0
4:00 PM	4	17	0	0	2	2	0	0
4:15 PM	5	14	0	0	1	1	0	0
4:30 PM	0	16	0	0	5	0	1	0
4:45 PM	3	9	0	0	0	0	1	0
5:00 PM	1	3	0	0	1	0	0	0
5:15 PM	6	15	0	0	5	3	2	0
5:30 PM	2	8	0	0	2	0	0	0
5:45 PM	4	5	0	0	0	3	2	1
TOTALS	**43**	**155**	**1**	**0**	**24**	**16**	**8**	**1**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-021 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/19/2015

AM

NS/EW Streets:	Vignes St_US-101 NB Ramps			Vignes St_US-101 NB Ramps			Ramirez St			Ramirez St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	3	2	1	2	2	0	1.5	1	0.5	0	2	1	
6:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	1
6:15 AM	0	0	0	1	0	1	0	0	0	0	0	0	2
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 AM	0	0	0	1	0	0	0	1	0	0	0	0	2
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:15 AM	0	0	0	1	0	0	0	1	0	0	0	0	2
7:30 AM	0	0	0	0	0	0	1	1	0	0	0	0	2
7:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	1	0	0	0	1	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	2	0	0	0	0	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	5	0	1	2	7	0	0	1	0	16
APPROACH %'s :				83.33%	0.00%	16.67%	22.22%	77.78%	0.00%	0.00%	100.00%	0.00%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	0	0	2	0	0	1	3	0	0	0	0	6
PEAK HR FACTOR :		0.000			0.500			0.500			0.000		0.750

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-021 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/19/2015

PM

NS/EW Streets:	Vignes St_US-101 NB Ramps			Vignes St_US-101 NB Ramps			Ramirez St			Ramirez St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	3	2	1	2	2	0	1.5	1	0.5	0	2	1	
3:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	1
3:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
3:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
3:45 PM	0	1	0	0	0	0	0	0	0	0	1	0	2
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	2	3
4:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:30 PM	0	0	0	1	0	1	0	0	0	0	1	2	5
4:45 PM	0	0	0	1	0	0	1	0	0	0	1	0	3
5:00 PM	0	0	0	0	0	1	0	0	0	0	1	0	2
5:15 PM	0	0	0	1	0	1	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	2	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	1
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	1	0	3	0	4	1	1	0	0	7	7	24
APPROACH %'s :	0.00%	100.00%	0.00%	42.86%	0.00%	57.14%	50.00%	50.00%	0.00%	0.00%	50.00%	50.00%	
PEAK HR START TIME :	415 PM												TOTAL
PEAK HR VOL :	0	0	0	2	0	2	1	1	0	0	3	2	11
PEAK HR FACTOR :		0.000			0.500			0.500			0.417		0.550

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: 15-5779-115
N/S Street: Alameda St (South)
E/W Street: Los Angeles St
DATE: 11/19/2015 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	1	4	4	2	1	3	1
6:15 AM	0	0	3	1	3	3	1	3
6:30 AM	0	0	3	11	2	2	0	3
6:45 AM	0	0	3	9	1	3	2	1
7:00 AM	0	1	3	20	4	1	1	2
7:15 AM	0	0	0	3	3	6	2	1
7:30 AM	0	0	4	23	4	1	1	1
7:45 AM	0	0	3	11	2	5	2	2
8:00 AM	0	0	4	13	2	0	1	3
8:15 AM	0	0	7	13	7	2	5	0
8:30 AM	0	0	6	8	4	3	1	0
8:45 AM	0	0	6	15	10	2	3	3
TOTALS	**0**	**2**	**46**	**131**	**44**	**29**	**22**	**20**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	1	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	1
TOTALS	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	10	3	0	3	2	4
3:15 PM	0	0	13	13	3	2	3	5
3:30 PM	0	0	26	12	2	4	5	1
3:45 PM	0	0	14	6	4	5	0	5
4:00 PM	0	0	19	10	3	3	3	1
4:15 PM	0	0	13	4	8	2	5	4
4:30 PM	0	0	26	3	4	6	2	4
4:45 PM	0	0	15	2	1	3	3	1
5:00 PM	0	0	4	6	5	2	3	5
5:15 PM	0	0	12	6	1	5	1	1
5:30 PM	0	0	20	2	7	10	3	1
5:45 PM	0	0	3	0	5	5	2	1
TOTALS	**0**	**0**	**175**	**67**	**43**	**50**	**32**	**33**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	1	1	0	0	0
3:45 PM	0	0	0	0	0	0	0	0
4:00 PM	0	0	1	0	0	1	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	1	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	1	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	2	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**4**	**1**	**1**	**1**	**1**	**0**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-115

Day: Thursday

BIKES

City: Los Angeles

Date: 11/19/2015

AM

NS/EW Streets:	Alameda St (South)			Alameda St (South)			Los Angeles St			Los Angeles St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	1	3	0	1.5	1	0.5	0	0	0	
6:00 AM	0	0	0	2	2	0	0	0	0	1	0	0	5
6:15 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
6:30 AM	0	0	0	0	3	0	0	0	0	0	0	0	3
6:45 AM	0	3	0	0	0	0	0	0	0	0	0	0	3
7:00 AM	0	0	0	0	3	0	0	0	0	0	0	0	3
7:15 AM	0	2	0	0	0	0	0	0	0	0	0	0	2
7:30 AM	0	1	0	0	0	0	0	2	0	2	0	0	5
7:45 AM	0	0	0	1	3	0	0	0	0	1	0	0	5
8:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	1
8:15 AM	0	1	0	0	1	0	1	0	0	1	2	0	6
8:30 AM	0	1	0	0	2	0	0	0	0	0	1	0	4
8:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	8	0	4	15	0	1	3	0	5	4	0	40
APPROACH %'s :	0.00%	100.00%	0.00%	21.05%	78.95%	0.00%	25.00%	75.00%	0.00%	55.56%	44.44%	0.00%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	2	0	2	6	0	1	0	0	2	3	0	16
PEAK HR FACTOR :		0.500			0.500			0.250			0.417		0.667

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 15-5779-115 **Day:** Thursday

BIKES

City: Los Angeles **Date:** 11/19/2015

PM

NS/EW Streets:	Alameda St (South)			Alameda St (South)			Los Angeles St			Los Angeles St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	1	3	0	1.5	1	0.5	0	0	0	
3:00 PM	0	1	1	0	0	0	0	1	0	0	0	0	3
3:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
3:30 PM	0	1	0	0	0	0	0	1	0	2	0	0	4
3:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
4:00 PM	0	1	0	1	0	0	0	1	0	0	0	0	3
4:15 PM	0	0	0	0	1	0	0	3	1	0	0	0	5
4:30 PM	0	1	1	0	2	0	0	2	0	0	1	0	7
4:45 PM	0	1	1	0	1	0	1	2	0	0	0	0	6
5:00 PM	0	1	4	0	1	0	0	4	0	0	0	1	11
5:15 PM	0	1	0	1	0	0	0	7	0	0	0	0	9
5:30 PM	0	0	0	0	1	0	1	2	0	0	0	0	4
5:45 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	9	7	2	6	0	2	24	1	2	2	1	56
APPROACH %'s :	0.00%	56.25%	43.75%	25.00%	75.00%	0.00%	7.41%	88.89%	3.70%	40.00%	40.00%	20.00%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	0	2	1	0	0	0	0	3	0	2	1	0	9
PEAK HR FACTOR :		0.375			0.000			0.750			0.375		0.563

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: Historical
N/S Street: Vignes St
E/W Street: Bauchet St
DATE: 11/19/2015 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	7	0	10	1	0	0	3	2
6:15 AM	2	1	5	0	1	0	0	0
6:30 AM	2	0	5	1	1	0	1	1
6:45 AM	6	0	4	5	0	2	3	1
7:00 AM	1	0	2	0	0	0	0	1
7:15 AM	1	0	3	2	0	0	2	3
7:30 AM	2	1	5	3	1	0	0	1
7:45 AM	2	0	0	2	0	0	2	2
8:00 AM	3	0	4	0	0	0	1	1
8:15 AM	4	2	6	1	2	3	0	2
8:30 AM	0	0	6	5	1	0	0	1
8:45 AM	0	0	3	1	0	2	2	0
TOTALS	**30**	**4**	**53**	**21**	**6**	**7**	**14**	**15**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
6:00 AM	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	1
6:30 AM	1	0	0	0	0	0	0	0
6:45 AM	1	0	0	0	0	0	0	0
7:00 AM	1	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	1	0	0	0	0	0	0	0
8:30 AM	0	0	0	1	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
TOTALS	**4**	**0**	**0**	**1**	**0**	**0**	**0**	**1**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	1	4	9	9	3	0	2	2
3:15 PM	0	5	2	11	0	0	0	0
3:30 PM	0	5	4	11	1	0	1	1
3:45 PM	0	4	11	14	2	1	0	1
4:00 PM	0	5	7	12	0	0	1	0
4:15 PM	0	0	15	13	1	1	0	0
4:30 PM	0	10	7	9	1	0	0	2
4:45 PM	0	2	4	7	0	0	5	0
5:00 PM	0	2	9	7	0	0	0	0
5:15 PM	0	1	3	6	0	0	0	0
5:30 PM	0	1	3	5	0	0	0	0
5:45 PM	0	1	1	5	0	0	0	1
TOTALS	**1**	**40**	**75**	**109**	**8**	**2**	**9**	**7**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0
3:45 PM	0	0	1	1	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: Historical

Day: Thursday

BIKES

City: Los Angeles

Date: 11/19/2015

AM

NS/EW Streets:	Vignes St			Vignes St			Bauchet St			Bauchet St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	0	0	1	0	1	1	0	
6:00 AM	0	1	1	0	0	0	0	0	0	0	0	0	2
6:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	1
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
8:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	1	0	0	1	0	0	0	0	2
8:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	3	1	1	4	0	0	1	0	0	0	1	11
APPROACH %'s :	0.00%	75.00%	25.00%	20.00%	80.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	1	0	0	2	0	0	0	0	0	0	0	3
PEAK HR FACTOR :		0.250			0.500			0.000			0.000		0.750

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: Historical

Day: Thursday

BIKES

City: Los Angeles

Date: 11/19/2015

PM

NS/EW Streets:	Vignes St			Vignes St			Bauchet St			Bauchet St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	0	0	1	0	1	1	0	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	1
3:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	1
3:30 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
3:45 PM	0	3	0	0	0	0	0	0	0	0	0	0	3
4:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	2
4:45 PM	0	0	0	0	2	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	2
5:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	10	0	0	6	0	0	0	0	1	0	1	18
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%				50.00%	0.00%	50.00%	
PEAK HR START TIME :	415 PM												TOTAL
PEAK HR VOL :	0	1	0	0	3	0	0	0	0	0	0	0	4
PEAK HR FACTOR :		0.250			0.375			0.000			0.000		0.500

CONTROL : Signalized

PREPARED BY NATIONAL DATA & SURVEYING SERVICES

PROJECT#: Historical
N/S Street: Center St
E/W Street: Ramirez St
DATE: 6/18/2015 DAY: Thursday
CITY: Los Angeles

A M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	2	3	0	0
7:15 AM	0	0	0	0	2	3	0	0
7:30 AM	0	0	0	0	3	2	0	0
7:45 AM	0	0	0	0	1	2	0	0
8:00 AM	2	1	0	0	2	4	0	0
8:15 AM	1	1	0	0	0	1	0	0
8:30 AM	0	0	0	0	0	3	0	0
8:45 AM	0	0	0	0	1	2	0	0
9:00 AM	0	0	0	0	0	2	0	0
9:15 AM	0	0	0	0	1	3	0	0
9:30 AM	0	0	0	0	0	1	0	0
9:45 AM	0	0	0	0	2	0	0	0
TOTALS	**3**	**2**	**0**	**0**	**14**	**26**	**0**	**0**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

P M

Adult Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	1	0	0	0
3:45 PM	0	1	0	0	1	3	0	0
4:00 PM	0	0	0	0	1	1	0	0
4:15 PM	0	0	0	0	3	1	0	0
4:30 PM	0	0	0	0	5	0	0	0
4:45 PM	0	0	0	0	1	0	0	0
5:00 PM	0	0	0	0	1	3	0	0
5:15 PM	0	0	0	0	4	0	0	0
5:30 PM	0	0	0	0	0	1	0	0
5:45 PM	0	0	0	0	1	1	0	0
TOTALS	**0**	**1**	**0**	**0**	**18**	**10**	**0**	**0**

School-Aged Pedestrians

TIME	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
3:00 PM	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	1	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTALS	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: Historical

Day: Thursday

BIKES

City: Los Angeles

Date: 6/18/2015

AM

NS/EW Streets:	Center St			Center St			Ramirez St			Ramirez St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	1	2	0	0	0	0	1	1	0	
7:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	2
7:15 AM	0	0	0	0	2	0	0	0	0	0	0	0	2
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	2
8:00 AM	0	0	0	0	2	0	0	0	0	0	0	0	2
8:15 AM	0	0	0	0	2	0	0	0	0	0	0	0	2
8:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	4	0	0	0	0	0	0	0	4
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
9:15 AM	0	2	0	0	1	0	0	0	0	1	0	0	4
9:30 AM	0	1	0	0	1	0	0	0	0	1	0	0	3
9:45 AM	0	1	0	0	5	0	0	0	0	0	0	0	6
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	6	0	0	20	0	0	0	0	2	0	0	28
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%				100.00%	0.00%	0.00%	
PEAK HR START TIME :	700 AM												TOTAL
PEAK HR VOL :	0	2	0	0	4	0	0	0	0	0	0	0	6
PEAK HR FACTOR :		0.500			0.500			0.000			0.000		0.750

CONTROL : 1-Way Stop (SB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: Historical

Day: Thursday

BIKES

City: Los Angeles

Date: 6/18/2015

PM

NS/EW Streets:	Center St			Center St			Ramirez St			Ramirez St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	1	2	0	0	0	0	1	1	0	
3:00 PM	0	3	0	0	0	0	0	0	0	0	0	0	3
3:15 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
3:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	1
3:45 PM	0	1	0	0	0	0	0	0	0	1	0	0	2
4:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
4:15 PM	0	3	4	0	1	0	0	0	0	1	0	0	9
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	3	0	0	0	0	0	0	0	0	0	0	3
5:15 PM	0	2	0	0	1	0	0	0	0	0	0	0	3
5:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:45 PM	0	3	0	1	0	0	0	0	0	0	0	0	4
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	21	5	1	3	0	0	0	0	2	0	0	32
APPROACH %'s :	0.00%	80.77%	19.23%	25.00%	75.00%	0.00%				100.00%	0.00%	0.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	8	0	1	2	0	0	0	0	0	0	0	11
PEAK HR FACTOR :		0.667			0.750			0.000			0.000		0.688

CONTROL : 1-Way Stop (SB)

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Appendix G:
Existing Plus Project Level of Service Analysis

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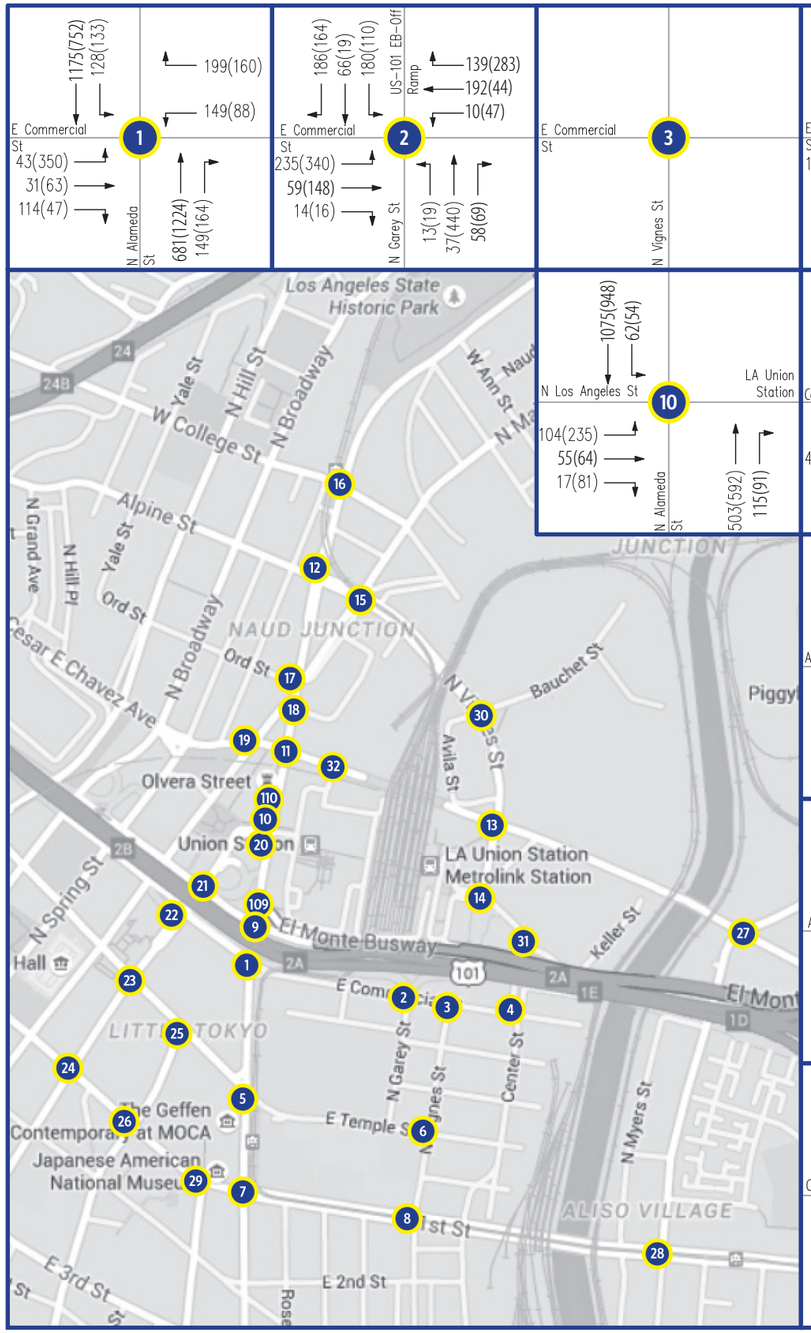

1 E Commercial St & N Alameda St 1175(752) 128(133) → 199(160) 149(88) 43(350) 31(63) 114(47) → 681(1224) 149(164)	**2** E Commercial St & N Garey St 186(164) 66(19) 180(110) → 139(283) 192(44) 10(47) 235(340) 59(148) 14(16) → 13(19) 37(440) 58(69)	**3** E Commercial St & N Vignes St	**4** E Commercial St & Center St 215(228) 455(303) → 126(144) 414(755) 193(244) 104(78) →	**5** Temple St & N Alameda St 428(301) 839(745) 29(73) → 40(91) 344(154) 24(29) 103(244) 161(436) 147(190) → 252(87) 687(982)	**6** Temple St & N Vignes St 60(25) 46(31) 6(12) → 3(27) 101(63) 7(13) 48(63) 24(40) 62(106) → 352(92) 89(160) 11(19)	**7** E 1st St & N Alameda St 163(120) 834(804) 13(40) → 26(14) 511(265) 0(312) 0(469) 0(112) → 2(66) 913(743) 49(142)	**8** E 1st St & N Vignes St 19(29) 32(27) 26(79) → 393(75) 514(302) 178(77) 30(69) 113(570) 10(22) → 4(6) 18(76) 26(224)	**9** Arcadia St & N Alameda St 53(24) 838(624) → 222(174) 1700(550) 465(261) US-101 WB Off-Ramp → 111(19) 812(1715)
10 N Los Angeles St & N Alameda St 1075(948) 62(54) → LA Union Station 104(235) 55(64) 17(81) → 503(592) 115(91)	**11** Cesar Chavez Ave & N Alameda St 152(118) 1139(637) 76(100) → 46(120) 1200(907) 112(110) 47(88) 483(938) 96(187) → 119(95) 400(682) 125(116)	**12** Alpine St & N Alameda St 236(55) 940(391) 140(93) → 142(345) 729(413) 49(56) 54(100) 112(312) 61(68) → 56(171) 257(962) 12(48)	**13** Cesar Chavez Ave & N Vignes St 29(47) 350(302) 145(238) → 334(293) 1216(842) 245(114) 50(46) 430(922) 193(257) → 154(279) 362(677) 58(148)	**14** LA Union Station & N Vignes St 228(126) 145(226) 416(293) → 325(507) 124(125) 103(152) Ramirez St 112(153) 66(69) 70(92) → US-101 WB-Ramp 39(53) 173(437) 98(67)	**109** N Alameda St & El Monte Busway 891(648) 13(150) → 988(889) 46(1000)	**110** N Los Angeles St & N Alameda St 320(108) 1027(826) → 37(66) 59(53) 110(176) LA Union Station → 607(827)	
15 Alpine St & Main St 529(181) 479(267) 219(183) → 177(352) 390(626) 59(222) 194(230) 5(1) → 1(5) 166(639) 41(34)	**16** W College St & N Alameda St 149(98) 1126(335) 11(9) → N Spring St 10(26) 148(190) 28(31) 78(105) 67(92) 162(173) → 184(516) 257(864) 12(27)	**17** Ord St & Main St 222(49) 1307(686) → 62(78) → 55(97) 359(1090) 228(626)	**18** Main St & Bauchet St 1333(761) 36(3) → 11(38) 19(61) Bauchet St 185(901) 36(21) 15(32) → N Alameda St 446(874) 47(15)	**19** Cesar Chavez Ave & Main St → 19(22) 1452(1170) 61(76) 534(979) → 116(402) 156(856) 92(234)	**20** US-101 WB-On Ramp & N Alameda St 188(231) 904(798) → 370(206) 618(683)		
21 Arcadia St & N Los Angeles St 40(38) 327(149) → 58(20) 1515(479) 291(94) → 84(184) 259(1057)	**22** E Aliso St & N Los Angeles St 618(243) → 34(88) 129(280) 147(20) → 309(1153) 59(180)	**23** E Temple St & N Los Angeles St 91(158) 888(387) 164(84) → 118(237) 720(401) 97(70) 32(120) 373(673) 167(110) → 68(145) 317(1080) 50(71)	**24** E 1st St & N Los Angeles St 133(170) 796(447) 111(83) → 80(229) 625(469) 47(91) 28(108) 379(802) 116(123) → 104(133) 346(1004) 40(82)	**25** E Temple St & Judge John Aiso St → 783(449) 198(93) 335(724) 215(102) → 180(299) 103(271)	**26** E 1st St & Judge John Aiso St 33(62) 300(184) 24(31) → Judge John Aiso St 63(78) 567(556) 102(67) 76(83) 292(784) 162(125) → S San Pedro St 152(178) 218(412) 47(136)		
27 Cesar Chavez Ave & N Mission Rd 717(365) 993(539) 25(37) → 8(35) 872(591) 284(152) 282(423) 224(633) 127(294) → 207(223) 487(543) 88(79)	**28** E 1st St & N Mission Rd 494(201) 164(128) 105(92) → 151(159) 553(237) 12(6) 87(468) 69(395) 9(10) → 38(16) 162(303) 2(4)	**29** E 1st St & S Central Ave → 536(457) 139(103) 0(702) 363(203) → 196(247) 0(265)	**30** Bauchet St & Vignes St 12(12) 407(362) 60(19) → 23(101) 4(14) 97(203) 4(14) 4(5) 6(18) → 19(24) 573(870) 164(58)	**31** Center St & Ramirez St 518(433) 44(12) → 41(16) 52(19) Ramirez St → 420(795) 113(163)	**32** Cesar Chavez Ave & Union Station N. Driveway → 1280(1017) 79(66) 626(1088) 58(66) → 78(120) 54(107)		

Metro

HDR

(#) Intersection Location

xx(yy) AM(PM) Peak Hour Volumes

Existing Plus Project Traffic Volumes

LINK UNION STATION (LINK US)

Table X-X. Existing Plus Project Peak Hour Intersection Level of Service

Intersection	Intersection	AM Peak						PM Peak					
		Existing		Existing with Project		Delta	Significant Impact?	Existing		Existing with Project		Delta	Significant Impact?
		Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)		Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	
1	Alameda Street and Commercial Street	29.9	C	29.6	C	-0.3	No	33.9	C	33.9	C	0	No
2	Garey Street and Commercial Street	31.4	C	57.7	E	**26.3**	**Yes**	34.2	C	59.7	E	**25.5**	**Yes**
3	Vignes Street and Commercial Street [a]	9.6	A	11.1	B	1.5	NA	9.9	A	11.9	B	2	NA
4	Center Street and Commercial Street [a]	16.0	C	72.5	F	**56.5**	**Yes**	33.0	D	145.3	F	**112.3**	**Yes**
5	Alameda Street and Temple Street	13.9	B	14.2	B	0.3	No	15.4	B	15.4	B	0	No
6	Vignes Street and Temple Street [a]	14.5	B	14.5	B	0	No	9.7	A	9.7	A	0	No
7	Alameda Street and First Street	17.8	B	18.2	B	0.4	No	17.3	B	17.5	B	0.2	No
8	Vignes Street and First Street	21.7	C	19.7	B	-2	No	27.4	C	27.2	C	-0.2	No
9	Alameda Street and El Monte Busway/Arcadia Street	19.5	B	19.4	B	-0.1	No	14.5	B	14.4	B	-0.1	No
10	Alameda Street and Los Angeles Street EB	12.4	B	11.6	B	-0.8	No	12.7	B	12.6	B	-0.1	No
110	Alameda Street and Los Angeles Street WB	4.2	A	4.4	A	0.2	No	5.6	A	6.9	A	1.3	No
11	Alameda Street and Cesar Chavez Avenue	15.3	B	20.4	C	5.1	No	14.9	B	16.5	B	1.6	No
12	Alameda Street and Vignes Street/Alpine Street	11.8	B	13.3	B	1.5	No	14.1	B	18.0	B	3.9	No
13	Vignes Street and Cesar Chavez Avenue	19.0	B	19.6	B	0.6	No	20.4	C	24.8	C	4.4	No
14	Vignes Street and Ramirez Street	23.4	C	23.3	C	-0.1	No	25.9	C	24.6	C	-1.3	No
15	Vignes Street and Main Street	17.5	B	17.3	B	-0.2	No	41.9	**D**	45.6	D	3.7	No
16	Alameda Street/Spring Street and College Street	16.0	B	16.0	B	0	No	17.0	B	17.5	B	0.5	No
17	Alameda Street and Main Street/Ord Street [a]	0.6	A	0.6	A	0	No	0.7	A	0.7	A	0	No
18	Alameda Street and Main Street/Bauchet Street	5.7	A	5.7	A	0	No	8.8	A	9.6	A	0.8	No
19	Main Street and Cesar Chavez Avenue	7.6	A	7.6	A	0	No	19.0	B	19.3	B	0.3	No
20	Alameda Street and Northbound US-101 [b]												
21	Los Angeles Street and Arcadia Street	7.2	A	7.6	A	0.4	No	5.1	A	5.2	A	0.1	No
22	Los Angeles Street and Aliso Street	9.4	A	9.4	A	0	No	11.3	B	11.5	B	0.2	No
23	Los Angeles Street and Temple Street	15.0	B	14.9	B	-0.1	No	16.5	B	16.6	B	0.1	No
24	Los Angeles Street and First Street	14.8	B	14.9	B	0.1	No	19.4	B	19.3	B	-0.1	No
25	Judge John Aiso Street and Temple Street	8.2	A	8.3	A	0.1	No	7.9	A	7.5	A	-0.4	No
26	Judge John Aiso Street/San Pedro Street and First Street	15.6	B	15.5	B	-0.1	No	15.0	B	15.1	B	0.1	No
27	Mission Road and Cesar Chavez Avenue	46.4	D	46.3	**D**	-0.1	No	23.9	C	24.4	C	0.5	No
28	Mission Road and First Street	28.3	C	24.7	C	-3.6	No	31.1	C	30.2	C	-0.9	No
29	Central Avenue and First Street	8.9	A	8.7	A	-0.2	No	11.0	B	11.1	B	0.1	No
30	Vignes Street and Bauchet Street	10.7	B	11.0	B	0.3	No	19.1	B	19.6	B	0.5	No
31	Ramirez Street and Center Street	1.8	A	1.7	A	-0.1	No	0.6	A	0.6	A	0	No
32	Union Station North Driveway and Cesar Chavez Avenue	13.5	B	13.5	B	0	No	14.2	B	14.1	B	-0.1	No

Notes:
[a] Non-signalized intersection
[b] Freeway on-ramp, neither signalized nor STOP-sign controlled
LOS = level of service; Sec = Seconds; NA = Not Applicable

Appendix H:
Construction Traffic, Project Access and Construction Staging

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2028 No Build AM Peak Hour Volumes

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street	0	687	153	131	1,200	0	44	32	117	153	0	204
2	Garey Street & Commercial Street	13	38	7	185	68	191	241	61	14	10	153	99
3	Vignes Street & Commercial Street	57	0	56	0	0	0	0	230	23	92	204	0
4	Center Street & Commercial Street	72	361	7	9	365	221	198	4	84	3	4	7
5	Alameda Street & Temple Street	259	693	0	30	855	439	106	165	151	25	353	41
6	Vignes Street & Temple Street	361	91	11	6	47	62	49	25	64	7	104	3
7	Alameda Street & 1st Street	2	925	50	13	850	167	0	0	0	0	524	27
8	Vignes Street & 1st Street	4	18	27	27	33	19	31	116	10	183	528	403
9	Alameda Street & El Monte Busway/Arcadia Street	114	821	0	0	854	54	0	0	0	477	1,745	228
10	Alameda Street & Los Angeles Street EB	0	516	106	61	1,095	0	107	52	17	0	0	0
11	Alameda Street & Cesar E Chavez Avenue	122	409	128	76	1,166	156	48	496	99	115	1,232	46
12	Alameda Street & Vignes Street/Alpine Street	57	262	12	144	962	242	55	115	63	49	748	146
13	Vignes Street & Cesar E Chavez Avenue	158	372	58	149	359	30	51	441	198	251	1,248	343
14	Vignes Street & Ramirez Street	35	178	101	427	149	233	114	68	70	106	127	334
109	Alameda Street & El Monte Busway (EB)	0	1,002	47	13	908	0	0	0	0	0	0	0
110	Alameda Street & Los Angeles Street WB	0	623	0	0	1,051	328	0	0	0	105	61	37
15	Vignes Street & Main Street	1	170	42	225	492	543	61	199	5	0	400	182
16	Alameda Street/Spring Street & College Street	189	262	12	11	1,153	153	80	69	166	29	152	10
17	Alameda Street & Main Street/Ord Street	56	366	234	0	1,336	228	0	0	64	0	0	0
18	Alameda Street & Main Street/Bauchet Street	0	456	48	37	1,363	0	190	37	15	19	0	11
19	Main Street & Cesar Chavez Avenue	119	160	94	0	0	0	63	548	0	0	1,490	19
20	Alameda Street & Northbound US-101	380	622	0	0	922	191	0	0	0	0	0	0
21	Los Angeles Street & Arcadia Street	86	262	0	0	336	41	0	0	0	299	1,555	60
22	Los Angeles Street & Aliso Street	0	317	61	0	634	0	31	132	151	0	0	0
23	Los Angeles Street & Temple Street	70	325	51	168	911	93	33	383	171	100	739	121
24	Los Angeles Street & 1st Street	107	355	41	114	817	136	29	389	119	48	641	82
25	Judge John Aiso Street & Temple Street	185	0	106	0	0	0	0	344	221	203	804	0
26	Judge John Aiso Street/San Pedro Street & 1st Street	156	224	48	25	308	34	78	300	166	105	582	65
27	Mission Road & Cesar Chavez Avenue	212	500	90	26	1,019	736	289	229	130	291	894	8
28	Mission Road & 1st Street	39	166	2	108	168	507	89	71	9	12	568	155
29	Central Avenue & 1st Street	201	0	0	0	0	0	0	0	373	143	550	0
30	Vignes Street & Bauchet Street	19	588	168	62	418	12	4	4	6	100	4	24
31	Center Street & Ramirez Street/Keller Street	0	431	60	45	439	0	0	0	0	53	0	42

Construction Worker Trips

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street		18		61								
2	Garey Street & Commercial Street				92				61				
3	Vignes Street & Commercial Street												
4	Center Street & Commercial Street												
5	Alameda Street & Temple Street		18										
6	Vignes Street & Temple Street		61										
7	Alameda Street & 1st Street		18	43									
8	Vignes Street & 1st Street							61					
9	Alameda Street & El Monte Busway/Arcadia Street		18			61							
10	Alameda Street & Los Angeles Street EB		18			61		12					
11	Alameda Street & Cesar E Chavez Avenue		31			61							
12	Alameda Street & Vignes Street/Alpine Street					18							
13	Vignes Street & Cesar E Chavez Avenue		31										61
14	Vignes Street & Ramirez Street		31	214									
109	Alameda Street & El Monte Busway (EB)		18			61							
110	Alameda Street & Los Angeles Street WB		31			61							
15	Vignes Street & Main Street		61			43							92
16	Alameda Street/Spring Street & College Street				12	18							
17	Alameda Street & Main Street/Ord Street			61		61							
18	Alameda Street & Main Street/Bauchet Street		31			61		31					
19	Main Street & Cesar Chavez Avenue		18					12					
20	Alameda Street & Northbound US-101		18			61							
21	Los Angeles Street & Arcadia Street		12										
22	Los Angeles Street & Aliso Street		12										
23	Los Angeles Street & Temple Street		12										
24	Los Angeles Street & 1st Street		12	18									
25	Judge John Aiso Street & Temple Street												
26	Judge John Aiso Street/San Pedro Street & 1st Street								18				
27	Mission Road & Cesar Chavez Avenue											61	
28	Mission Road & 1st Street												
29	Central Avenue & 1st Street								18				
30	Vignes Street & Bauchet Street		92										
31	Center Street & Ramirez Street/Keller Street					214							

Construction Vehicle Trips

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street												
2	Garey Street & Commercial Street												2
3	Vignes Street & Commercial Street												
4	Center Street & Commercial Street												
5	Alameda Street & Temple Street												
6	Vignes Street & Temple Street												
7	Alameda Street & 1st Street												
8	Vignes Street & 1st Street												
9	Alameda Street & El Monte Busway/Arcadia Street												
10	Alameda Street & Los Angeles Street EB												
11	Alameda Street & Cesar E Chavez Avenue					10					6		
12	Alameda Street & Vignes Street/Alpine Street										10		
13	Vignes Street & Cesar E Chavez Avenue		6			2						6	6
14	Vignes Street & Ramirez Street		4	2	2								2
109	Alameda Street & El Monte Busway (EB)												
110	Alameda Street & Los Angeles Street WB						16						
15	Vignes Street & Main Street				2		2					8	2
16	Alameda Street/Spring Street & College Street												
17	Alameda Street & Main Street/Ord Street					10							
18	Alameda Street & Main Street/Bauchet Street					10							
19	Main Street & Cesar Chavez Avenue												
20	Alameda Street & Northbound US-101												
21	Los Angeles Street & Arcadia Street					16							
22	Los Angeles Street & Aliso Street				16								
23	Los Angeles Street & Temple Street												
24	Los Angeles Street & 1st Street												
25	Judge John Aiso Street & Temple Street												
26	Judge John Aiso Street/San Pedro Street & 1st Street												
27	Mission Road & Cesar Chavez Avenue	12											
28	Mission Road & 1st Street												
29	Central Avenue & 1st Street												
30	Vignes Street & Bauchet Street	4	8			2		4					
31	Center Street & Ramirez Street/Keller Street		2			4							

Commercial Street Redistribution

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street												
2	Garey Street & Commercial Street	153	99	-7	-185	185			-61	61	-10	-153	-99
3	Vignes Street & Commercial Street	-57		-56					-230	-23	-92	-204	
4	Center Street & Commercial Street	-72	-361	-7	-9	-365	-221	-198	-4	-84	-3	-4	-7
5	Alameda Street & Temple Street												
6	Vignes Street & Temple Street												
7	Alameda Street & 1st Street												
8	Vignes Street & 1st Street												
9	Alameda Street & El Monte Busway/Arcadia Street												
10	Alameda Street & Los Angeles Street EB												
11	Alameda Street & Cesar E Chavez Avenue												
12	Alameda Street & Vignes Street/Alpine Street												
13	Vignes Street & Cesar E Chavez Avenue												
14	Vignes Street & Ramirez Street												
109	Alameda Street & El Monte Busway (EB)												
110	Alameda Street & Los Angeles Street WB												
15	Vignes Street & Main Street												
16	Alameda Street/Spring Street & College Street												
17	Alameda Street & Main Street/Ord Street												
18	Alameda Street & Main Street/Bauchet Street												
19	Main Street & Cesar Chavez Avenue												
20	Alameda Street & Northbound US-101												
21	Los Angeles Street & Arcadia Street												
22	Los Angeles Street & Aliso Street												
23	Los Angeles Street & Temple Street												
24	Los Angeles Street & 1st Street												
25	Judge John Aiso Street & Temple Street												
26	Judge John Aiso Street/San Pedro Street & 1st Street												
27	Mission Road & Cesar Chavez Avenue												
28	Mission Road & 1st Street												
29	Central Avenue & 1st Street												
30	Vignes Street & Bauchet Street												
31	Center Street & Ramirez Street/Keller Street												

Total AM Peak Hour Accumulated Project Trips

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street	0	7	0	1	4	0	0	0	0	0	0	0
2	Garey Street & Commercial Street	0	0	0	0	0	0	1	0	0	0	0	0
3	Vignes Street & Commercial Street	0	0	0	0	0	0	0	0	0	0	0	0
4	Center Street & Commercial Street	0	0	0	0	0	0	0	0	0	0	0	0
5	Alameda Street & Temple Street	0	7	0	0	4	0	0	0	0	0	0	0
6	Vignes Street & Temple Street	0	0	0	0	0	0	0	0	0	0	0	0
7	Alameda Street & 1st Street	0	7	0	0	4	0	0	0	0	0	0	0
8	Vignes Street & 1st Street	0	0	0	0	0	0	0	0	0	0	0	0
9	Alameda Street & El Monte Busway/Arcadia Street	0	7	0	0	5	0	0	0	0	0	0	0
10	Alameda Street & Los Angeles Street EB	0	0	7	3	5	0	0	0	0	0	0	0
11	Alameda Street & Cesar E Chavez Avenue	0	2	0	0	3	0	0	0	0	0	0	0
12	Alameda Street & Vignes Street/Alpine Street	0	2	0	0	3	0	0	0	0	0	0	0
13	Vignes Street & Cesar E Chavez Avenue	0	0	0	0	0	0	0	0	0	0	0	0
14	Vignes Street & Ramirez Street	0	0	0	0	0	0	0	0	0	0	0	0
109	Alameda Street & El Monte Busway (EB)	0	7	0	0	5	0	0	0	0	0	0	0
110	Alameda Street & Los Angeles Street WB	0	0	0	0	3	0	0	0	0	5	0	2
15	Vignes Street & Main Street	0	0	0	0	0	0	0	0	0	0	0	0
16	Alameda Street/Spring Street & College Street	0	2	0	0	3	0	0	0	0	0	0	0
17	Alameda Street & Main Street/Ord Street	0	2	0	0	3	0	0	0	0	0	0	0
18	Alameda Street & Main Street/Bauchet Street	0	2	0	0	3	0	0	0	0	0	0	0
19	Main Street & Cesar Chavez Avenue	0	0	0	0	0	0	0	0	0	0	0	0
20	Alameda Street & Northbound US-101	0	7	0	0	5	0	0	0	0	0	0	0
21	Los Angeles Street & Arcadia Street	0	0	0	0	0	0	0	0	0	0	0	0
22	Los Angeles Street & Aliso Street	0	0	0	0	0	0	0	0	0	0	0	0
23	Los Angeles Street & Temple Street	0	0	0	0	0	0	0	0	0	0	0	0
24	Los Angeles Street & 1st Street	0	0	0	0	0	0	0	0	0	0	0	0
25	Judge John Aiso Street & Temple Street	0	0	0	0	0	0	0	0	0	0	0	0
26	Judge John Aiso Street/San Pedro Street & 1st Street	0	0	0	0	0	0	0	0	0	0	0	0
27	Mission Road & Cesar Chavez Avenue	0	0	0	0	0	0	0	0	0	0	0	0
28	Mission Road & 1st Street	0	0	0	0	0	0	0	0	0	0	0	0
29	Central Avenue & 1st Street	0	0	0	0	0	0	0	0	0	0	0	0
30	Vignes Street & Bauchet Street	0	0	0	0	0	0	0	0	0	0	0	0
31	Center Street & Ramirez Street/Keller Street	0	0	0	0	0	0	0	0	0	0	0	0

2028 AM Volumes Plus Construction Plus Accumulated Projects (At-Grade Concourse Alternative)

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street	0	712	153	193	1,204	0	44	32	117	153	0	204
2	Garey Street & Commercial Street	166	136	0	92	252	191	242	61	75	0	0	2
3	Vignes Street & Commercial Street	0	0	0	0	0	0	0	0	0	0	0	0
4	Center Street & Commercial Street	0	0	0	0	0	0	0	0	0	0	0	0
5	Alameda Street & Temple Street	259	718	0	30	859	439	106	165	151	25	353	41
6	Vignes Street & Temple Street	361	152	11	6	47	62	49	25	64	7	104	3
7	Alameda Street & 1st Street	2	950	93	13	854	167	0	0	0	0	524	27
8	Vignes Street & 1st Street	4	18	27	27	33	19	92	116	10	183	528	403
9	Alameda Street & El Monte Busway/Arcadia Street	114	846	0	0	920	54	0	0	0	477	1,745	228
10	Alameda Street & Los Angeles Street EB	0	534	113	64	1,161	0	119	52	17	0	0	0
11	Alameda Street & Cesar E Chavez Avenue	122	442	128	76	1,240	156	48	496	99	121	1,232	46
12	Alameda Street & Vignes Street/Alpine Street	57	264	12	144	983	242	55	115	63	59	748	146
13	Vignes Street & Cesar E Chavez Avenue	158	409	58	149	361	30	51	441	198	251	1,254	410
14	Vignes Street & Ramirez Street	35	213	317	429	149	233	114	68	70	106	127	336
109	Alameda Street & El Monte Busway (EB)	0	1,027	47	13	974	0	0	0	0	0	0	0
110	Alameda Street & Los Angeles Street WB	0	654	0	0	1,115	344	0	0	0	110	61	39
15	Vignes Street & Main Street	1	231	42	227	535	545	61	199	5	0	408	276
16	Alameda Street/Spring Street & College Street	189	264	12	23	1,174	153	80	69	166	29	152	10
17	Alameda Street & Main Street/Ord Street	56	368	295	0	1,410	228	0	0	64	0	0	0
18	Alameda Street & Main Street/Bauchet Street	0	489	48	37	1,437	0	221	37	15	19	0	11
19	Main Street & Cesar Chavez Avenue	119	178	94	0	0	0	75	548	0	0	1,490	19
20	Alameda Street & Northbound US-101	380	647	0	0	988	191	0	0	0	0	0	0
21	Los Angeles Street & Arcadia Street	86	274	0	0	352	41	0	0	0	299	1,555	60
22	Los Angeles Street & Aliso Street	0	329	61	16	634	0	31	132	151	0	0	0
23	Los Angeles Street & Temple Street	70	337	51	168	911	93	33	383	171	100	739	121
24	Los Angeles Street & 1st Street	107	367	59	114	817	136	29	389	119	48	641	82
25	Judge John Aiso Street & Temple Street	185	0	106	0	0	0	0	344	221	203	804	0
26	Judge John Aiso Street/San Pedro Street & 1st Street	156	224	48	25	308	34	78	318	166	105	582	65
27	Mission Road & Cesar Chavez Avenue	224	500	90	26	1,019	736	289	229	130	291	955	8
28	Mission Road & 1st Street	39	166	2	108	168	507	89	71	9	12	568	155
29	Central Avenue & 1st Street	201	0	0	0	0	0	0	18	373	143	550	0
30	Vignes Street & Bauchet Street	23	688	168	62	420	12	8	4	6	100	4	24
31	Center Street & Ramirez Street/Keller Street	0	433	60	45	657	0	0	0	0	53	0	42

2028 No Build PM Peak Hour Volumes

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street	0	1,228	168	136	739	0	359	65	48	90	0	164
2	Garey Street & Commercial Street	19	452	18	113	19	168	349	45	16	1	45	290
3	Vignes Street & Commercial Street	97	0	159	0	0	0	0	158	18	51	239	0
4	Center Street & Commercial Street	50	609	7	7	252	234	250	5	62	6	6	13
5	Alameda Street & Temple Street	89	980	0	75	732	309	250	447	195	30	158	93
6	Vignes Street & Temple Street	94	164	19	12	32	26	65	41	109	13	65	28
7	Alameda Street & 1st Street	68	735	146	41	792	123	320	481	115	0	272	14
8	Vignes Street & 1st Street	6	78	230	81	28	30	71	585	23	79	310	77
9	Alameda Street & El Monte Busway/Arcadia Street	19	1,732	0	0	608	25	0	0	0	268	564	179
10	Alameda Street & Los Angeles Street EB	0	608	66	49	930	0	241	56	83	0	0	0
11	Alameda Street & Cesar E Chavez Avenue	97	693	119	97	648	121	90	963	192	113	931	117
12	Alameda Street & Vignes Street/Alpine Street	175	975	49	95	394	56	103	320	70	55	424	354
13	Vignes Street & Cesar E Chavez Avenue	286	695	149	244	310	48	47	946	264	117	864	301
14	Vignes Street & Ramirez Street	44	448	69	301	232	127	154	71	82	156	128	520
109	Alameda Street & El Monte Busway (EB)	0	885	1,026	154	632	0	0	0	0	0	0	0
110	Alameda Street & Los Angeles Street WB	0	849	0	0	842	111	0	0	0	138	54	61
15	Vignes Street & Main Street	5	656	35	188	274	186	228	236	1	0	642	361
16	Alameda Street/Spring Street & College Street	530	874	28	9	337	101	108	94	178	32	195	27
17	Alameda Street & Main Street/Ord Street	100	1,106	642	0	694	50	0	0	80	0	0	0
18	Alameda Street & Main Street/Bauchet Street	0	885	15	3	771	0	925	22	33	63	0	39
19	Main Street & Cesar Chavez Avenue	413	879	240	0	0	0	78	1,005	0	0	1,201	23
20	Alameda Street & Northbound US-101	211	673	0	0	786	227	0	0	0	0	0	0
21	Los Angeles Street & Arcadia Street	189	1,076	0	0	153	39	0	0	0	96	492	21
22	Los Angeles Street & Aliso Street	0	1,183	185	0	249	0	81	287	21	0	0	0
23	Los Angeles Street & Temple Street	149	1,108	73	86	397	162	123	691	113	72	412	243
24	Los Angeles Street & 1st Street	136	1,030	84	85	459	174	111	823	126	93	481	235
25	Judge John Aiso Street & Temple Street	307	0	278	0	0	0	0	743	105	95	461	0
26	Judge John Aiso Street/San Pedro Street & 1st Street	183	423	140	32	189	64	85	805	128	69	571	80
27	Mission Road & Cesar Chavez Avenue	229	557	81	38	553	375	434	647	302	156	604	36
28	Mission Road & 1st Street	16	311	4	94	131	206	480	405	10	6	243	163
29	Central Avenue & 1st Street	253	0	272	0	0	0	0	720	208	106	469	0
30	Vignes Street & Bauchet Street	25	893	60	19	372	12	14	5	18	208	14	104
31	Center Street & Ramirez Street/Keller Street	0	816	14	12	393	0	0	0	0	19	0	16

Construction Worker Trips

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street					7							24
2	Garey Street & Commercial Street											12	85
3	Vignes Street & Commercial Street												
4	Center Street & Commercial Street												
5	Alameda Street & Temple Street					7							
6	Vignes Street & Temple Street					24							
7	Alameda Street & 1st Street					7					17	7	
8	Vignes Street & 1st Street				17		7						
9	Alameda Street & El Monte Busway/Arcadia Street		24			7							
10	Alameda Street & Los Angeles Street EB		24			7							
11	Alameda Street & Cesar E Chavez Avenue		24			12	12						
12	Alameda Street & Vignes Street/Alpine Street		7										
13	Vignes Street & Cesar E Chavez Avenue				37								
14	Vignes Street & Ramirez Street										37		
109	Alameda Street & El Monte Busway (EB)		24			7							
110	Alameda Street & Los Angeles Street WB		24			7	5						
15	Vignes Street & Main Street		17		37						24		
16	Alameda Street/Spring Street & College Street		7										5
17	Alameda Street & Main Street/Ord Street		7	17		24							
18	Alameda Street & Main Street/Bauchet Street		24			24							
19	Main Street & Cesar Chavez Avenue											12	
20	Alameda Street & Northbound US-101		24			7							
21	Los Angeles Street & Arcadia Street					5							
22	Los Angeles Street & Aliso Street					5							
23	Los Angeles Street & Temple Street					5							
24	Los Angeles Street & 1st Street					5					7		
25	Judge John Aiso Street & Temple Street												
26	Judge John Aiso Street/San Pedro Street & 1st Street											7	
27	Mission Road & Cesar Chavez Avenue									37			
28	Mission Road & 1st Street												
29	Central Avenue & 1st Street											7	
30	Vignes Street & Bauchet Street					37							
31	Center Street & Ramirez Street/Keller Street		37										

Construction Vehicle Trips

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street												
2	Garey Street & Commercial Street												1
3	Vignes Street & Commercial Street												
4	Center Street & Commercial Street												
5	Alameda Street & Temple Street												
6	Vignes Street & Temple Street												
7	Alameda Street & 1st Street												
8	Vignes Street & 1st Street												
9	Alameda Street & El Monte Busway/Arcadia Street												
10	Alameda Street & Los Angeles Street EB												
11	Alameda Street & Cesar E Chavez Avenue					4					2		
12	Alameda Street & Vignes Street/Alpine Street										4		
13	Vignes Street & Cesar E Chavez Avenue		3			1						2	2
14	Vignes Street & Ramirez Street		2	1	1								1
109	Alameda Street & El Monte Busway (EB)												
110	Alameda Street & Los Angeles Street WB						6						
15	Vignes Street & Main Street				1		1					3	1
16	Alameda Street/Spring Street & College Street												
17	Alameda Street & Main Street/Ord Street					4							
18	Alameda Street & Main Street/Bauchet Street					4							
19	Main Street & Cesar Chavez Avenue												
20	Alameda Street & Northbound US-101												
21	Los Angeles Street & Arcadia Street					6							
22	Los Angeles Street & Aliso Street				6								
23	Los Angeles Street & Temple Street												
24	Los Angeles Street & 1st Street												
25	Judge John Aiso Street & Temple Street												
26	Judge John Aiso Street/San Pedro Street & 1st Street												
27	Mission Road & Cesar Chavez Avenue	5											
28	Mission Road & 1st Street												
29	Central Avenue & 1st Street												
30	Vignes Street & Bauchet Street	2	3			1		2					
31	Center Street & Ramirez Street/Keller Street		1			2							

Commercial Street Redistribution

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street												
2	Garey Street & Commercial Street	45	290	-18	-113	113			-45	45	-1	-45	-290
3	Vignes Street & Commercial Street	-97		-159					-158	-18	-51	-239	
4	Center Street & Commercial Street	-50	-609	-7	-7	-252	-234	-250	-5	-62	-6	-6	-13
5	Alameda Street & Temple Street												
6	Vignes Street & Temple Street												
7	Alameda Street & 1st Street												
8	Vignes Street & 1st Street												
9	Alameda Street & El Monte Busway/Arcadia Street												
10	Alameda Street & Los Angeles Street EB												
11	Alameda Street & Cesar E Chavez Avenue												
12	Alameda Street & Vignes Street/Alpine Street												
13	Vignes Street & Cesar E Chavez Avenue												
14	Vignes Street & Ramirez Street												
109	Alameda Street & El Monte Busway (EB)												
110	Alameda Street & Los Angeles Street WB												
15	Vignes Street & Main Street												
16	Alameda Street/Spring Street & College Street												
17	Alameda Street & Main Street/Ord Street												
18	Alameda Street & Main Street/Bauchet Street												
19	Main Street & Cesar Chavez Avenue												
20	Alameda Street & Northbound US-101												
21	Los Angeles Street & Arcadia Street												
22	Los Angeles Street & Aliso Street												
23	Los Angeles Street & Temple Street												
24	Los Angeles Street & 1st Street												
25	Judge John Aiso Street & Temple Street												
26	Judge John Aiso Street/San Pedro Street & 1st Street												
27	Mission Road & Cesar Chavez Avenue												
28	Mission Road & 1st Street												
29	Central Avenue & 1st Street												
30	Vignes Street & Bauchet Street												
31	Center Street & Ramirez Street/Keller Street												

Total PM Peak Hour Accumulated Project Trips

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street	0	13	0	0	22	0	0	0	0	0	0	0
2	Garey Street & Commercial Street	0	0	0	0	0	0	0	0	0	0	0	0
3	Vignes Street & Commercial Street	0	0	0	0	0	0	0	0	0	0	0	0
4	Center Street & Commercial Street	0	0	0	0	0	0	0	0	0	0	0	0
5	Alameda Street & Temple Street	0	13	0	0	22	0	0	0	0	0	0	0
6	Vignes Street & Temple Street	0	0	0	0	0	0	0	0	0	0	0	0
7	Alameda Street & 1st Street	0	13	0	0	22	0	0	0	0	0	0	0
8	Vignes Street & 1st Street	0	0	0	0	0	0	0	0	0	0	0	0
9	Alameda Street & El Monte Busway/Arcadia Street	0	13	0	0	22	0	0	0	0	0	0	0
10	Alameda Street & Los Angeles Street EB	0	0	13	10	27	0	0	0	0	0	0	0
11	Alameda Street & Cesar E Chavez Avenue	0	5	0	0	10	0	0	0	0	0	0	0
12	Alameda Street & Vignes Street/Alpine Street	0	5	0	0	10	0	0	14	0	0	0	0
13	Vignes Street & Cesar E Chavez Avenue	0	0	0	0	25	0	0	0	0	0	0	0
14	Vignes Street & Ramirez Street	8	0	0	0	0	25	0	5	9	0	25	0
109	Alameda Street & El Monte Busway (EB)	0	13	0	0	22	0	0	0	0	0	0	0
110	Alameda Street & Los Angeles Street WB	0	0	0	0	10	0	0	0	0	27	0	5
15	Vignes Street & Main Street	0	0	0	11	0	0	0	14	0	0	0	0
16	Alameda Street/Spring Street & College Street	0	5	0	0	10	0	0	0	0	0	0	0
17	Alameda Street & Main Street/Ord Street	0	5	0	0	10	0	0	0	0	0	0	0
18	Alameda Street & Main Street/Bauchet Street	0	5	0	0	10	0	0	0	0	0	0	0
19	Main Street & Cesar Chavez Avenue	0	0	0	0	0	0	0	0	0	0	0	0
20	Alameda Street & Northbound US-101	0	13	0	0	22	5	0	0	0	0	0	0
21	Los Angeles Street & Arcadia Street	0	0	0	0	0	0	0	0	0	0	0	0
22	Los Angeles Street & Aliso Street	0	0	0	0	0	0	0	0	0	0	0	0
23	Los Angeles Street & Temple Street	0	0	0	0	0	0	0	0	0	0	0	0
24	Los Angeles Street & 1st Street	0	0	0	0	0	0	0	0	0	0	0	0
25	Judge John Aiso Street & Temple Street	0	0	0	0	0	0	0	0	0	0	0	0
26	Judge John Aiso Street/San Pedro Street & 1st Street	0	0	0	0	0	0	0	0	0	0	0	0
27	Mission Road & Cesar Chavez Avenue	0	0	0	0	0	0	0	0	0	0	0	0
28	Mission Road & 1st Street	0	0	0	0	0	0	0	0	0	0	0	0
29	Central Avenue & 1st Street	0	0	0	0	0	0	0	0	0	0	0	0
30	Vignes Street & Bauchet Street	0	0	0	0	25	0	0	0	0	0	0	0
31	Center Street & Ramirez Street/Keller Street	0	25	0	0	5	0	0	0	0	0	0	0

2028 PM Volumes Plus Construction Plus Accumulated Projects (At-Grade Concourse Alternative)

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street	0	1,241	168	136	768	0	359	65	48	90	0	188
2	Garey Street & Commercial Street	65	742	0	0	132	168	349	0	62	0	12	86
3	Vignes Street & Commercial Street	0	0	0	0	0	0	0	0	0	0	0	0
4	Center Street & Commercial Street	0	0	0	0	0	0	0	0	0	0	0	0
5	Alameda Street & Temple Street	89	993	0	75	761	309	250	447	195	30	158	93
6	Vignes Street & Temple Street	94	164	19	12	56	26	65	41	109	13	65	28
7	Alameda Street & 1st Street	68	748	146	41	821	123	320	481	115	17	279	14
8	Vignes Street & 1st Street	6	78	230	98	28	37	71	585	23	79	310	77
9	Alameda Street & El Monte Busway/Arcadia Street	19	1,769	0	0	637	25	0	0	0	268	564	179
10	Alameda Street & Los Angeles Street EB	0	632	79	59	964	0	241	56	83	0	0	0
11	Alameda Street & Cesar E Chavez Avenue	97	722	119	97	674	133	90	963	192	115	931	117
12	Alameda Street & Vignes Street/Alpine Street	175	987	49	95	404	56	103	334	70	59	424	354
13	Vignes Street & Cesar E Chavez Avenue	286	698	149	281	336	48	47	946	264	117	866	303
14	Vignes Street & Ramirez Street	52	450	70	302	232	152	154	76	91	193	153	521
109	Alameda Street & El Monte Busway (EB)	0	922	1,026	154	661	0	0	0	0	0	0	0
110	Alameda Street & Los Angeles Street WB	0	873	0	0	859	122	0	0	0	165	54	66
15	Vignes Street & Main Street	5	673	35	237	274	187	228	250	1	24	645	362
16	Alameda Street/Spring Street & College Street	530	886	28	9	347	101	108	94	178	32	195	32
17	Alameda Street & Main Street/Ord Street	100	1,118	659	0	732	50	0	0	80	0	0	0
18	Alameda Street & Main Street/Bauchet Street	0	914	15	3	809	0	925	22	33	63	0	39
19	Main Street & Cesar Chavez Avenue	413	879	240	0	0	0	78	1,005	0	0	1,213	23
20	Alameda Street & Northbound US-101	211	710	0	0	815	232	0	0	0	0	0	0
21	Los Angeles Street & Arcadia Street	189	1,076	0	0	164	39	0	0	0	96	492	21
22	Los Angeles Street & Aliso Street	0	1,183	185	6	254	0	81	287	21	0	0	0
23	Los Angeles Street & Temple Street	149	1,108	73	86	402	162	123	691	113	72	412	243
24	Los Angeles Street & 1st Street	136	1,030	84	85	464	174	111	823	126	100	481	235
25	Judge John Aiso Street & Temple Street	307	0	278	0	0	0	0	743	105	95	461	0
26	Judge John Aiso Street/San Pedro Street & 1st Street	183	423	140	32	189	64	85	805	128	69	578	80
27	Mission Road & Cesar Chavez Avenue	234	557	81	38	553	375	434	647	339	156	604	36
28	Mission Road & 1st Street	16	311	4	94	131	206	480	405	10	6	243	163
29	Central Avenue & 1st Street	253	0	272	0	0	0	0	720	208	106	476	0
30	Vignes Street & Bauchet Street	27	896	60	19	435	12	16	5	18	208	14	104
31	Center Street & Ramirez Street/Keller Street	0	879	14	12	400	0	0	0	0	19	0	16

2028 AM Peak Hour Volumes

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street	0	687	153	131	1,200	0	44	32	117	153	0	204
2	Garey Street & Commercial Street	13	38	7	185	68	191	241	61	14	10	153	99
3	Vignes Street & Commercial Street	57	0	56	0	0	0	0	230	23	92	204	0
4	Center Street & Commercial Street	72	361	7	9	365	221	198	4	84	3	4	7
5	Alameda Street & Temple Street	259	693	0	30	855	439	106	165	151	25	353	41
6	Vignes Street & Temple Street	361	91	11	6	47	62	49	25	64	7	104	3
7	Alameda Street & 1st Street	2	925	50	13	850	167	0	0	0	0	524	27
8	Vignes Street & 1st Street	4	18	27	27	33	19	31	116	10	183	528	403
9	Alameda Street & El Monte Busway/Arcadia Street	114	821	0	0	854	54	0	0	0	477	1,745	228
10	Alameda Street & Los Angeles Street EB	0	516	106	61	1,095	0	107	52	17	0	0	0
11	Alameda Street & Cesar E Chavez Avenue	122	409	128	76	1,166	156	48	496	99	115	1,232	46
12	Alameda Street & Vignes Street/Alpine Street	57	262	12	144	962	242	55	115	63	49	748	146
13	Vignes Street & Cesar E Chavez Avenue	158	372	58	149	359	30	51	441	198	251	1,248	343
14	Vignes Street & Ramirez Street	35	178	101	427	149	233	114	68	70	106	127	334
109	Alameda Street & El Monte Busway (EB)	0	1,002	47	13	908	0	0	0	0	0	0	0
110	Alameda Street & Los Angeles Street WB	0	623	0	0	1,051	328	0	0	0	105	61	37
15	Vignes Street & Main Street	1	170	42	225	492	543	61	199	5	0	400	182
16	Alameda Street/Spring Street & College Street	189	262	12	11	1,153	153	80	69	166	29	152	10
17	Alameda Street & Main Street/Ord Street	56	366	234	0	1,336	228	0	0	64	0	0	0
18	Alameda Street & Main Street/Bauchet Street	0	456	48	37	1,363	0	190	37	15	19	0	11
19	Main Street & Cesar Chavez Avenue	119	160	94	0	0	0	63	548	0	0	1,490	19
20	Alameda Street & Northbound US-101	380	622	0	0	922	191	0	0	0	0	0	0
21	Los Angeles Street & Arcadia Street	86	262	0	0	336	41	0	0	0	299	1,555	60
22	Los Angeles Street & Aliso Street	0	317	61	0	634	0	31	132	151	0	0	0
23	Los Angeles Street & Temple Street	70	325	51	168	911	93	33	383	171	100	739	121
24	Los Angeles Street & 1st Street	107	355	41	114	817	136	29	389	119	48	641	82
25	Judge John Aiso Street & Temple Street	185	0	106	0	0	0	0	344	221	203	804	0
26	Judge John Aiso Street/San Pedro Street & 1st Street	156	224	48	25	308	34	78	300	166	105	582	65
27	Mission Road & Cesar Chavez Avenue	212	500	90	26	1,019	736	289	229	130	291	894	8
28	Mission Road & 1st Street	39	166	2	108	168	507	89	71	9	12	568	155
29	Central Avenue & 1st Street	201	0	0	0	0	0	0	0	373	143	550	0
30	Vignes Street & Bauchet Street	19	588	168	62	418	12	4	4	6	100	4	24
31	Center Street & Ramirez Street/Keller Street	0	431	60	45	439	0	0	0	0	53	0	42

Construction Worker Trips

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street		7		23								
2	Garey Street & Commercial Street				35				23				
3	Vignes Street & Commercial Street												
4	Center Street & Commercial Street												
5	Alameda Street & Temple Street		7										
6	Vignes Street & Temple Street		23										
7	Alameda Street & 1st Street		7	16									
8	Vignes Street & 1st Street							23					
9	Alameda Street & El Monte Busway/Arcadia Street		7			23							
10	Alameda Street & Los Angeles Street EB		7			23		5					
11	Alameda Street & Cesar E Chavez Avenue		12			23							
12	Alameda Street & Vignes Street/Alpine Street					7							
13	Vignes Street & Cesar E Chavez Avenue		12										23
14	Vignes Street & Ramirez Street		12	82									
109	Alameda Street & El Monte Busway (EB)		7			23							
110	Alameda Street & Los Angeles Street WB		12			23							
15	Vignes Street & Main Street		23			16							35
16	Alameda Street/Spring Street & College Street				5	7							
17	Alameda Street & Main Street/Ord Street			23		23							
18	Alameda Street & Main Street/Bauchet Street		12			23		12					
19	Main Street & Cesar Chavez Avenue		7					5					
20	Alameda Street & Northbound US-101		7			23							
21	Los Angeles Street & Arcadia Street		5										
22	Los Angeles Street & Aliso Street		5										
23	Los Angeles Street & Temple Street		5										
24	Los Angeles Street & 1st Street		5	7									
25	Judge John Aiso Street & Temple Street												
26	Judge John Aiso Street/San Pedro Street & 1st Street								7				
27	Mission Road & Cesar Chavez Avenue											23	
28	Mission Road & 1st Street												
29	Central Avenue & 1st Street								7				
30	Vignes Street & Bauchet Street		35										
31	Center Street & Ramirez Street/Keller Street					82							

Construction Vehicle Trips

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street												
2	Garey Street & Commercial Street												1
3	Vignes Street & Commercial Street												
4	Center Street & Commercial Street												
5	Alameda Street & Temple Street												
6	Vignes Street & Temple Street												
7	Alameda Street & 1st Street												
8	Vignes Street & 1st Street												
9	Alameda Street & El Monte Busway/Arcadia Street												
10	Alameda Street & Los Angeles Street EB												
11	Alameda Street & Cesar E Chavez Avenue					6					3		
12	Alameda Street & Vignes Street/Alpine Street										6		
13	Vignes Street & Cesar E Chavez Avenue		3			1						3	3
14	Vignes Street & Ramirez Street		2	1	1								1
109	Alameda Street & El Monte Busway (EB)												
110	Alameda Street & Los Angeles Street WB						9						
15	Vignes Street & Main Street				1		1					4	1
16	Alameda Street/Spring Street & College Street												
17	Alameda Street & Main Street/Ord Street					6							
18	Alameda Street & Main Street/Bauchet Street					6							
19	Main Street & Cesar Chavez Avenue												
20	Alameda Street & Northbound US-101												
21	Los Angeles Street & Arcadia Street					9							
22	Los Angeles Street & Aliso Street				9								
23	Los Angeles Street & Temple Street												
24	Los Angeles Street & 1st Street												
25	Judge John Aiso Street & Temple Street												
26	Judge John Aiso Street/San Pedro Street & 1st Street												
27	Mission Road & Cesar Chavez Avenue	7											
28	Mission Road & 1st Street												
29	Central Avenue & 1st Street												
30	Vignes Street & Bauchet Street	2	4			1		2					
31	Center Street & Ramirez Street/Keller Street		1			2							

Commercial Street Redistribution

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street												
2	Garey Street & Commercial Street	153	99	-7	-185	185			-61	61	-10	-153	-99
3	Vignes Street & Commercial Street	-57		-56					-230	-23	-92	-204	
4	Center Street & Commercial Street	-72	-361	-7	-9	-365	-221	-198	-4	-84	-3	-4	-7
5	Alameda Street & Temple Street												
6	Vignes Street & Temple Street												
7	Alameda Street & 1st Street												
8	Vignes Street & 1st Street												
9	Alameda Street & El Monte Busway/Arcadia Street												
10	Alameda Street & Los Angeles Street EB												
11	Alameda Street & Cesar E Chavez Avenue												
12	Alameda Street & Vignes Street/Alpine Street												
13	Vignes Street & Cesar E Chavez Avenue												
14	Vignes Street & Ramirez Street												
109	Alameda Street & El Monte Busway (EB)												
110	Alameda Street & Los Angeles Street WB												
15	Vignes Street & Main Street												
16	Alameda Street/Spring Street & College Street												
17	Alameda Street & Main Street/Ord Street												
18	Alameda Street & Main Street/Bauchet Street												
19	Main Street & Cesar Chavez Avenue												
20	Alameda Street & Northbound US-101												
21	Los Angeles Street & Arcadia Street												
22	Los Angeles Street & Aliso Street												
23	Los Angeles Street & Temple Street												
24	Los Angeles Street & 1st Street												
25	Judge John Aiso Street & Temple Street												
26	Judge John Aiso Street/San Pedro Street & 1st Street												
27	Mission Road & Cesar Chavez Avenue												
28	Mission Road & 1st Street												
29	Central Avenue & 1st Street												
30	Vignes Street & Bauchet Street												
31	Center Street & Ramirez Street/Keller Street												

Total AM Peak Hour Accumulated Project Trips

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street	0	7	0	1	4	0	0	0	0	0	0	0
2	Garey Street & Commercial Street	0	0	0	0	0	0	1	0	0	0	0	0
3	Vignes Street & Commercial Street	0	0	0	0	0	0	0	0	0	0	0	0
4	Center Street & Commercial Street	0	0	0	0	0	0	0	0	0	0	0	0
5	Alameda Street & Temple Street	0	7	0	0	4	0	0	0	0	0	0	0
6	Vignes Street & Temple Street	0	0	0	0	0	0	0	0	0	0	0	0
7	Alameda Street & 1st Street	0	7	0	0	4	0	0	0	0	0	0	0
8	Vignes Street & 1st Street	0	0	0	0	0	0	0	0	0	0	0	0
9	Alameda Street & El Monte Busway/Arcadia Street	0	7	0	0	5	0	0	0	0	0	0	0
10	Alameda Street & Los Angeles Street EB	0	0	7	3	5	0	0	0	0	0	0	0
11	Alameda Street & Cesar E Chavez Avenue	0	2	0	0	3	0	0	0	0	0	0	0
12	Alameda Street & Vignes Street/Alpine Street	0	2	0	0	3	0	0	0	0	0	0	0
13	Vignes Street & Cesar E Chavez Avenue	0	0	0	0	0	0	0	0	0	0	0	0
14	Vignes Street & Ramirez Street	0	0	0	0	0	0	0	0	0	0	0	0
109	Alameda Street & El Monte Busway (EB)	0	7	0	0	5	0	0	0	0	0	0	0
110	Alameda Street & Los Angeles Street WB	0	0	0	0	3	0	0	0	0	5	0	2
15	Vignes Street & Main Street	0	0	0	0	0	0	0	0	0	0	0	0
16	Alameda Street/Spring Street & College Street	0	2	0	0	3	0	0	0	0	0	0	0
17	Alameda Street & Main Street/Ord Street	0	2	0	0	3	0	0	0	0	0	0	0
18	Alameda Street & Main Street/Bauchet Street	0	2	0	0	3	0	0	0	0	0	0	0
19	Main Street & Cesar Chavez Avenue	0	0	0	0	0	0	0	0	0	0	0	0
20	Alameda Street & Northbound US-101	0	7	0	0	5	0	0	0	0	0	0	0
21	Los Angeles Street & Arcadia Street	0	0	0	0	0	0	0	0	0	0	0	0
22	Los Angeles Street & Aliso Street	0	0	0	0	0	0	0	0	0	0	0	0
23	Los Angeles Street & Temple Street	0	0	0	0	0	0	0	0	0	0	0	0
24	Los Angeles Street & 1st Street	0	0	0	0	0	0	0	0	0	0	0	0
25	Judge John Aiso Street & Temple Street	0	0	0	0	0	0	0	0	0	0	0	0
26	Judge John Aiso Street/San Pedro Street & 1st Street	0	0	0	0	0	0	0	0	0	0	0	0
27	Mission Road & Cesar Chavez Avenue	0	0	0	0	0	0	0	0	0	0	0	0
28	Mission Road & 1st Street	0	0	0	0	0	0	0	0	0	0	0	0
29	Central Avenue & 1st Street	0	0	0	0	0	0	0	0	0	0	0	0
30	Vignes Street & Bauchet Street	0	0	0	0	0	0	0	0	0	0	0	0
31	Center Street & Ramirez Street/Keller Street	0	0	0	0	0	0	0	0	0	0	0	0

2028 AM Volumes Plus Construction Plus Accumulated Projects (Above-Grade Concourse Alternative)

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street	0	701	153	155	1,204	0	44	32	117	153	0	204
2	Garey Street & Commercial Street	166	136	0	35	252	191	242	23	75	0	0	1
3	Vignes Street & Commercial Street	0	0	0	0	0	0	0	0	0	0	0	0
4	Center Street & Commercial Street	0	0	0	0	0	0	0	0	0	0	0	0
5	Alameda Street & Temple Street	259	707	0	30	859	439	106	165	151	25	353	41
6	Vignes Street & Temple Street	361	114	11	6	47	62	49	25	64	7	104	3
7	Alameda Street & 1st Street	2	939	66	13	854	167	0	0	0	0	524	27
8	Vignes Street & 1st Street	4	18	27	27	33	19	54	116	10	183	528	403
9	Alameda Street & El Monte Busway/Arcadia Street	114	835	0	0	882	54	0	0	0	477	1,745	228
10	Alameda Street & Los Angeles Street EB	0	523	113	64	1,123	0	112	52	17	0	0	0
11	Alameda Street & Cesar E Chavez Avenue	122	423	128	76	1,198	156	48	496	99	118	1,232	46
12	Alameda Street & Vignes Street/Alpine Street	57	264	12	144	972	242	55	115	63	55	748	146
13	Vignes Street & Cesar E Chavez Avenue	158	387	58	149	360	30	51	441	198	251	1,251	369
14	Vignes Street & Ramirez Street	35	192	184	428	149	233	114	68	70	106	127	335
109	Alameda Street & El Monte Busway (EB)	0	1,016	47	13	936	0	0	0	0	0	0	0
110	Alameda Street & Los Angeles Street WB	0	635	0	0	1,077	337	0	0	0	110	61	39
15	Vignes Street & Main Street	1	193	42	226	508	544	61	199	5	0	404	218
16	Alameda Street/Spring Street & College Street	189	264	12	16	1,163	153	80	69	166	29	152	10
17	Alameda Street & Main Street/Ord Street	56	368	257	0	1,368	228	0	0	64	0	0	0
18	Alameda Street & Main Street/Bauchet Street	0	470	48	37	1,395	0	202	37	15	19	0	11
19	Main Street & Cesar Chavez Avenue	119	167	94	0	0	0	68	548	0	0	1,490	19
20	Alameda Street & Northbound US-101	380	636	0	0	950	191	0	0	0	0	0	0
21	Los Angeles Street & Arcadia Street	86	267	0	0	345	41	0	0	0	299	1,555	60
22	Los Angeles Street & Aliso Street	0	322	61	9	634	0	31	132	151	0	0	0
23	Los Angeles Street & Temple Street	70	330	51	168	911	93	33	383	171	100	739	121
24	Los Angeles Street & 1st Street	107	360	48	114	817	136	29	389	119	48	641	82
25	Judge John Aiso Street & Temple Street	185	0	106	0	0	0	0	344	221	203	804	0
26	Judge John Aiso Street/San Pedro Street & 1st Street	156	224	48	25	308	34	78	307	166	105	582	65
27	Mission Road & Cesar Chavez Avenue	219	500	90	26	1,019	736	289	229	130	291	917	8
28	Mission Road & 1st Street	39	166	2	108	168	507	89	71	9	12	568	155
29	Central Avenue & 1st Street	201	0	0	0	0	0	0	7	373	143	550	0
30	Vignes Street & Bauchet Street	21	627	168	62	419	12	6	4	6	100	4	24
31	Center Street & Ramirez Street/Keller Street	0	432	60	45	523	0	0	0	0	53	0	42

2028 PM Peak Hour Volumes

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street	0	1,228	168	136	739	0	359	65	48	90	0	164
2	Garey Street & Commercial Street	19	452	18	113	19	168	349	45	16	1	45	290
3	Vignes Street & Commercial Street	97	0	159	0	0	0	0	158	18	51	239	0
4	Center Street & Commercial Street	50	609	7	7	252	234	250	5	62	6	6	13
5	Alameda Street & Temple Street	89	980	0	75	732	309	250	447	195	30	158	93
6	Vignes Street & Temple Street	94	164	19	12	32	26	65	41	109	13	65	28
7	Alameda Street & 1st Street	68	735	146	41	792	123	320	481	115	0	272	14
8	Vignes Street & 1st Street	6	78	230	81	28	30	71	585	23	79	310	77
9	Alameda Street & El Monte Busway/Arcadia Street	19	1,732	0	0	608	25	0	0	0	268	564	179
10	Alameda Street & Los Angeles Street EB	0	608	66	49	930	0	241	56	83	0	0	0
11	Alameda Street & Cesar E Chavez Avenue	97	693	119	97	648	121	90	963	192	113	931	117
12	Alameda Street & Vignes Street/Alpine Street	175	975	49	95	394	56	103	320	70	55	424	354
13	Vignes Street & Cesar E Chavez Avenue	286	695	149	244	310	48	47	946	264	117	864	301
14	Vignes Street & Ramirez Street	44	448	69	301	232	127	154	71	82	156	128	520
109	Alameda Street & El Monte Busway (EB)	0	885	1,026	154	632	0	0	0	0	0	0	0
110	Alameda Street & Los Angeles Street WB	0	849	0	0	842	111	0	0	0	138	54	61
15	Vignes Street & Main Street	5	656	35	188	274	186	228	236	1	0	642	361
16	Alameda Street/Spring Street & College Street	530	874	28	9	337	101	108	94	178	32	195	27
17	Alameda Street & Main Street/Ord Street	100	1,106	642	0	694	50	0	0	80	0	0	0
18	Alameda Street & Main Street/Bauchet Street	0	885	15	3	771	0	925	22	33	63	0	39
19	Main Street & Cesar Chavez Avenue	413	879	240	0	0	0	78	1,005	0	0	1,201	23
20	Alameda Street & Northbound US-101	211	673	0	0	786	227	0	0	0	0	0	0
21	Los Angeles Street & Arcadia Street	189	1,076	0	0	153	39	0	0	0	96	492	21
22	Los Angeles Street & Aliso Street	0	1,183	185	0	249	0	81	287	21	0	0	0
23	Los Angeles Street & Temple Street	149	1,108	73	86	397	162	123	691	113	72	412	243
24	Los Angeles Street & 1st Street	136	1,030	84	85	459	174	111	823	126	93	481	235
25	Judge John Aiso Street & Temple Street	307	0	278	0	0	0	0	743	105	95	461	0
26	Judge John Aiso Street/San Pedro Street & 1st Street	183	423	140	32	189	64	85	805	128	69	571	80
27	Mission Road & Cesar Chavez Avenue	229	557	81	38	553	375	434	647	302	156	604	36
28	Mission Road & 1st Street	16	311	4	94	131	206	480	405	10	6	243	163
29	Central Avenue & 1st Street	253	0	272	0	0	0	0	720	208	106	469	0
30	Vignes Street & Bauchet Street	25	893	60	19	372	12	14	5	18	208	14	104
31	Center Street & Ramirez Street/Keller Street	0	816	14	12	393	0	0	0	0	19	0	16

Construction Worker Trips

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street					3							9
2	Garey Street & Commercial Street											5	33
3	Vignes Street & Commercial Street												
4	Center Street & Commercial Street												
5	Alameda Street & Temple Street					3							
6	Vignes Street & Temple Street					9							
7	Alameda Street & 1st Street					3					7	3	
8	Vignes Street & 1st Street				7		3						
9	Alameda Street & El Monte Busway/Arcadia Street		9			3							
10	Alameda Street & Los Angeles Street EB		9			3							
11	Alameda Street & Cesar E Chavez Avenue		9			5	5						
12	Alameda Street & Vignes Street/Alpine Street		3										
13	Vignes Street & Cesar E Chavez Avenue				14								
14	Vignes Street & Ramirez Street										14		
109	Alameda Street & El Monte Busway (EB)		9			3							
110	Alameda Street & Los Angeles Street WB		9			3	2						
15	Vignes Street & Main Street		7		14						9		
16	Alameda Street/Spring Street & College Street		3										2
17	Alameda Street & Main Street/Ord Street		3	7		9							
18	Alameda Street & Main Street/Bauchet Street		9			9							
19	Main Street & Cesar Chavez Avenue											5	
20	Alameda Street & Northbound US-101		9			3							
21	Los Angeles Street & Arcadia Street					2							
22	Los Angeles Street & Aliso Street					2							
23	Los Angeles Street & Temple Street					2							
24	Los Angeles Street & 1st Street					2					3		
25	Judge John Aiso Street & Temple Street												
26	Judge John Aiso Street/San Pedro Street & 1st Street											3	
27	Mission Road & Cesar Chavez Avenue									14			
28	Mission Road & 1st Street												
29	Central Avenue & 1st Street											3	
30	Vignes Street & Bauchet Street					14							
31	Center Street & Ramirez Street/Keller Street		14										

Construction Vehicle Trips

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street												
2	Garey Street & Commercial Street												
3	Vignes Street & Commercial Street												
4	Center Street & Commercial Street												
5	Alameda Street & Temple Street												
6	Vignes Street & Temple Street												
7	Alameda Street & 1st Street												
8	Vignes Street & 1st Street												
9	Alameda Street & El Monte Busway/Arcadia Street												
10	Alameda Street & Los Angeles Street EB												
11	Alameda Street & Cesar E Chavez Avenue					2					1		
12	Alameda Street & Vignes Street/Alpine Street										2		
13	Vignes Street & Cesar E Chavez Avenue		1									1	1
14	Vignes Street & Ramirez Street		1										
109	Alameda Street & El Monte Busway (EB)												
110	Alameda Street & Los Angeles Street WB						3						
15	Vignes Street & Main Street											2	
16	Alameda Street/Spring Street & College Street												
17	Alameda Street & Main Street/Ord Street					2							
18	Alameda Street & Main Street/Bauchet Street					2							
19	Main Street & Cesar Chavez Avenue												
20	Alameda Street & Northbound US-101												
21	Los Angeles Street & Arcadia Street					3							
22	Los Angeles Street & Aliso Street				3								
23	Los Angeles Street & Temple Street												
24	Los Angeles Street & 1st Street												
25	Judge John Aiso Street & Temple Street												
26	Judge John Aiso Street/San Pedro Street & 1st Street												
27	Mission Road & Cesar Chavez Avenue	2											
28	Mission Road & 1st Street												
29	Central Avenue & 1st Street												
30	Vignes Street & Bauchet Street	1	1					1					
31	Center Street & Ramirez Street/Keller Street					1							

Commercial Street Redistribution

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street												
2	Garey Street & Commercial Street	45	290	-18	-113	113			-45	45	-1	-45	-290
3	Vignes Street & Commercial Street	-97		-159					-158	-18	-51	-239	
4	Center Street & Commercial Street	-50	-609	-7	-7	-252	-234	-250	-5	-62	-6	-6	-13
5	Alameda Street & Temple Street												
6	Vignes Street & Temple Street												
7	Alameda Street & 1st Street												
8	Vignes Street & 1st Street												
9	Alameda Street & El Monte Busway/Arcadia Street												
10	Alameda Street & Los Angeles Street EB												
11	Alameda Street & Cesar E Chavez Avenue												
12	Alameda Street & Vignes Street/Alpine Street												
13	Vignes Street & Cesar E Chavez Avenue												
14	Vignes Street & Ramirez Street												
109	Alameda Street & El Monte Busway (EB)												
110	Alameda Street & Los Angeles Street WB												
15	Vignes Street & Main Street												
16	Alameda Street/Spring Street & College Street												
17	Alameda Street & Main Street/Ord Street												
18	Alameda Street & Main Street/Bauchet Street												
19	Main Street & Cesar Chavez Avenue												
20	Alameda Street & Northbound US-101												
21	Los Angeles Street & Arcadia Street												
22	Los Angeles Street & Aliso Street												
23	Los Angeles Street & Temple Street												
24	Los Angeles Street & 1st Street												
25	Judge John Aiso Street & Temple Street												
26	Judge John Aiso Street/San Pedro Street & 1st Street												
27	Mission Road & Cesar Chavez Avenue												
28	Mission Road & 1st Street												
29	Central Avenue & 1st Street												
30	Vignes Street & Bauchet Street												
31	Center Street & Ramirez Street/Keller Street												

Total PM Peak Hour Accumulated Project Trips

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street	0	13	0	0	22	0	0	0	0	0	0	0
2	Garey Street & Commercial Street	0	0	0	0	0	0	0	0	0	0	0	0
3	Vignes Street & Commercial Street	0	0	0	0	0	0	0	0	0	0	0	0
4	Center Street & Commercial Street	0	0	0	0	0	0	0	0	0	0	0	0
5	Alameda Street & Temple Street	0	13	0	0	22	0	0	0	0	0	0	0
6	Vignes Street & Temple Street	0	0	0	0	0	0	0	0	0	0	0	0
7	Alameda Street & 1st Street	0	13	0	0	22	0	0	0	0	0	0	0
8	Vignes Street & 1st Street	0	0	0	0	0	0	0	0	0	0	0	0
9	Alameda Street & El Monte Busway/Arcadia Street	0	13	0	0	22	0	0	0	0	0	0	0
10	Alameda Street & Los Angeles Street EB	0	0	13	10	27	0	0	0	0	0	0	0
11	Alameda Street & Cesar E Chavez Avenue	0	5	0	0	10	0	0	0	0	0	0	0
12	Alameda Street & Vignes Street/Alpine Street	0	5	0	0	10	0	0	14	0	0	0	0
13	Vignes Street & Cesar E Chavez Avenue	0	0	0	0	25	0	0	0	0	0	0	0
14	Vignes Street & Ramirez Street	8	0	0	0	0	25	0	5	9	0	25	0
109	Alameda Street & El Monte Busway (EB)	0	13	0	0	22	0	0	0	0	0	0	0
110	Alameda Street & Los Angeles Street WB	0	0	0	0	10	0	0	0	0	27	0	5
15	Vignes Street & Main Street	0	0	0	11	0	0	0	14	0	0	0	0
16	Alameda Street/Spring Street & College Street	0	5	0	0	10	0	0	0	0	0	0	0
17	Alameda Street & Main Street/Ord Street	0	5	0	0	10	0	0	0	0	0	0	0
18	Alameda Street & Main Street/Bauchet Street	0	5	0	0	10	0	0	0	0	0	0	0
19	Main Street & Cesar Chavez Avenue	0	0	0	0	0	0	0	0	0	0	0	0
20	Alameda Street & Northbound US-101	0	13	0	0	22	5	0	0	0	0	0	0
21	Los Angeles Street & Arcadia Street	0	0	0	0	0	0	0	0	0	0	0	0
22	Los Angeles Street & Aliso Street	0	0	0	0	0	0	0	0	0	0	0	0
23	Los Angeles Street & Temple Street	0	0	0	0	0	0	0	0	0	0	0	0
24	Los Angeles Street & 1st Street	0	0	0	0	0	0	0	0	0	0	0	0
25	Judge John Aiso Street & Temple Street	0	0	0	0	0	0	0	0	0	0	0	0
26	Judge John Aiso Street/San Pedro Street & 1st Street	0	0	0	0	0	0	0	0	0	0	0	0
27	Mission Road & Cesar Chavez Avenue	0	0	0	0	0	0	0	0	0	0	0	0
28	Mission Road & 1st Street	0	0	0	0	0	0	0	0	0	0	0	0
29	Central Avenue & 1st Street	0	0	0	0	0	0	0	0	0	0	0	0
30	Vignes Street & Bauchet Street	0	0	0	0	25	0	0	0	0	0	0	0
31	Center Street & Ramirez Street/Keller Street	0	25	0	0	5	0	0	0	0	0	0	0

2028 PM Volumes Plus Construction Plus Accumulated Projects (Above-Grade Concourse Alternative)

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street	0	1,241	168	136	764	0	359	65	48	90	0	173
2	Garey Street & Commercial Street	65	742	0	0	132	168	349	0	62	0	5	33
3	Vignes Street & Commercial Street	0	0	0	0	0	0	0	0	0	0	0	0
4	Center Street & Commercial Street	0	0	0	0	0	0	0	0	0	0	0	0
5	Alameda Street & Temple Street	89	993	0	75	757	309	250	447	195	30	158	93
6	Vignes Street & Temple Street	94	164	19	12	41	26	65	41	109	13	65	28
7	Alameda Street & 1st Street	68	748	146	41	817	123	320	481	115	7	275	14
8	Vignes Street & 1st Street	6	78	230	88	28	33	71	585	23	79	310	77
9	Alameda Street & El Monte Busway/Arcadia Street	19	1,754	0	0	633	25	0	0	0	268	564	179
10	Alameda Street & Los Angeles Street EB	0	617	79	59	960	0	241	56	83	0	0	0
11	Alameda Street & Cesar E Chavez Avenue	97	707	119	97	665	126	90	963	192	114	931	117
12	Alameda Street & Vignes Street/Alpine Street	175	983	49	95	404	56	103	334	70	57	424	354
13	Vignes Street & Cesar E Chavez Avenue	286	696	149	258	335	48	47	946	264	117	865	302
14	Vignes Street & Ramirez Street	52	449	69	301	232	152	154	76	91	170	153	520
109	Alameda Street & El Monte Busway (EB)	0	907	1,026	154	657	0	0	0	0	0	0	0
110	Alameda Street & Los Angeles Street WB	0	858	0	0	855	116	0	0	0	165	54	66
15	Vignes Street & Main Street	5	663	35	213	274	186	228	250	1	9	644	361
16	Alameda Street/Spring Street & College Street	530	882	28	9	347	101	108	94	178	32	195	29
17	Alameda Street & Main Street/Ord Street	100	1,114	649	0	715	50	0	0	80	0	0	0
18	Alameda Street & Main Street/Bauchet Street	0	899	15	3	792	0	925	22	33	63	0	39
19	Main Street & Cesar Chavez Avenue	413	879	240	0	0	0	78	1,005	0	0	1,206	23
20	Alameda Street & Northbound US-101	211	695	0	0	811	232	0	0	0	0	0	0
21	Los Angeles Street & Arcadia Street	189	1,076	0	0	158	39	0	0	0	96	492	21
22	Los Angeles Street & Aliso Street	0	1,183	185	3	251	0	81	287	21	0	0	0
23	Los Angeles Street & Temple Street	149	1,108	73	86	399	162	123	691	113	72	412	243
24	Los Angeles Street & 1st Street	136	1,030	84	85	461	174	111	823	126	96	481	235
25	Judge John Aiso Street & Temple Street	307	0	278	0	0	0	0	743	105	95	461	0
26	Judge John Aiso Street/San Pedro Street & 1st Street	183	423	140	32	189	64	85	805	128	69	574	80
27	Mission Road & Cesar Chavez Avenue	231	557	81	38	553	375	434	647	316	156	604	36
28	Mission Road & 1st Street	16	311	4	94	131	206	480	405	10	6	243	163
29	Central Avenue & 1st Street	253	0	272	0	0	0	0	720	208	106	472	0
30	Vignes Street & Bauchet Street	26	894	60	19	411	12	15	5	18	208	14	104
31	Center Street & Ramirez Street/Keller Street	0	855	14	12	399	0	0	0	0	19	0	16

SCC #	Item Description	Unit	Total Quantity	Units Per Day	Units per Load	Loads per Day	Phase 1 Quantity	Phase 1 Days	Phase 1 Loads	Phase 2 Quantity	Phase 2 Days	Phase 2 Loads	Phase 3 Quantity	Phase 3 Days	Phase 3 Loads	Phase 4 Quantity	Phase 4 Days	Phase 4 Loads	
50	**Systems**								**100**			**-**			**-**			**-**	
50.01	Train Control and Signals											-			-			-	
	CP Terminal and Yard Control Points (CP's)	LS	1	0.10	0.20	1	1	10	5	-	-	-	-	-	-	-	-	-	
	CP West Diamond	LS	1	0.10	0.20	1	1	10	5		-	-		-	-		-	-	
	CP Mission	LS	1	0.10	0.20	1	1	10	5		-	-		-	-		-	-	
	CP San Diego Junction	LS	1	0.10	0.20	1	1	10	5		-	-		-	-		-	-	
	CP BNSF	LS	1	0.10	0.20	1	1	10	5		-	-		-	-		-	-	
	CP West Bank Junction	LS	1	0.10	0.20	1	1	10	5		-	-		-	-		-	-	
	Intermediate Signals1411-1414	LS	1	0.10	0.20	1	1	10	5		-	-		-	-		-	-	
	CP Olympic	LS	-	0.10	0.20	1	-	-	-		-	-	-	-	-	-	-	-	
	CP Ducommun	LS	1	0.10	0.20	1	1	10	5		-	-		-	-	-	-	-	
	Gold Line																		
	Signal System Allowance - Zone 1	LS	1	0.10	0	1	1	10	5	-	-	-	-	-	-	-	-	-	
	Signal System Allowance - Zone 2	LS	1	0.10	0	1	1	10	5	-	-	-	-	-	-	-	-	-	
	New OCS	TF	2,388	250	100	3	2,388	10	24	-	-	-	-	-	-	-	-	-	
	Temp OCS Allowance	TF	2,388	250	100	3	2,388	10	24	-	-	-	-	-	-	-	-	-	
	HSR																		
	CP: HSR	LS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Approximate Total							**566**	**35,700**		**464**	**22,800**		**512**	**28,000**		**130**	**1,600**	
	Average Loads per Day								**63**			**49**			**55**			**12**	

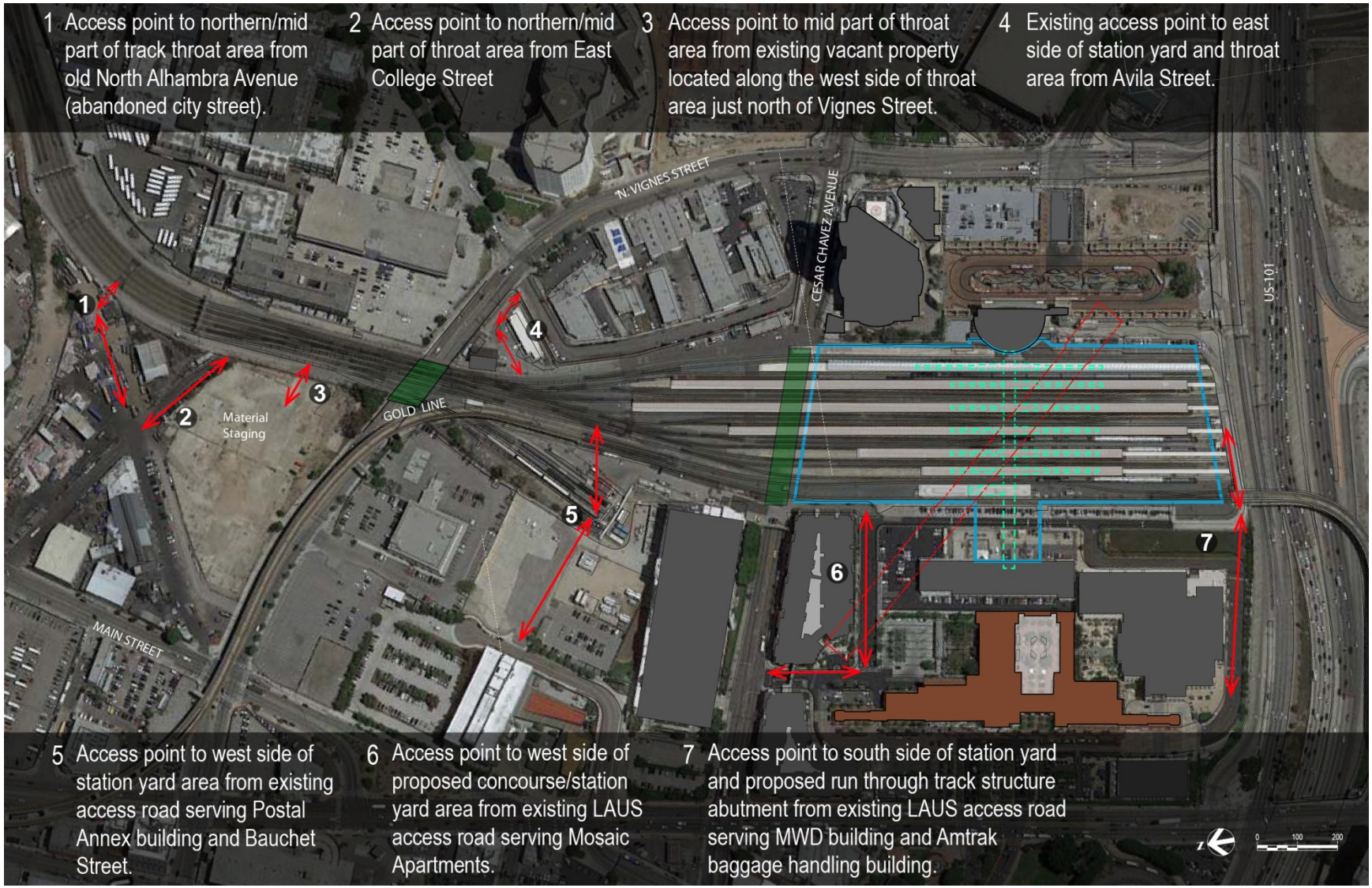
SCC #	Item Description	Unit	Total Quantity	Units Per Day	Units per Load	Loads per Day	Phase 1 Quantity	Phase 1 Days	Phase 1 Loads	Phase 2 Quantity	Phase 2 Days	Phase 2 Loads	Phase 3 Quantity	Phase 3 Days	Phase 3 Loads	Phase 4 Quantity	Phase 4 Days	Phase 4 Loads	
	Approximate Total							510	17,850		418	11,400		461	14,000		117	880	
	Average Loads per Day								35			27			30			8	

		Phase 1		Phase 2		Phase 3		Phase 4		Total Project	
Labor Cost	$	434,550,000	$	218,298,000	$	258,711,000	$	74,307,000	$	985,866,000	37%
Equipment Cost	$	280,834,000	$	116,371,000	$	145,200,000	$	38,788,000	$	581,193,000	22%
Material Cost	$	495,704,000	$	228,276,000	$	285,001,000	$	54,642,000	$	1,063,623,000	40%
Total Cost	$	1,211,088,000	$	562,944,000	$	688,912,000	$	167,737,000	$	2,630,682,000	
Labor Cost/Hour	$	126	$	126	$	126	$	126	$	126	
Total Manhours		3,451,900		1,734,100		2,055,100		590,300		7,831,400	
Total Mandays		345,190		173,410		205,510		59,030		783,140	
Scheduled Workdays		566		464		512		130		1466	
Average Men/day		**610**		**374**		**401**		**454**		**534**	

Above-Grade Concourse Estimate

	Phase 1	Phase 2	Phase 3	Phase 4	Total Project	
Labor Cost	$ 149,865,195	$ 75,285,404	$ 89,222,815	$ 25,626,586	$ 340,000,000	34%
Equipment Cost	$ 159,456,876	$ 66,075,176	$ 82,444,214	$ 22,023,734	$ 330,000,000	33%
Material Cost	$ 153,797,276	$ 70,824,982	$ 88,424,498	$ 16,953,244	$ 330,000,000	33%
Total Cost	$ 463,119,000	$ 212,186,000	$ 260,092,000	$ 64,604,000	$ 1,000,000,000	
Labor Cost/Hour	$ 126	$ 126	$ 126	$ 126	$ 126	
Total Manhours	1,190,500	598,000	708,800	203,600	2,700,800	
Total Mandays	119,050	59,800	70,880	20,360	270,080	
Scheduled Workdays	510	418	461	117	1320	
Average Men/day	**234**	**143**	**154**	**174**	**205**	

Figure 6-5. Site Access and Material Storage for Throat and Rail Yard Construction



Source: HDR, 2016

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Appendix I:
Construction Traffic Distribution

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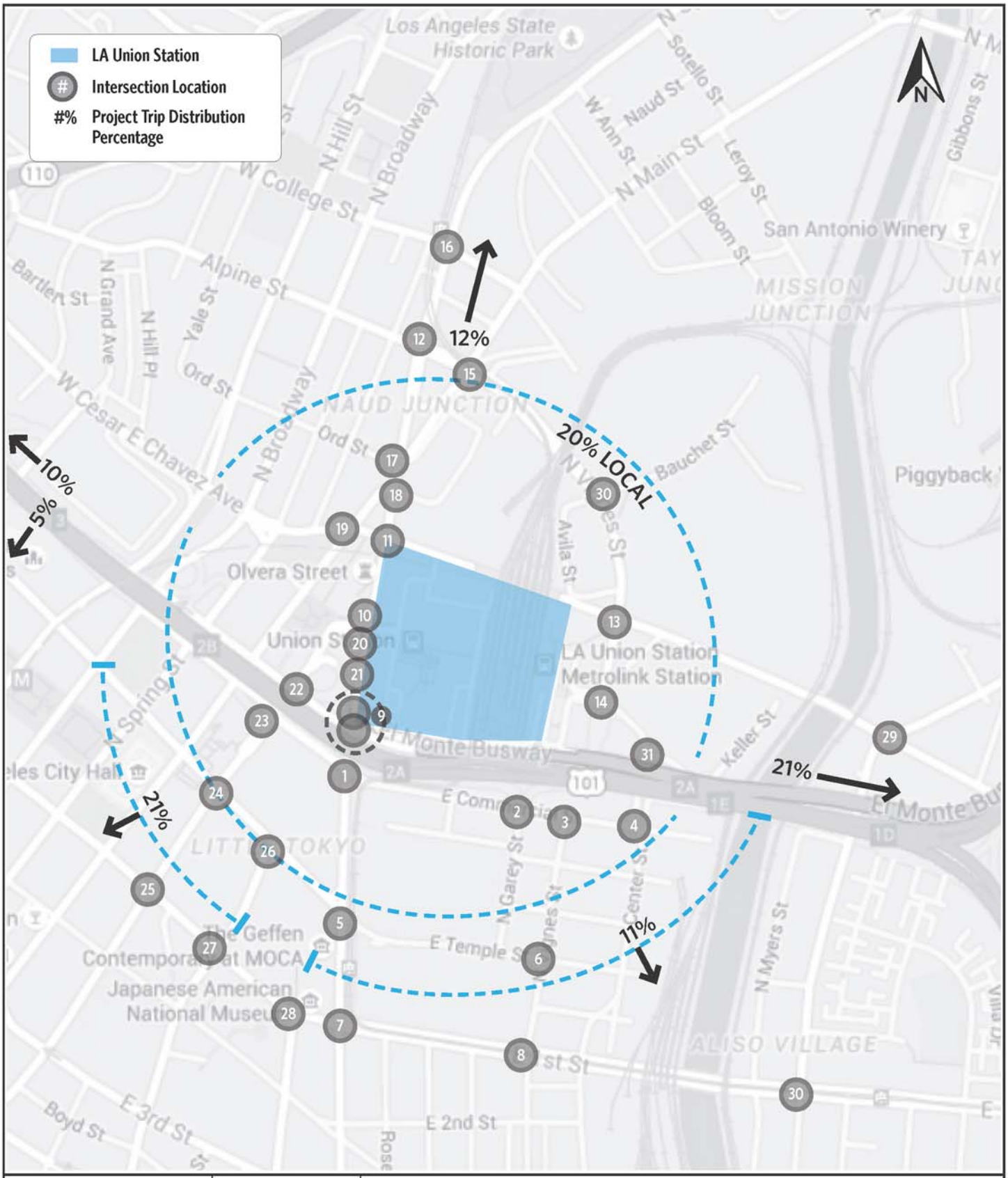

Project-Related Trip Distribution

LINK UNION STATION (LINK US)

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Appendix J:
Project Trip Distribution

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At-Grade Concourse

Construction Worker Trips - Along SB Spring Street

Assumptions | TRUE

100% Total Labor Trips

610 Total # of AM Trips | 610 AM Construction Trips along Spring Street | *Check* 611 *Total AM Trips*

244 Total # of PM Trips | 244 PM Construction Trips along Spring Street | *Check* 244 *Total PM Trips*

INPUT DATA

Labor Trip	In
AM	610
PM	0

AM TRIP PERCENTAGES

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street		3%		10%	3%							10%
2	Garey Street & Commercial Street				15%				10%			5%	35%
3	Vignes Street & Commercial Street												
4	Center Street & Commercial Street												
5	Alameda Street & Temple Street		3%			3%							
6	Vignes Street & Temple Street		10%			10%							
7	Alameda Street & 1st Street		3%	7%		3%					7%	3%	
8	Vignes Street & 1st Street				7%		3%	10%					
9	Alameda Street & El Monte Busway/Arcadia Street		13%			13%							
10	Alameda Street & Los Angeles Street EB		13%			13%		2%					
11	Alameda Street & Cesar E Chavez Avenue		15%			15%	5%						
12	Alameda Street & Vignes Street/Alpine Street		3%			3%							
13	Vignes Street & Cesar E Chavez Avenue		5%		15%								10%
14	Vignes Street & Ramirez Street		5%	35%							15%		
109	Alameda Street & El Monte Busway (EB)		13%			13%							
110	Alameda Street & Los Angeles Street WB		15%			13%	2%						
15	Vignes Street & Main Street		17%		15%	7%					10%		15%
16	Alameda Street/Spring Street & College Street		3%		2%	3%							2%
17	Alameda Street & Main Street/Ord Street		3%	17%		20%							
18	Alameda Street & Main Street/Bauchet Street		15%			20%		5%					
19	Main Street & Cesar Chavez Avenue		3%					2%				5%	
20	Alameda Street & Northbound US-101		13%			13%							
21	Los Angeles Street & Arcadia Street		2%			2%							
22	Los Angeles Street & Aliso Street		2%			2%							
23	Los Angeles Street & Temple Street		2%			2%							
24	Los Angeles Street & 1st Street		2%	3%		2%					3%		
25	Judge John Aiso Street & Temple Street												
26	Judge John Aiso Street/San Pedro Street & 1st Street								3%			3%	
27	Mission Road & Cesar Chavez Avenue									15%		10%	
28	Vignes Street & Bauchet Street												
29	Central Avenue & 1st Street								3%			3%	
30	Vignes Street & Bauchet Street		15%			15%							
31	Center Street & Ramirez Street/Keller Street		15%			35%							

AM LABOR TRIPS

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street		18		61								
2	Garey Street & Commercial Street				92				61				
3	Vignes Street & Commercial Street												
4	Center Street & Commercial Street												
5	Alameda Street & Temple Street		18										
6	Vignes Street & Temple Street		61										
7	Alameda Street & 1st Street		18	43									
8	Vignes Street & 1st Street							61					
9	Alameda Street & El Monte Busway/Arcadia Street		18			61							
10	Alameda Street & Los Angeles Street EB		18			61		12					
11	Alameda Street & Cesar E Chavez Avenue		31			61							
12	Alameda Street & Vignes Street/Alpine Street					18							
13	Vignes Street & Cesar E Chavez Avenue		31										61
14	Vignes Street & Ramirez Street		31	214									
109	Alameda Street & El Monte Busway (EB)		18			61							
110	Alameda Street & Los Angeles Street WB		31			61							
15	Vignes Street & Main Street		61			43							92
16	Alameda Street/Spring Street & College Street				12	18							
17	Alameda Street & Main Street/Ord Street			61		61							
18	Alameda Street & Main Street/Bauchet Street		31			61		31					
19	Main Street & Cesar Chavez Avenue		18					12					
20	Alameda Street & Northbound US-101		18			61							
21	Los Angeles Street & Arcadia Street		12										
22	Los Angeles Street & Aliso Street		12										
23	Los Angeles Street & Temple Street		12										
24	Los Angeles Street & 1st Street		12	18									
25	Judge John Aiso Street & Temple Street												
26	Judge John Aiso Street/San Pedro Street & 1st Street								18				
27	Mission Road & Cesar Chavez Avenue											61	
28	Vignes Street & Bauchet Street												
29	Central Avenue & 1st Street								18				
30	Vignes Street & Bauchet Street		92										
31	Center Street & Ramirez Street/Keller Street					214							

PM TRIPS PERCENTAGES

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street		3%		10%	3%							10%
2	Garey Street & Commercial Street				15%				10%			5%	35%
3	Vignes Street & Commercial Street												
4	Center Street & Commercial Street												
5	Alameda Street & Temple Street		3%			3%							
6	Vignes Street & Temple Street		10%			10%							
7	Alameda Street & 1st Street		3%	7%		3%					7%	3%	
8	Vignes Street & 1st Street				7%		3%	10%					
9	Alameda Street & El Monte Busway/Arcadia Street		13%			13%							
10	Alameda Street & Los Angeles Street EB		13%			13%		2%					
11	Alameda Street & Cesar E Chavez Avenue		15%			15%	5%						
12	Alameda Street & Vignes Street/Alpine Street		3%			3%							
13	Vignes Street & Cesar E Chavez Avenue		5%		15%								10%
14	Vignes Street & Ramirez Street		5%	35%							15%		
109	Alameda Street & El Monte Busway (EB)		13%			13%							
110	Alameda Street & Los Angeles Street WB		15%			13%	2%						
15	Vignes Street & Main Street		17%		15%	7%					10%		15%
16	Alameda Street/Spring Street & College Street		3%		2%	3%							2%
17	Alameda Street & Main Street/Ord Street		3%	17%		20%							
18	Alameda Street & Main Street/Bauchet Street		15%			20%		5%					
19	Main Street & Cesar Chavez Avenue		3%					2%				5%	
20	Alameda Street & Northbound US-101		13%			13%							
21	Los Angeles Street & Arcadia Street		2%			2%							
22	Los Angeles Street & Aliso Street		2%			2%							
23	Los Angeles Street & Temple Street		2%			2%							
24	Los Angeles Street & 1st Street		2%	3%		2%					3%		
25	Judge John Aiso Street & Temple Street												
26	Judge John Aiso Street/San Pedro Street & 1st Street								3%			3%	
27	Mission Road & Cesar Chavez Avenue									15%		10%	
28	Mission Road & 1st Street												
29	Central Avenue & 1st Street								3%			3%	
30	Vignes Street & Bauchet Street		15%			15%							
31	Center Street & Ramirez Street/Keller Street		15%			35%							

PM LABOR TRIPS

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street					7							24
2	Garey Street & Commercial Street											12	85
3	Vignes Street & Commercial Street												
4	Center Street & Commercial Street												
5	Alameda Street & Temple Street					7							
6	Vignes Street & Temple Street					24							
7	Alameda Street & 1st Street					7					17	7	
8	Vignes Street & 1st Street				17		7						
9	Alameda Street & El Monte Busway/Arcadia Street		24			7							
10	Alameda Street & Los Angeles Street EB		24			7							
11	Alameda Street & Cesar E Chavez Avenue		24			12	12						
12	Alameda Street & Vignes Street/Alpine Street		7										
13	Vignes Street & Cesar E Chavez Avenue				37								
14	Vignes Street & Ramirez Street										37		
109	Alameda Street & El Monte Busway (EB)		24			7							
110	Alameda Street & Los Angeles Street WB		24			7	5						
15	Vignes Street & Main Street		17		37						24		
16	Alameda Street/Spring Street & College Street		7										5
17	Alameda Street & Main Street/Ord Street		7	17		24							
18	Alameda Street & Main Street/Bauchet Street		24			24							
19	Main Street & Cesar Chavez Avenue											12	
20	Alameda Street & Northbound US-101		24			7							
21	Los Angeles Street & Arcadia Street					5							
22	Los Angeles Street & Aliso Street					5							
23	Los Angeles Street & Temple Street					5							
24	Los Angeles Street & 1st Street					5					7		
25	Judge John Aiso Street & Temple Street												
26	Judge John Aiso Street/San Pedro Street & 1st Street											7	
27	Mission Road & Cesar Chavez Avenue									37			
28	Mission Road & 1st Street												
29	Central Avenue & 1st Street											7	
30	Vignes Street & Bauchet Street					37							
31	Center Street & Ramirez Street/Keller Street		37										

At-Grade Concourse

Construction Truck Trips - Along SB Spring Street

Assumptions | TRUE

100%	Total Labor Trips			*Check*		
610	Total # of AM Trips	610	AM Construction Trips along Spring Street	*611*	*Total AM Trips*	
244	Total # of PM Trips	244	PM Construction Trips along Spring Street	*244*	*Total PM Trips*	

INPUT DATA

Labor Trip	In
AM	610
PM	0

AM TRIP PERCENTAGES

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street												
2	Garey Street & Commercial Street												10%
3	Vignes Street & Commercial Street												
4	Center Street & Commercial Street												
5	Alameda Street & Temple Street												
6	Vignes Street & Temple Street												
7	Alameda Street & 1st Street												
8	Vignes Street & 1st Street												
9	Alameda Street & El Monte Busway/Arcadia Street												
10	Alameda Street & Los Angeles Street EB												
11	Alameda Street & Cesar E Chavez Avenue					50%					30%		
12	Alameda Street & Vignes Street/Alpine Street										50%		
13	Vignes Street & Cesar E Chavez Avenue		30%			10%						30%	30%
14	Vignes Street & Ramirez Street		20%	10%	10%								10%
109	Alameda Street & El Monte Busway (EB)												
110	Alameda Street & Los Angeles Street WB						80%						
15	Vignes Street & Main Street				10%		10%					40%	10%
16	Alameda Street/Spring Street & College Street												
17	Alameda Street & Main Street/Ord Street					50%							
18	Alameda Street & Main Street/Bauchet Street					50%							
19	Main Street & Cesar Chavez Avenue												
20	Alameda Street & Northbound US-101												
21	Los Angeles Street & Arcadia Street					80%							
22	Los Angeles Street & Aliso Street				80%								
23	Los Angeles Street & Temple Street												
24	Los Angeles Street & 1st Street												
25	Judge John Aiso Street & Temple Street												
26	Judge John Aiso Street/San Pedro Street & 1st Street												
27	Mission Road & Cesar Chavez Avenue	60%											
28	Vignes Street & Bauchet Street												
29	Central Avenue & 1st Street												
30	Vignes Street & Bauchet Street	20%	40%			10%		20%					
31	Center Street & Ramirez Street/Keller Street		10%			20%							

AM LABOR TRIPS

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street												
2	Garey Street & Commercial Street												2
3	Vignes Street & Commercial Street												
4	Center Street & Commercial Street												
5	Alameda Street & Temple Street												
6	Vignes Street & Temple Street												
7	Alameda Street & 1st Street												
8	Vignes Street & 1st Street												
9	Alameda Street & El Monte Busway/Arcadia Street												
10	Alameda Street & Los Angeles Street EB												
11	Alameda Street & Cesar E Chavez Avenue					10					6		
12	Alameda Street & Vignes Street/Alpine Street										10		
13	Vignes Street & Cesar E Chavez Avenue		6			2						6	6
14	Vignes Street & Ramirez Street		4	2	2								2
109	Alameda Street & El Monte Busway (EB)												
110	Alameda Street & Los Angeles Street WB						16						
15	Vignes Street & Main Street				2		2					8	2
16	Alameda Street/Spring Street & College Street												
17	Alameda Street & Main Street/Ord Street					10							
18	Alameda Street & Main Street/Bauchet Street					10							
19	Main Street & Cesar Chavez Avenue												
20	Alameda Street & Northbound US-101												
21	Los Angeles Street & Arcadia Street					16							
22	Los Angeles Street & Aliso Street				16								
23	Los Angeles Street & Temple Street												
24	Los Angeles Street & 1st Street												
25	Judge John Aiso Street & Temple Street												
26	Judge John Aiso Street/San Pedro Street & 1st Street												
27	Mission Road & Cesar Chavez Avenue	12											
28	Vignes Street & Bauchet Street												
29	Central Avenue & 1st Street												
30	Vignes Street & Bauchet Street	4	8			2		4					
31	Center Street & Ramirez Street/Keller Street		2			4							

PM TRIPS PERCENTAGES

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street												
2	Garey Street & Commercial Street												10%
3	Vignes Street & Commercial Street												
4	Center Street & Commercial Street												
5	Alameda Street & Temple Street												
6	Vignes Street & Temple Street												
7	Alameda Street & 1st Street												
8	Vignes Street & 1st Street												
9	Alameda Street & El Monte Busway/Arcadia Street												
10	Alameda Street & Los Angeles Street EB												
11	Alameda Street & Cesar E Chavez Avenue					50%					30%		
12	Alameda Street & Vignes Street/Alpine Street										50%		
13	Vignes Street & Cesar E Chavez Avenue		30%			10%						30%	30%
14	Vignes Street & Ramirez Street		20%	10%	10%								10%
109	Alameda Street & El Monte Busway (EB)												
110	Alameda Street & Los Angeles Street WB						80%						
15	Vignes Street & Main Street				10%		10%					40%	10%
16	Alameda Street/Spring Street & College Street												
17	Alameda Street & Main Street/Ord Street					50%							
18	Alameda Street & Main Street/Bauchet Street					50%							
19	Main Street & Cesar Chavez Avenue												
20	Alameda Street & Northbound US-101												
21	Los Angeles Street & Arcadia Street					80%							
22	Los Angeles Street & Aliso Street				80%								
23	Los Angeles Street & Temple Street												
24	Los Angeles Street & 1st Street												
25	Judge John Aiso Street & Temple Street												
26	Judge John Aiso Street/San Pedro Street & 1st Street												
27	Mission Road & Cesar Chavez Avenue	60%											
28	Mission Road & 1st Street												
29	Central Avenue & 1st Street												
30	Vignes Street & Bauchet Street	20%	40%			10%		20%					
31	Center Street & Ramirez Street/Keller Street		10%			20%							

PM LABOR TRIPS

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street												
2	Garey Street & Commercial Street												1
3	Vignes Street & Commercial Street												
4	Center Street & Commercial Street												
5	Alameda Street & Temple Street												
6	Vignes Street & Temple Street												
7	Alameda Street & 1st Street												
8	Vignes Street & 1st Street												
9	Alameda Street & El Monte Busway/Arcadia Street												
10	Alameda Street & Los Angeles Street EB												
11	Alameda Street & Cesar E Chavez Avenue					4					2		
12	Alameda Street & Vignes Street/Alpine Street										4		
13	Vignes Street & Cesar E Chavez Avenue		3			1						2	2
14	Vignes Street & Ramirez Street		2	1	1								1
109	Alameda Street & El Monte Busway (EB)												
110	Alameda Street & Los Angeles Street WB						6						
15	Vignes Street & Main Street				1		1					3	1
16	Alameda Street/Spring Street & College Street												
17	Alameda Street & Main Street/Ord Street					4							
18	Alameda Street & Main Street/Bauchet Street					4							
19	Main Street & Cesar Chavez Avenue												
20	Alameda Street & Northbound US-101												
21	Los Angeles Street & Arcadia Street					6							
22	Los Angeles Street & Aliso Street				6								
23	Los Angeles Street & Temple Street												
24	Los Angeles Street & 1st Street												
25	Judge John Aiso Street & Temple Street												
26	Judge John Aiso Street/San Pedro Street & 1st Street												
27	Mission Road & Cesar Chavez Avenue	5											
28	Mission Road & 1st Street												
29	Central Avenue & 1st Street												
30	Vignes Street & Bauchet Street	2	3			1		2					
31	Center Street & Ramirez Street/Keller Street		1			2							

Above-Grade Concourse

Construction Worker Trips - Along SB Spring Street

Assumptions

100%	Total Labor Trips				*Check*	
234	Total # of AM Trips	234	AM Construction Trips along Spring Street		*234*	*Total AM Trips*
94	Total # of PM Trips	94	PM Construction Trips along Spring Street		*94*	*Total PM Trips*

TRUE

INPUT DATA

Labor Trip	In
AM	234
PM	0

AM TRIP PERCENTAGES

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street		3%		10%	3%							10%
2	Garey Street & Commercial Street				15%				10%			5%	35%
3	Vignes Street & Commercial Street												
4	Center Street & Commercial Street												
5	Alameda Street & Temple Street		3%			3%							
6	Vignes Street & Temple Street		10%			10%							
7	Alameda Street & 1st Street		3%	7%		3%					7%	3%	
8	Vignes Street & 1st Street				7%		3%	10%					
9	Alameda Street & El Monte Busway/Arcadia Street		13%			13%							
10	Alameda Street & Los Angeles Street EB		13%			13%		2%					
11	Alameda Street & Cesar E Chavez Avenue		15%			15%	5%						
12	Alameda Street & Vignes Street/Alpine Street		3%			3%							
13	Vignes Street & Cesar E Chavez Avenue		5%		15%								10%
14	Vignes Street & Ramirez Street		5%	35%							15%		
109	Alameda Street & El Monte Busway (EB)		13%			13%							
110	Alameda Street & Los Angeles Street WB		15%			13%	2%						
15	Vignes Street & Main Street		17%		15%	7%					10%		15%
16	Alameda Street/Spring Street & College Street		3%		2%	3%							2%
17	Alameda Street & Main Street/Ord Street		3%	17%		20%							
18	Alameda Street & Main Street/Bauchet Street		15%			20%		5%					
19	Main Street & Cesar Chavez Avenue		3%					2%				5%	
20	Alameda Street & Northbound US-101		13%			13%							
21	Los Angeles Street & Arcadia Street		2%			2%							
22	Los Angeles Street & Aliso Street		2%			2%							
23	Los Angeles Street & Temple Street		2%			2%							
24	Los Angeles Street & 1st Street		2%	3%		2%					3%		
25	Judge John Aiso Street & Temple Street												
26	Judge John Aiso Street/San Pedro Street & 1st Street								3%			3%	
27	Mission Road & Cesar Chavez Avenue									15%		10%	
28	Vignes Street & Bauchet Street												
29	Central Avenue & 1st Street								3%			3%	
30	Vignes Street & Bauchet Street		15%			15%							
31	Center Street & Ramirez Street/Keller Street		15%			35%							

AM LABOR TRIPS

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street		7		23								
2	Garey Street & Commercial Street				35				23				
3	Vignes Street & Commercial Street												
4	Center Street & Commercial Street												
5	Alameda Street & Temple Street		7										
6	Vignes Street & Temple Street		23										
7	Alameda Street & 1st Street		7	16									
8	Vignes Street & 1st Street							23					
9	Alameda Street & El Monte Busway/Arcadia Street		7			23							
10	Alameda Street & Los Angeles Street EB		7			23		5					
11	Alameda Street & Cesar E Chavez Avenue		12			23							
12	Alameda Street & Vignes Street/Alpine Street					7							
13	Vignes Street & Cesar E Chavez Avenue		12										23
14	Vignes Street & Ramirez Street		12	82									
109	Alameda Street & El Monte Busway (EB)		7			23							
110	Alameda Street & Los Angeles Street WB		12			23							
15	Vignes Street & Main Street		23			16							35
16	Alameda Street/Spring Street & College Street				5	7							
17	Alameda Street & Main Street/Ord Street			23		23							
18	Alameda Street & Main Street/Bauchet Street		12			23		12					
19	Main Street & Cesar Chavez Avenue		7					5					
20	Alameda Street & Northbound US-101		7			23							
21	Los Angeles Street & Arcadia Street		5										
22	Los Angeles Street & Aliso Street		5										
23	Los Angeles Street & Temple Street		5										
24	Los Angeles Street & 1st Street		5	7									
25	Judge John Aiso Street & Temple Street												
26	Judge John Aiso Street/San Pedro Street & 1st Street								7				
27	Mission Road & Cesar Chavez Avenue											23	
28	Vignes Street & Bauchet Street												
29	Central Avenue & 1st Street								7				
30	Vignes Street & Bauchet Street		35										
31	Center Street & Ramirez Street/Keller Street					82							

PM TRIPS PERCENTAGES

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street		3%		10%	3%							10%
2	Garey Street & Commercial Street				15%				10%			5%	35%
3	Vignes Street & Commercial Street												
4	Center Street & Commercial Street												
5	Alameda Street & Temple Street		3%			3%							
6	Vignes Street & Temple Street		10%			10%							
7	Alameda Street & 1st Street		3%	7%		3%					7%	3%	
8	Vignes Street & 1st Street				7%		3%	10%					
9	Alameda Street & El Monte Busway/Arcadia Street		13%			13%							
10	Alameda Street & Los Angeles Street EB		13%			13%		2%					
11	Alameda Street & Cesar E Chavez Avenue		15%			15%	5%						
12	Alameda Street & Vignes Street/Alpine Street		3%			3%							
13	Vignes Street & Cesar E Chavez Avenue		5%		15%								10%
14	Vignes Street & Ramirez Street		5%	35%							15%		
109	Alameda Street & El Monte Busway (EB)		13%			13%							
110	Alameda Street & Los Angeles Street WB		15%			13%	2%						
15	Vignes Street & Main Street		17%		15%	7%					10%		15%
16	Alameda Street/Spring Street & College Street		3%		2%	3%							2%
17	Alameda Street & Main Street/Ord Street		3%	17%		20%							
18	Alameda Street & Main Street/Bauchet Street		15%			20%		5%					
19	Main Street & Cesar Chavez Avenue		3%					2%				5%	
20	Alameda Street & Northbound US-101		13%			13%							
21	Los Angeles Street & Arcadia Street		2%			2%							
22	Los Angeles Street & Aliso Street		2%			2%							
23	Los Angeles Street & Temple Street		2%			2%							
24	Los Angeles Street & 1st Street		2%	3%		2%					3%		
25	Judge John Aiso Street & Temple Street												
26	Judge John Aiso Street/San Pedro Street & 1st Street								3%			3%	
27	Mission Road & Cesar Chavez Avenue									15%		10%	
28	Mission Road & 1st Street												
29	Central Avenue & 1st Street								3%			3%	
30	Vignes Street & Bauchet Street		15%			15%							
31	Center Street & Ramirez Street/Keller Street		15%			35%							

PM LABOR TRIPS

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street					3							9
2	Garey Street & Commercial Street											5	33
3	Vignes Street & Commercial Street												
4	Center Street & Commercial Street												
5	Alameda Street & Temple Street					3							
6	Vignes Street & Temple Street					9							
7	Alameda Street & 1st Street					3					7	3	
8	Vignes Street & 1st Street				7		3						
9	Alameda Street & El Monte Busway/Arcadia Street		9			3							
10	Alameda Street & Los Angeles Street EB		9			3							
11	Alameda Street & Cesar E Chavez Avenue		9			5	5						
12	Alameda Street & Vignes Street/Alpine Street		3										
13	Vignes Street & Cesar E Chavez Avenue				14								
14	Vignes Street & Ramirez Street										14		
109	Alameda Street & El Monte Busway (EB)		9			3							
110	Alameda Street & Los Angeles Street WB		9			3	2						
15	Vignes Street & Main Street		7		14						9		
16	Alameda Street/Spring Street & College Street		3										2
17	Alameda Street & Main Street/Ord Street		3	7		9							
18	Alameda Street & Main Street/Bauchet Street		9			9							
19	Main Street & Cesar Chavez Avenue											5	
20	Alameda Street & Northbound US-101		9			3							
21	Los Angeles Street & Arcadia Street					2							
22	Los Angeles Street & Aliso Street					2							
23	Los Angeles Street & Temple Street					2							
24	Los Angeles Street & 1st Street					2					3		
25	Judge John Aiso Street & Temple Street												
26	Judge John Aiso Street/San Pedro Street & 1st Street											3	
27	Mission Road & Cesar Chavez Avenue									14			
28	Mission Road & 1st Street												
29	Central Avenue & 1st Street											3	
30	Vignes Street & Bauchet Street					14							
31	Center Street & Ramirez Street/Keller Street		14										

Above-Grade Concourse

Construction Worker Trips - Along SB Spring Street

Assumptions | TRUE

				Check	
100%	Total Labor Trips				
234	Total # of AM Trips	234	AM Construction Trips along Spring Street	*234*	*Total AM Trips*
94	Total # of PM Trips	94	PM Construction Trips along Spring Street	*94*	*Total PM Trips*

INPUT DATA

Labor Trip	In
AM	234
PM	0

AM TRIP PERCENTAGES

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street												
2	Garey Street & Commercial Street												10%
3	Vignes Street & Commercial Street												
4	Center Street & Commercial Street												
5	Alameda Street & Temple Street												
6	Vignes Street & Temple Street												
7	Alameda Street & 1st Street												
8	Vignes Street & 1st Street												
9	Alameda Street & El Monte Busway/Arcadia Street												
10	Alameda Street & Los Angeles Street EB												
11	Alameda Street & Cesar E Chavez Avenue					50%					30%		
12	Alameda Street & Vignes Street/Alpine Street										50%		
13	Vignes Street & Cesar E Chavez Avenue		30%			10%						30%	30%
14	Vignes Street & Ramirez Street		20%	10%	10%								10%
109	Alameda Street & El Monte Busway (EB)												
110	Alameda Street & Los Angeles Street WB						80%						
15	Vignes Street & Main Street				10%		10%					40%	10%
16	Alameda Street/Spring Street & College Street												
17	Alameda Street & Main Street/Ord Street					50%							
18	Alameda Street & Main Street/Bauchet Street					50%							
19	Main Street & Cesar Chavez Avenue												
20	Alameda Street & Northbound US-101												
21	Los Angeles Street & Arcadia Street					80%							
22	Los Angeles Street & Aliso Street				80%								
23	Los Angeles Street & Temple Street												
24	Los Angeles Street & 1st Street												
25	Judge John Aiso Street & Temple Street												
26	Judge John Aiso Street/San Pedro Street & 1st Street												
27	Mission Road & Cesar Chavez Avenue	60%											
28	Vignes Street & Bauchet Street												
29	Central Avenue & 1st Street												
30	Vignes Street & Bauchet Street	20%	40%			10%		20%					
31	Center Street & Ramirez Street/Keller Street		10%			20%							

AM LABOR TRIPS

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street												
2	Garey Street & Commercial Street												1
3	Vignes Street & Commercial Street												
4	Center Street & Commercial Street												
5	Alameda Street & Temple Street												
6	Vignes Street & Temple Street												
7	Alameda Street & 1st Street												
8	Vignes Street & 1st Street												
9	Alameda Street & El Monte Busway/Arcadia Street												
10	Alameda Street & Los Angeles Street EB												
11	Alameda Street & Cesar E Chavez Avenue					6					3		
12	Alameda Street & Vignes Street/Alpine Street										6		
13	Vignes Street & Cesar E Chavez Avenue		3			1						3	3
14	Vignes Street & Ramirez Street		2	1	1								1
109	Alameda Street & El Monte Busway (EB)												
110	Alameda Street & Los Angeles Street WB						9						
15	Vignes Street & Main Street				1		1					4	1
16	Alameda Street/Spring Street & College Street												
17	Alameda Street & Main Street/Ord Street					6							
18	Alameda Street & Main Street/Bauchet Street					6							
19	Main Street & Cesar Chavez Avenue												
20	Alameda Street & Northbound US-101												
21	Los Angeles Street & Arcadia Street					9							
22	Los Angeles Street & Aliso Street				9								
23	Los Angeles Street & Temple Street												
24	Los Angeles Street & 1st Street												
25	Judge John Aiso Street & Temple Street												
26	Judge John Aiso Street/San Pedro Street & 1st Street												
27	Mission Road & Cesar Chavez Avenue	7											
28	Vignes Street & Bauchet Street												
29	Central Avenue & 1st Street												
30	Vignes Street & Bauchet Street	2	4			1		2					
31	Center Street & Ramirez Street/Keller Street		1			2							

PM TRIPS PERCENTAGES

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street												
2	Garey Street & Commercial Street												10%
3	Vignes Street & Commercial Street												
4	Center Street & Commercial Street												
5	Alameda Street & Temple Street												
6	Vignes Street & Temple Street												
7	Alameda Street & 1st Street												
8	Vignes Street & 1st Street												
9	Alameda Street & El Monte Busway/Arcadia Street												
10	Alameda Street & Los Angeles Street EB												
11	Alameda Street & Cesar E Chavez Avenue					50%					30%		
12	Alameda Street & Vignes Street/Alpine Street										50%		
13	Vignes Street & Cesar E Chavez Avenue		30%			10%						30%	30%
14	Vignes Street & Ramirez Street		20%	10%	10%								10%
109	Alameda Street & El Monte Busway (EB)												
110	Alameda Street & Los Angeles Street WB						80%						
15	Vignes Street & Main Street				10%		10%					40%	10%
16	Alameda Street/Spring Street & College Street												
17	Alameda Street & Main Street/Ord Street					50%							
18	Alameda Street & Main Street/Bauchet Street					50%							
19	Main Street & Cesar Chavez Avenue												
20	Alameda Street & Northbound US-101												
21	Los Angeles Street & Arcadia Street					80%							
22	Los Angeles Street & Aliso Street				80%								
23	Los Angeles Street & Temple Street												
24	Los Angeles Street & 1st Street												
25	Judge John Aiso Street & Temple Street												
26	Judge John Aiso Street/San Pedro Street & 1st Street												
27	Mission Road & Cesar Chavez Avenue	60%											
28	Mission Road & 1st Street												
29	Central Avenue & 1st Street												
30	Vignes Street & Bauchet Street	20%	40%			10%		20%					
31	Center Street & Ramirez Street/Keller Street		10%			20%							

PM LABOR TRIPS

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street												
2	Garey Street & Commercial Street												
3	Vignes Street & Commercial Street												
4	Center Street & Commercial Street												
5	Alameda Street & Temple Street												
6	Vignes Street & Temple Street												
7	Alameda Street & 1st Street												
8	Vignes Street & 1st Street												
9	Alameda Street & El Monte Busway/Arcadia Street												
10	Alameda Street & Los Angeles Street EB												
11	Alameda Street & Cesar E Chavez Avenue					2					1		
12	Alameda Street & Vignes Street/Alpine Street										2		
13	Vignes Street & Cesar E Chavez Avenue		1									1	1
14	Vignes Street & Ramirez Street		1										
109	Alameda Street & El Monte Busway (EB)												
110	Alameda Street & Los Angeles Street WB						3						
15	Vignes Street & Main Street											2	
16	Alameda Street/Spring Street & College Street												
17	Alameda Street & Main Street/Ord Street					2							
18	Alameda Street & Main Street/Bauchet Street					2							
19	Main Street & Cesar Chavez Avenue												
20	Alameda Street & Northbound US-101												
21	Los Angeles Street & Arcadia Street					3							
22	Los Angeles Street & Aliso Street				3								
23	Los Angeles Street & Temple Street												
24	Los Angeles Street & 1st Street												
25	Judge John Aiso Street & Temple Street												
26	Judge John Aiso Street/San Pedro Street & 1st Street												
27	Mission Road & Cesar Chavez Avenue	2											
28	Mission Road & 1st Street												
29	Central Avenue & 1st Street												
30	Vignes Street & Bauchet Street	1	1					1					
31	Center Street & Ramirez Street/Keller Street					1							

Appendix K:
Allocation of Project Traffic at Study Intersections

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Project AM Peak Hour

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street		12			6							
2	Garey Street & Commercial Street												
3	Vignes Street & Commercial Street												
4	Center Street & Commercial Street		7	-7	-9	9			-4		-3	-4	-7
5	Alameda Street & Temple Street		12			6							
6	Vignes Street & Temple Street												
7	Alameda Street & 1st Street		12			6							
8	Vignes Street & 1st Street												
9	Alameda Street & El Monte Busway/Arcadia Street		12			6							
10	Alameda Street & Los Angeles Street EB			12	5	8			4				
11	Alameda Street & Cesar E Chavez Avenue		2			5							
12	Alameda Street & Vignes Street/Alpine Street		2			3					1		
13	Vignes Street & Cesar E Chavez Avenue			1									
14	Vignes Street & Ramirez Street	5					1	1		2			
109	Alameda Street & El Monte Busway (EB)		12			6							
110	Alameda Street & Los Angeles Street WB					3					8		2
15	Vignes Street & Main Street												
16	Alameda Street/Spring Street & College Street		2			3							
17	Alameda Street & Main Street/Ord Street		2			5							
18	Alameda Street & Main Street/Bauchet Street		2			5							
19	Main Street & Cesar Chavez Avenue												
20	Alameda Street & Northbound US-101		12			6	2						
21	Los Angeles Street & Arcadia Street		4										
22	Los Angeles Street & Aliso Street							4					
23	Los Angeles Street & Temple Street												
24	Los Angeles Street & 1st Street												
25	Judge John Aiso Street & Temple Street												
26	Judge John Aiso Street/San Pedro Street & 1st Street												
27	Mission Road & Cesar Chavez Avenue								1			1	
28	Mission Road & 1st Street												
29	Central Avenue & 1st Street												
30	Vignes Street & Bauchet Street												
31	Center Street & Ramirez Street/Keller Street												

Project PM Peak Hour

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Alameda Street & Commercial Street		27			32							
2	Garey Street & Commercial Street												
3	Vignes Street & Commercial Street												
4	Center Street & Commercial Street		7	-7	-7	7			-5		-6	-6	-13
5	Alameda Street & Temple Street		27			32							
6	Vignes Street & Temple Street												
7	Alameda Street & 1st Street		27			32							
8	Vignes Street & 1st Street												
9	Alameda Street & El Monte Busway/Arcadia Street		27			32							
10	Alameda Street & Los Angeles Street EB			27	10	42			9				
11	Alameda Street & Cesar E Chavez Avenue		12			10							
12	Alameda Street & Vignes Street/Alpine Street		12			7					2		
13	Vignes Street & Cesar E Chavez Avenue			3									
14	Vignes Street & Ramirez Street	10					2	3		12			
109	Alameda Street & El Monte Busway (EB)		27			32							
110	Alameda Street & Los Angeles Street WB					7					42		12
15	Vignes Street & Main Street												
16	Alameda Street/Spring Street & College Street		12			7							
17	Alameda Street & Main Street/Ord Street		12			10							
18	Alameda Street & Main Street/Bauchet Street		12			10							
19	Main Street & Cesar Chavez Avenue												
20	Alameda Street & Northbound US-101		27			32	10						
21	Los Angeles Street & Arcadia Street		9										
22	Los Angeles Street & Aliso Street							9					
23	Los Angeles Street & Temple Street												
24	Los Angeles Street & 1st Street												
25	Judge John Aiso Street & Temple Street												
26	Judge John Aiso Street/San Pedro Street & 1st Street												
27	Mission Road & Cesar Chavez Avenue								3			2	
28	Mission Road & 1st Street												
29	Central Avenue & 1st Street												
30	Vignes Street & Bauchet Street												
31	Center Street & Ramirez Street/Keller Street												

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Appendix L:
2031 and 2040 Intersection Analysis Worksheets

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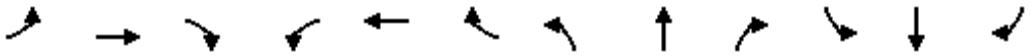
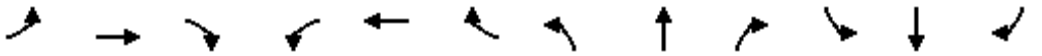


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	32	118	154	0	205	0	691	154	132	1207	0
Future Volume (vph)	44	32	118	154	0	205	0	691	154	132	1207	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5	4.5	
Lane Util. Factor	0.97	1.00	1.00	1.00		1.00		0.95	1.00	1.00	0.91	
Frt	1.00	1.00	0.85	1.00		0.85		1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1863	1583	1770		1583		3539	1583	1770	5085	
Flt Permitted	0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1863	1583	1770		1583		3539	1583	1770	5085	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	48	35	128	167	0	223	0	751	167	143	1312	0
RTOR Reduction (vph)	0	0	116	0	0	0	0	0	105	0	0	0
Lane Group Flow (vph)	48	35	12	167	0	223	0	751	62	143	1312	0
Turn Type	Split	NA	Perm	Prot		Prot		NA	Perm	Prot	NA	
Protected Phases	3	3		4		4		6		5	2	
Permitted Phases			3						6			
Actuated Green, G (s)	8.5	8.5	8.5	21.5		21.5		28.5	28.5	13.5	46.5	
Effective Green, g (s)	8.5	8.5	8.5	21.5		21.5		28.5	28.5	13.5	46.5	
Actuated g/C Ratio	0.09	0.09	0.09	0.24		0.24		0.32	0.32	0.15	0.52	
Clearance Time (s)	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5	4.5	
Lane Grp Cap (vph)	324	175	149	422		378		1120	501	265	2627	
v/s Ratio Prot	0.01	c0.02		0.09		c0.14		c0.21		0.08	c0.26	
v/s Ratio Perm			0.01						0.04			
v/c Ratio	0.15	0.20	0.08	0.40		0.59		0.67	0.12	0.54	0.50	
Uniform Delay, d1	37.4	37.6	37.2	28.8		30.3		26.7	21.9	35.4	14.2	
Progression Factor	0.81	0.82	0.62	0.89		0.90		1.61	3.86	1.38	0.60	
Incremental Delay, d2	0.9	2.5	1.0	2.7		6.5		3.0	0.5	6.5	0.6	
Delay (s)	31.2	33.2	24.1	28.4		33.8		45.9	84.9	55.4	9.1	
Level of Service	C	C	C	C		C		D	F	E	A	
Approach Delay (s)		27.2			31.5			52.9			13.7	
Approach LOS		C			C			D			B	

Intersection Summary			
HCM 2000 Control Delay	29.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	243	61	14	10	154	99	13	38	7	186	68	192
Future Volume (vph)	243	61	14	10	154	99	13	38	7	186	68	192
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	4.5
Lane Util. Factor	0.97	1.00		1.00	0.95			0.95			1.00	1.00
Frt	1.00	0.97		1.00	0.94			0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	1.00
Satd. Flow (prot)	3433	1811		1770	3331			3434			1797	1583
Flt Permitted	0.95	1.00		0.70	1.00			0.99			0.96	1.00
Satd. Flow (perm)	3433	1811		1312	3331			3434			1797	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	264	66	15	11	167	108	14	41	8	202	74	209
RTOR Reduction (vph)	0	7	0	0	67	0	0	7	0	0	0	136
Lane Group Flow (vph)	264	74	0	11	208	0	0	56	0	0	276	73
Turn Type	Prot	NA		Perm	NA		Split	NA		Split	NA	custom
Protected Phases	5	2			6		3	3		4	4	4
Permitted Phases				6								5
Actuated Green, G (s)	12.2	50.8		34.1	34.1			6.5			19.2	31.4
Effective Green, g (s)	12.2	50.8		34.1	34.1			6.5			19.2	31.4
Actuated g/C Ratio	0.14	0.56		0.38	0.38			0.07			0.21	0.35
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	465	1022		497	1262			248			383	631
v/s Ratio Prot	c0.08	0.04			c0.06			c0.02			c0.15	0.02
v/s Ratio Perm				0.01								0.02
v/c Ratio	0.57	0.07		0.02	0.16			0.22			0.72	0.12
Uniform Delay, d1	36.4	8.9		17.5	18.5			39.4			32.9	19.9
Progression Factor	1.38	0.34		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	1.5	0.1		0.0	0.1			2.1			6.5	0.1
Delay (s)	51.9	3.2		17.5	18.6			41.5			39.5	20.0
Level of Service	D	A		B	B			D			D	B
Approach Delay (s)		40.4			18.5			41.5			31.1	
Approach LOS		D			B			D			C	

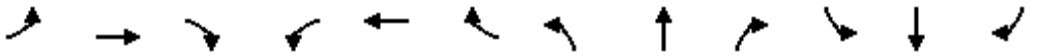
Intersection Summary			
HCM 2000 Control Delay	31.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	46.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	231	23	93	205	58	57
Future Volume (vph)	231	23	93	205	58	57
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	251	25	101	223	63	62

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2
Volume Total (vph)	276	101	223	63	62
Volume Left (vph)	0	101	0	63	0
Volume Right (vph)	25	0	0	0	62
Hadj (s)	-0.02	0.53	0.03	0.53	-0.67
Departure Headway (s)	5.0	5.7	5.2	6.5	5.3
Degree Utilization, x	0.39	0.16	0.32	0.11	0.09
Capacity (veh/h)	689	613	676	514	623
Control Delay (s)	11.1	8.5	9.4	9.1	7.6
Approach Delay (s)	11.1	9.1		8.4	
Approach LOS	B	A		A	

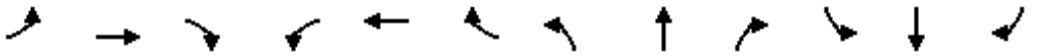
Intersection Summary			
Delay	9.8		
Level of Service	A		
Intersection Capacity Utilization	32.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	199	4	85	3	4	7	72	363	7	9	368	222
Future Volume (vph)	199	4	85	3	4	7	72	363	7	9	368	222
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	216	4	92	3	4	8	78	395	8	10	400	241

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total (vph)	312	15	78	395	8	10	400	241
Volume Left (vph)	216	3	78	0	0	10	0	0
Volume Right (vph)	92	8	0	0	8	0	0	241
Hadj (s)	0.00	-0.25	0.53	0.03	-0.67	0.53	0.03	-0.67
Departure Headway (s)	6.3	7.1	6.8	6.3	3.2	6.9	6.4	3.2
Degree Utilization, x	0.55	0.03	0.15	0.70	0.01	0.02	0.71	0.21
Capacity (veh/h)	534	407	506	548	1121	498	541	1122
Control Delay (s)	16.6	10.3	9.8	21.3	5.0	8.9	22.6	5.9
Approach Delay (s)	16.6	10.3	19.2			16.2		
Approach LOS	C	B	C			C		

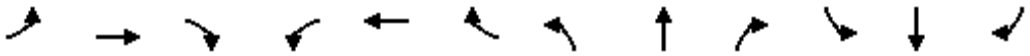
Intersection Summary				
Delay	17.2			
Level of Service	C			
Intersection Capacity Utilization	56.5%	ICU Level of Service	B	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	106	166	152	25	355	41	260	697	0	30	860	442
Future Volume (vph)	106	166	152	25	355	41	260	697	0	30	860	442
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.93		1.00	0.98		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3285		1770	3484		1770	3539		1770	3539	1583
Flt Permitted	0.24	1.00		0.54	1.00		0.23	1.00		0.95	1.00	1.00
Satd. Flow (perm)	441	3285		1014	3484		422	3539		1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	115	180	165	27	386	45	283	758	0	33	935	480
RTOR Reduction (vph)	0	118	0	0	0	0	0	0	0	0	0	186
Lane Group Flow (vph)	115	227	0	27	431	0	283	758	0	33	935	294
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4			6					2
Actuated Green, G (s)	25.5	25.5		15.8	15.8		47.2	47.2		3.8	34.7	34.7
Effective Green, g (s)	25.5	25.5		15.8	15.8		47.2	47.2		3.8	34.7	34.7
Actuated g/C Ratio	0.28	0.28		0.18	0.18		0.52	0.52		0.04	0.39	0.39
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	201	930		178	611		465	1856		74	1364	610
v/s Ratio Prot	c0.03	0.07			c0.12		c0.11	0.21		0.02	c0.26	
v/s Ratio Perm	0.13			0.03			0.21					0.19
v/c Ratio	0.57	0.24		0.15	0.71		0.61	0.41		0.45	0.69	0.48
Uniform Delay, d1	25.4	24.8		31.4	34.9		21.7	13.0		42.1	23.1	20.9
Progression Factor	0.78	0.65		1.00	1.00		0.51	0.31		1.40	0.44	0.16
Incremental Delay, d2	3.8	0.1		0.4	3.7		2.0	0.6		3.8	2.5	2.4
Delay (s)	23.8	16.3		31.8	38.6		13.1	4.6		62.7	12.7	5.7
Level of Service	C	B		C	D		B	A		E	B	A
Approach Delay (s)		18.2			38.2			6.9			11.5	
Approach LOS		B			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	14.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		

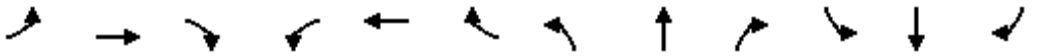
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	50	25	64	7	104	3	363	92	11	6	47	62
Future Volume (vph)	50	25	64	7	104	3	363	92	11	6	47	62
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	27	70	8	113	3	395	100	12	7	51	67

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total (vph)	81	70	124	507	125
Volume Left (vph)	54	0	8	395	7
Volume Right (vph)	0	70	3	12	67
Hadj (s)	0.37	-0.67	0.03	0.18	-0.28
Departure Headway (s)	6.8	5.7	6.0	5.1	5.2
Degree Utilization, x	0.15	0.11	0.21	0.72	0.18
Capacity (veh/h)	481	563	532	687	631
Control Delay (s)	9.8	8.2	10.6	19.9	9.4
Approach Delay (s)	9.1		10.6	19.9	9.4
Approach LOS	A		B	C	A

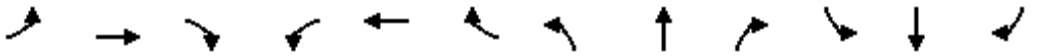
Intersection Summary				
Delay	15.4			
Level of Service	C			
Intersection Capacity Utilization	50.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	528	27	2	930	51	13	855	168
Future Volume (vph)	0	0	0	0	528	27	2	930	51	13	855	168
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor					0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt					1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected					1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)					3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted					1.00	1.00	0.24	1.00	1.00	0.21	1.00	1.00
Satd. Flow (perm)					3539	1583	451	3539	1583	396	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	574	29	2	1011	55	14	929	183
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	25	0	0	25
Lane Group Flow (vph)	0	0	0	0	574	29	2	1011	30	14	929	158
Turn Type	pm+pt				NA	Perm	Perm	NA	Perm	Perm	NA	pm+ov
Protected Phases	7	4			8			2			6	7
Permitted Phases	4					8	2		2	6		6
Actuated Green, G (s)					21.0	21.0	49.7	49.7	49.7	49.7	49.7	55.5
Effective Green, g (s)					21.0	21.0	49.7	49.7	49.7	49.7	49.7	55.5
Actuated g/C Ratio					0.23	0.23	0.55	0.55	0.55	0.55	0.55	0.62
Clearance Time (s)					4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)					3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)					825	369	249	1954	874	218	1954	1055
v/s Ratio Prot					c0.16			c0.29			0.26	c0.01
v/s Ratio Perm						0.02	0.00		0.02	0.04		0.09
v/c Ratio					0.70	0.08	0.01	0.52	0.03	0.06	0.48	0.15
Uniform Delay, d1					31.6	26.9	9.1	12.6	9.2	9.4	12.2	7.3
Progression Factor					1.62	1.70	1.00	1.00	1.00	0.51	0.39	0.11
Incremental Delay, d2					1.6	0.1	0.1	1.0	0.1	0.5	0.7	0.1
Delay (s)					52.7	45.8	9.1	13.6	9.3	5.3	5.5	0.8
Level of Service					D	D	A	B	A	A	A	A
Approach Delay (s)		0.0			52.4			13.4			4.8	
Approach LOS		A			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	18.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	47.8%	ICU Level of Service	A
Analysis Period (min)	15		

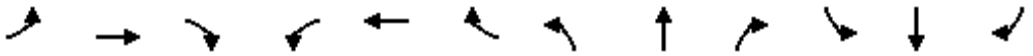
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	117	10	184	531	406	4	19	27	27	33	20
Future Volume (vph)	31	117	10	184	531	406	4	19	27	27	33	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5			4.5			4.5	
Lane Util. Factor		0.95	1.00		0.95			1.00			1.00	
Frt		1.00	0.85		0.95			0.93			0.97	
Flt Protected		0.99	1.00		0.99			1.00			0.98	
Satd. Flow (prot)		3502	1583		3320			1721			1770	
Flt Permitted		0.99	1.00		0.99			0.98			0.90	
Satd. Flow (perm)		3502	1583		3320			1701			1620	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	34	127	11	200	577	441	4	21	29	29	36	22
RTOR Reduction (vph)	0	0	8	0	95	0	0	23	0	0	14	0
Lane Group Flow (vph)	0	161	3	0	1123	0	0	31	0	0	73	0
Turn Type	Split	NA	Perm	Split	NA		Perm	NA		Perm	NA	
Protected Phases	2	2		1	1			8			4	
Permitted Phases			2				8			4		
Actuated Green, G (s)		22.3	22.3		36.1			18.1			18.1	
Effective Green, g (s)		22.3	22.3		36.1			18.1			18.1	
Actuated g/C Ratio		0.25	0.25		0.40			0.20			0.20	
Clearance Time (s)		4.5	4.5		4.5			4.5			4.5	
Vehicle Extension (s)		3.0	3.0		3.0			3.0			3.0	
Lane Grp Cap (vph)		867	392		1331			342			325	
v/s Ratio Prot		c0.05			c0.34							
v/s Ratio Perm			0.00					0.02			c0.05	
v/c Ratio		0.19	0.01		0.84			0.09			0.23	
Uniform Delay, d1		26.7	25.5		24.4			29.3			30.1	
Progression Factor		1.06	1.00		0.61			1.00			1.00	
Incremental Delay, d2		0.5	0.0		2.8			0.5			1.6	
Delay (s)		28.8	25.5		17.8			29.8			31.7	
Level of Service		C	C		B			C			C	
Approach Delay (s)		28.6			17.8			29.8			31.7	
Approach LOS		C			B			C			C	

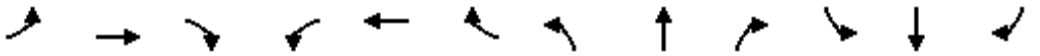
Intersection Summary			
HCM 2000 Control Delay	20.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	55.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



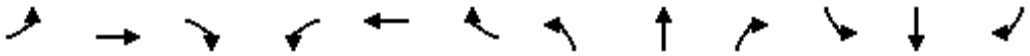
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	480	1755	229	115	826	0	0	859	55
Future Volume (vph)	0	0	0	480	1755	229	115	826	0	0	859	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5	4.5		4.5	4.5			4.5	
Lane Util. Factor				0.86	0.86		1.00	0.91			0.91	
Frt				1.00	0.98		1.00	1.00			0.99	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1522	4719		1770	5085			5039	
Flt Permitted				0.95	1.00		0.21	1.00			1.00	
Satd. Flow (perm)				1522	4719		386	5085			5039	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	522	1908	249	125	898	0	0	934	60
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	0	0	470	2209	0	125	898	0	0	991	0
Turn Type				Prot	NA		Perm	NA			NA	
Protected Phases				3	8			2			6	
Permitted Phases							2					
Actuated Green, G (s)				44.5	44.5		36.5	36.5			36.5	
Effective Green, g (s)				44.5	44.5		36.5	36.5			36.5	
Actuated g/C Ratio				0.49	0.49		0.41	0.41			0.41	
Clearance Time (s)				4.5	4.5		4.5	4.5			4.5	
Lane Grp Cap (vph)				752	2333		156	2062			2043	
v/s Ratio Prot				0.31	c0.47			0.18			0.20	
v/s Ratio Perm							c0.32					
v/c Ratio				0.62	0.95		0.80	0.44			0.49	
Uniform Delay, d1				16.6	21.6		23.6	19.3			19.8	
Progression Factor				1.00	1.00		0.67	0.54			0.22	
Incremental Delay, d2				3.9	9.8		27.6	0.5			0.8	
Delay (s)				20.5	31.4		43.5	10.9			5.1	
Level of Service				C	C		D	B			A	
Approach Delay (s)		0.0			29.5			14.8			5.1	
Approach LOS		A			C			B			A	

Intersection Summary				
HCM 2000 Control Delay	21.1	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.88			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0	
Intersection Capacity Utilization	72.0%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				



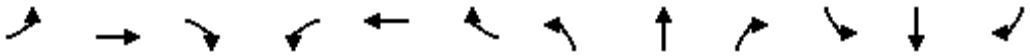
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	53	18	0	0	0	0	519	106	61	1102	0
Future Volume (vph)	107	53	18	0	0	0	0	519	106	61	1102	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5						4.5		4.5	4.5	
Lane Util. Factor	0.91	0.91						0.91		1.00	0.91	
Frt	1.00	0.98						0.97		1.00	1.00	
Flt Protected	0.95	0.98						1.00		0.95	1.00	
Satd. Flow (prot)	1610	3247						4956		1770	5085	
Flt Permitted	0.95	0.98						1.00		0.35	1.00	
Satd. Flow (perm)	1610	3247						4956		645	5085	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	116	58	20	0	0	0	0	564	115	66	1198	0
RTOR Reduction (vph)	0	14	0	0	0	0	0	34	0	0	0	0
Lane Group Flow (vph)	65	115	0	0	0	0	0	645	0	66	1198	0
Turn Type	Prot	NA						NA		pm+pt	NA	
Protected Phases	7	4						2		1	6	
Permitted Phases										6		
Actuated Green, G (s)	25.5	25.5						37.5		55.5	55.5	
Effective Green, g (s)	25.5	25.5						37.5		55.5	55.5	
Actuated g/C Ratio	0.28	0.28						0.42		0.62	0.62	
Clearance Time (s)	4.5	4.5						4.5		4.5	4.5	
Lane Grp Cap (vph)	456	919						2065		566	3135	
v/s Ratio Prot	c0.04	0.04						0.13		0.02	c0.24	
v/s Ratio Perm										0.05		
v/c Ratio	0.14	0.12						0.31		0.12	0.38	
Uniform Delay, d1	24.1	24.0						17.6		9.0	8.7	
Progression Factor	1.00	1.00						1.46		0.26	0.27	
Incremental Delay, d2	0.7	0.3						0.3		0.4	0.3	
Delay (s)	24.7	24.2						26.1		2.7	2.7	
Level of Service	C	C						C		A	A	
Approach Delay (s)		24.4			0.0			26.1			2.7	
Approach LOS		C			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	12.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	53.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	499	99	116	1239	46	123	412	129	76	1173	157
Future Volume (vph)	49	499	99	116	1239	46	123	412	129	76	1173	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	5058		1770	4904		1770	4995	
Flt Permitted	0.14	1.00	1.00	0.29	1.00		0.16	1.00		0.28	1.00	
Satd. Flow (perm)	263	3539	1583	544	5058		304	4904		530	4995	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	53	542	108	126	1347	50	134	448	140	83	1275	171
RTOR Reduction (vph)	0	0	65	0	5	0	0	63	0	0	19	0
Lane Group Flow (vph)	53	542	43	126	1392	0	134	525	0	83	1427	0
Turn Type	Perm	NA	pm+ov	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4	5	3	8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	28.5	28.5	36.0	38.3	38.3		32.0	32.0		30.7	30.7	
Effective Green, g (s)	28.5	28.5	36.0	38.3	38.3		32.0	32.0		30.7	30.7	
Actuated g/C Ratio	0.32	0.32	0.40	0.43	0.43		0.36	0.36		0.34	0.34	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)	83	1120	633	303	2152		230	1743		266	1703	
v/s Ratio Prot		0.15	0.01	0.02	c0.28		c0.05	0.11		0.02	c0.29	
v/s Ratio Perm	0.20		0.02	0.15			0.16			0.08		
v/c Ratio	0.64	0.48	0.07	0.42	0.65		0.58	0.30		0.31	0.84	
Uniform Delay, d1	26.3	24.8	16.7	16.9	20.5		31.4	20.9		20.9	27.4	
Progression Factor	0.86	0.84	0.70	1.00	1.00		0.62	0.22		0.56	0.70	
Incremental Delay, d2	31.5	1.5	0.2	4.2	1.5		10.3	0.4		2.9	4.8	
Delay (s)	54.2	22.2	11.9	21.0	22.0		29.6	5.1		14.6	24.1	
Level of Service	D	C	B	C	C		C	A		B	C	
Approach Delay (s)		23.1			21.9			9.7			23.6	
Approach LOS		C			C			A			C	

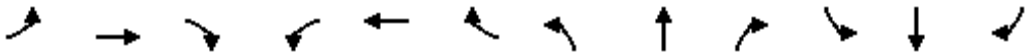
Intersection Summary			
HCM 2000 Control Delay	20.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	116	63	50	753	147	58	263	12	145	967	244
Future Volume (vph)	56	116	63	50	753	147	58	263	12	145	967	244
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3353		1770	3539	1583	1770	3539	1583	1770	4932	
Flt Permitted	0.18	1.00		0.63	1.00	1.00	0.16	1.00	1.00	0.58	1.00	
Satd. Flow (perm)	339	3353		1173	3539	1583	293	3539	1583	1074	4932	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	61	126	68	54	818	160	63	286	13	158	1051	265
RTOR Reduction (vph)	0	51	0	0	0	71	0	0	6	0	37	0
Lane Group Flow (vph)	61	143	0	54	818	89	63	286	7	158	1279	0
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8		8	2		2	6		
Actuated Green, G (s)	22.0	22.0		30.9	30.9	30.9	50.1	50.1	50.1	50.1	50.1	
Effective Green, g (s)	22.0	22.0		30.9	30.9	30.9	50.1	50.1	50.1	50.1	50.1	
Actuated g/C Ratio	0.24	0.24		0.34	0.34	0.34	0.56	0.56	0.56	0.56	0.56	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	82	819		431	1215	543	163	1970	881	597	2745	
v/s Ratio Prot		0.04		0.01	c0.23			0.08			c0.26	
v/s Ratio Perm	c0.18			0.04		0.06	0.21		0.00	0.15		
v/c Ratio	0.74	0.17		0.13	0.67	0.16	0.39	0.15	0.01	0.26	0.47	
Uniform Delay, d1	31.4	26.8		20.3	25.2	20.6	11.3	9.6	8.9	10.4	11.9	
Progression Factor	1.00	1.00		0.72	0.74	0.76	0.71	0.52	1.00	0.27	0.24	
Incremental Delay, d2	30.1	0.1		0.1	1.1	0.1	6.7	0.2	0.0	1.0	0.5	
Delay (s)	61.5	26.9		14.8	19.9	15.8	14.7	5.2	8.9	3.8	3.4	
Level of Service	E	C		B	B	B	B	A	A	A	A	
Approach Delay (s)		35.2			19.0			7.0			3.4	
Approach LOS		D			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

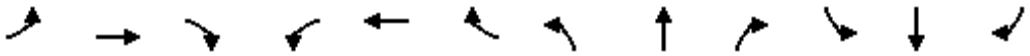
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	444	199	253	1256	345	159	374	59	150	361	30
Future Volume (vph)	52	444	199	253	1256	345	159	374	59	150	361	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3498	
Flt Permitted	0.11	1.00	1.00	0.37	1.00	1.00	0.56	1.00	1.00	0.56	1.00	
Satd. Flow (perm)	207	3539	1583	693	3539	1583	1049	3539	1583	1049	3498	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	57	483	216	275	1365	375	173	407	64	163	392	33
RTOR Reduction (vph)	0	0	130	0	0	177	0	0	53	0	7	0
Lane Group Flow (vph)	57	483	86	275	1365	198	173	407	11	163	418	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		
Actuated Green, G (s)	40.3	36.0	36.0	52.1	43.3	43.3	15.9	15.9	15.9	15.6	15.6	
Effective Green, g (s)	40.3	36.0	36.0	52.1	43.3	43.3	15.9	15.9	15.9	15.6	15.6	
Actuated g/C Ratio	0.45	0.40	0.40	0.58	0.48	0.48	0.18	0.18	0.18	0.17	0.17	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	167	1415	633	539	1702	761	255	625	279	249	606	
v/s Ratio Prot	0.02	0.14		c0.07	c0.39		0.07	c0.11		0.06	c0.12	
v/s Ratio Perm	0.14		0.05	0.23		0.12	0.05		0.01	0.05		
v/c Ratio	0.34	0.34	0.14	0.51	0.80	0.26	0.68	0.65	0.04	0.65	0.69	
Uniform Delay, d1	16.5	18.8	17.1	10.1	19.7	13.8	34.3	34.5	30.7	33.9	34.9	
Progression Factor	1.00	1.00	1.00	0.70	0.68	0.16	0.91	0.91	1.00	0.65	0.66	
Incremental Delay, d2	1.2	0.7	0.4	0.1	0.4	0.1	6.7	2.3	0.1	6.0	3.2	
Delay (s)	17.8	19.4	17.6	7.1	13.8	2.3	38.1	33.9	30.8	28.2	26.4	
Level of Service	B	B	B	A	B	A	D	C	C	C	C	
Approach Delay (s)		18.8			10.7			34.7			26.9	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	18.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		

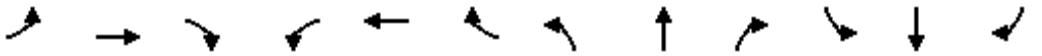
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	68	70	106	128	336	35	179	101	430	150	234
Future Volume (vph)	115	68	70	106	128	336	35	179	101	430	150	234
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	0.91	0.91		1.00	1.00	1.00	0.97	0.95	1.00	0.97	0.95	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	0.99		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1610	3154		1770	1863	1583	3433	3539	1583	3433	3216	
Flt Permitted	0.67	0.86		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1133	2739		1770	1863	1583	3433	3539	1583	3433	3216	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	74	76	115	139	365	38	195	110	467	163	254
RTOR Reduction (vph)	0	66	0	0	0	260	0	0	72	0	120	0
Lane Group Flow (vph)	85	124	0	115	139	105	38	195	38	467	297	0
Turn Type	Perm	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4					8			2			
Actuated Green, G (s)	12.3	12.3		9.1	25.9	25.9	3.1	31.4	31.4	19.2	47.5	
Effective Green, g (s)	12.3	12.3		9.1	25.9	25.9	3.1	31.4	31.4	19.2	47.5	
Actuated g/C Ratio	0.14	0.14		0.10	0.29	0.29	0.03	0.35	0.35	0.21	0.53	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	154	374		178	536	455	118	1234	552	732	1697	
v/s Ratio Prot				c0.06	0.07		0.01	0.06		c0.14	c0.09	
v/s Ratio Perm	c0.08	0.05				0.07			0.02			
v/c Ratio	0.55	0.33		0.65	0.26	0.23	0.32	0.16	0.07	0.64	0.18	
Uniform Delay, d1	36.3	35.1		38.9	24.7	24.5	42.4	20.2	19.6	32.2	11.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.69	0.46	
Incremental Delay, d2	4.2	0.5		7.8	0.3	0.3	1.6	0.3	0.2	1.6	0.2	
Delay (s)	40.5	35.7		46.7	24.9	24.7	44.0	20.5	19.8	24.0	5.3	
Level of Service	D	D		D	C	C	D	C	B	C	A	
Approach Delay (s)		37.2			28.8			22.9			15.2	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	23.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	43.9%	ICU Level of Service	A
Analysis Period (min)	15		

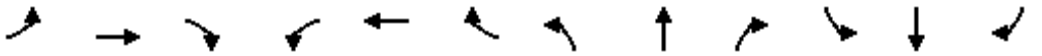
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	200	5	0	403	183	1	171	42	226	495	546
Future Volume (vph)	61	200	5	0	403	183	1	171	42	226	495	546
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95			0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00			0.95		1.00	0.97		1.00	0.92	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3527			3373		1770	3434		1770	3261	
Flt Permitted	0.95	1.00			1.00		0.17	1.00		0.61	1.00	
Satd. Flow (perm)	1770	3527			3373		322	3434		1131	3261	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	66	217	5	0	438	199	1	186	46	246	538	593
RTOR Reduction (vph)	0	3	0	0	60	0	0	18	0	0	169	0
Lane Group Flow (vph)	66	219	0	0	577	0	1	214	0	246	962	0
Turn Type	Prot	NA			NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	7.6	31.5			19.4		49.5	49.5		49.5	49.5	
Effective Green, g (s)	7.6	31.5			19.4		49.5	49.5		49.5	49.5	
Actuated g/C Ratio	0.08	0.35			0.22		0.55	0.55		0.55	0.55	
Clearance Time (s)	4.5	4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	149	1234			727		177	1888		622	1793	
v/s Ratio Prot	c0.04	0.06			c0.17			0.06			c0.29	
v/s Ratio Perm							0.00			0.22		
v/c Ratio	0.44	0.18			0.79		0.01	0.11		0.40	0.54	
Uniform Delay, d1	39.2	20.3			33.4		9.1	9.7		11.6	12.9	
Progression Factor	1.22	1.25			1.63		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.1	0.1			5.9		0.1	0.1		1.9	1.2	
Delay (s)	49.7	25.5			60.3		9.2	9.8		13.5	14.1	
Level of Service	D	C			E		A	A		B	B	
Approach Delay (s)		31.0			60.3			9.8			14.0	
Approach LOS		C			E			A			B	

Intersection Summary			
HCM 2000 Control Delay	27.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		

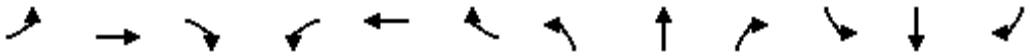
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	69	167	29	153	10	190	263	12	11	1159	154
Future Volume (vph)	81	69	167	29	153	10	190	263	12	11	1159	154
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1845		1770	3516		1770	4996	
Flt Permitted	0.47	1.00	1.00	0.71	1.00		0.13	1.00		0.57	1.00	
Satd. Flow (perm)	871	1863	1583	1319	1845		237	3516		1060	4996	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	88	75	182	32	166	11	207	286	13	12	1260	167
RTOR Reduction (vph)	0	0	154	0	3	0	0	3	0	0	14	0
Lane Group Flow (vph)	88	75	28	32	174	0	207	296	0	12	1413	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	13.8	13.8	13.8	13.8	13.8		67.2	67.2		52.1	52.1	
Effective Green, g (s)	13.8	13.8	13.8	13.8	13.8		67.2	67.2		52.1	52.1	
Actuated g/C Ratio	0.15	0.15	0.15	0.15	0.15		0.75	0.75		0.58	0.58	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	133	285	242	202	282		357	2625		613	2892	
v/s Ratio Prot		0.04			0.09		c0.07	0.08			0.28	
v/s Ratio Perm	c0.10		0.02	0.02			c0.36			0.01		
v/c Ratio	0.66	0.26	0.12	0.16	0.62		0.58	0.11		0.02	0.49	
Uniform Delay, d1	35.9	33.6	32.8	33.1	35.6		6.9	3.2		8.1	11.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.70	0.54		1.00	1.00	
Incremental Delay, d2	11.7	0.5	0.2	0.4	4.0		2.3	0.1		0.1	0.6	
Delay (s)	47.6	34.1	33.1	33.4	39.6		14.0	1.8		8.1	11.7	
Level of Service	D	C	C	C	D		B	A		A	B	
Approach Delay (s)		37.0			38.7			6.8			11.7	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	16.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	64.5%	ICU Level of Service	C
Analysis Period (min)	15		

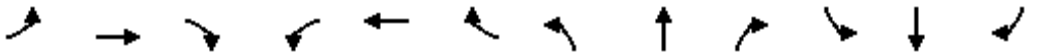
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	64	0	0	0	57	369	235	0	1344	229
Future Volume (Veh/h)	0	0	64	0	0	0	57	369	235	0	1344	229
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	70	0	0	0	62	401	255	0	1461	249
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								206			797	
pX, platoon unblocked	0.91	0.91	0.90	0.91	0.91	0.99	0.90			0.99		
vC, conflicting volume	1910	2110	612	1082	2235	200	1710			401		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1591	1812	196	680	1949	172	1412			375		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	90	100	100	100	86			100		
cM capacity (veh/h)	58	60	734	247	50	833	433			1169		

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	70	62	200	200	255	584	584	541
Volume Left	0	62	0	0	0	0	0	0
Volume Right	70	0	0	0	255	0	0	249
cSH	734	433	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.10	0.14	0.12	0.12	0.15	0.34	0.34	0.32
Queue Length 95th (ft)	8	12	0	0	0	0	0	0
Control Delay (s)	10.4	14.7	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	B						
Approach Delay (s)	10.4	1.3				0.0		
Approach LOS	B							

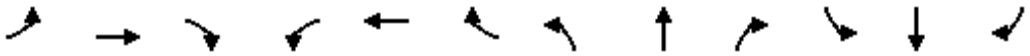
Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	41.7%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	191	37	15	20	0	11	0	458	49	37	1371	0
Future Volume (vph)	191	37	15	20	0	11	0	458	49	37	1371	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5		4.5		4.5		4.5	4.5	
Lane Util. Factor	0.97	1.00		1.00		1.00		0.91		1.00	0.91	
Frt	1.00	0.96		1.00		0.85		0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)	3433	1783		1770		1583		5012		1770	5085	
Flt Permitted	0.95	1.00		0.95		1.00		1.00		0.44	1.00	
Satd. Flow (perm)	3433	1783		1770		1583		5012		811	5085	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	208	40	16	22	0	12	0	498	53	40	1490	0
RTOR Reduction (vph)	0	14	0	0	0	12	0	9	0	0	0	0
Lane Group Flow (vph)	208	42	0	22	0	0	0	542	0	40	1490	0
Turn Type	pm+pt	NA		Prot		Perm		NA		Perm	NA	
Protected Phases	7	4		3				2			6	
Permitted Phases	4					8				6		
Actuated Green, G (s)	18.0	9.5		4.0		1.1		63.0		63.0	63.0	
Effective Green, g (s)	18.0	9.5		4.0		1.1		63.0		63.0	63.0	
Actuated g/C Ratio	0.20	0.11		0.04		0.01		0.70		0.70	0.70	
Clearance Time (s)	4.5	4.5		4.5		4.5		4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	686	188		78		19		3508		567	3559	
v/s Ratio Prot	c0.04	0.02		0.01				0.11			c0.29	
v/s Ratio Perm	0.02					0.00				0.05		
v/c Ratio	0.30	0.22		0.28		0.01		0.15		0.07	0.42	
Uniform Delay, d1	30.7	36.9		41.6		43.9		4.5		4.3	5.7	
Progression Factor	0.81	0.66		1.00		1.00		0.26		0.60	0.51	
Incremental Delay, d2	0.2	0.6		2.0		0.2		0.1		0.2	0.4	
Delay (s)	25.1	24.8		43.6		44.1		1.3		2.8	3.3	
Level of Service	C	C		D		D		A		A	A	
Approach Delay (s)		25.0			43.8			1.3			3.3	
Approach LOS		C			D			A			A	

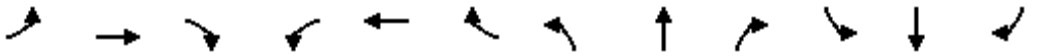
Intersection Summary			
HCM 2000 Control Delay	5.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



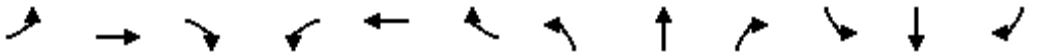
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	551	0	0	1499	20	120	161	95	0	0	0
Future Volume (vph)	63	551	0	0	1499	20	120	161	95	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5		4.5	4.5				
Lane Util. Factor	1.00	0.95			0.91		0.86	0.86				
Frt	1.00	1.00			1.00		1.00	0.95				
Flt Protected	0.95	1.00			1.00		0.95	1.00				
Satd. Flow (prot)	1770	3539			5075		1522	4542				
Flt Permitted	0.12	1.00			1.00		0.95	1.00				
Satd. Flow (perm)	216	3539			5075		1522	4542				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	68	599	0	0	1629	22	130	175	103	0	0	0
RTOR Reduction (vph)	0	0	0	0	2	0	0	81	0	0	0	0
Lane Group Flow (vph)	68	599	0	0	1649	0	103	224	0	0	0	0
Turn Type	Perm	NA			NA		pm+pt	NA				
Protected Phases		4			8		6	2				
Permitted Phases	4						2					
Actuated Green, G (s)	61.5	61.5			61.5		19.5	19.5				
Effective Green, g (s)	61.5	61.5			61.5		19.5	19.5				
Actuated g/C Ratio	0.68	0.68			0.68		0.22	0.22				
Clearance Time (s)	4.5	4.5			4.5		4.5	4.5				
Lane Grp Cap (vph)	147	2418			3467		329	984				
v/s Ratio Prot		0.17			c0.32		c0.07	0.05				
v/s Ratio Perm	0.32											
v/c Ratio	0.46	0.25			0.48		0.31	0.23				
Uniform Delay, d1	6.6	5.4			6.7		29.6	29.0				
Progression Factor	1.00	1.00			0.32		1.00	1.00				
Incremental Delay, d2	10.1	0.2			0.3		2.5	0.5				
Delay (s)	16.7	5.7			2.5		32.1	29.6				
Level of Service	B	A			A		C	C				
Approach Delay (s)		6.8			2.5			30.2			0.0	
Approach LOS		A			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	7.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	50.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



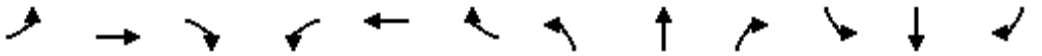
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	300	1564	60	87	263	0	0	338	41
Future Volume (vph)	0	0	0	300	1564	60	87	263	0	0	338	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.5		4.5	4.5			4.5	
Lane Util. Factor					0.91		1.00	0.95			0.95	
Frt					1.00		1.00	1.00			0.98	
Flt Protected					0.99		0.95	1.00			1.00	
Satd. Flow (prot)					5022		1770	3539			3481	
Flt Permitted					0.99		0.44	1.00			1.00	
Satd. Flow (perm)					5022		810	3539			3481	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	326	1700	65	95	286	0	0	367	45
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	0	0	10	0
Lane Group Flow (vph)	0	0	0	0	2087	0	95	286	0	0	402	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8			2					
Actuated Green, G (s)					53.5		27.5	27.5			27.5	
Effective Green, g (s)					53.5		27.5	27.5			27.5	
Actuated g/C Ratio					0.59		0.31	0.31			0.31	
Clearance Time (s)					4.5		4.5	4.5			4.5	
Lane Grp Cap (vph)					2985		247	1081			1063	
v/s Ratio Prot								0.08			0.12	
v/s Ratio Perm					0.42		c0.12					
v/c Ratio					0.70		0.38	0.26			0.38	
Uniform Delay, d1					12.7		24.6	23.6			24.5	
Progression Factor					0.17		0.60	0.61			1.00	
Incremental Delay, d2					0.5		4.4	0.6			1.0	
Delay (s)					2.7		19.2	15.0			25.6	
Level of Service					A		B	B			C	
Approach Delay (s)		0.0			2.7			16.0			25.6	
Approach LOS		A			A			B			C	

Intersection Summary			
HCM 2000 Control Delay	7.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	74.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



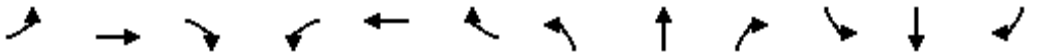
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑						↑↑			↑↑	
Traffic Volume (vph)	31	133	152	0	0	0	0	319	61	0	638	0
Future Volume (vph)	31	133	152	0	0	0	0	319	61	0	638	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5						4.5			4.5	
Lane Util. Factor		0.95						0.95			0.95	
Frt		0.93						0.98			1.00	
Flt Protected		1.00						1.00			1.00	
Satd. Flow (prot)		3268						3454			3539	
Flt Permitted		1.00						1.00			1.00	
Satd. Flow (perm)		3268						3454			3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	34	145	165	0	0	0	0	347	66	0	693	0
RTOR Reduction (vph)	0	109	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	235	0	0	0	0	0	413	0	0	693	0
Turn Type	Perm	NA						NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4											
Actuated Green, G (s)		30.5						50.5			50.5	
Effective Green, g (s)		30.5						50.5			50.5	
Actuated g/C Ratio		0.34						0.56			0.56	
Clearance Time (s)		4.5						4.5			4.5	
Lane Grp Cap (vph)		1107						1938			1985	
v/s Ratio Prot								0.12			c0.20	
v/s Ratio Perm		0.07										
v/c Ratio		0.21						0.21			0.35	
Uniform Delay, d1		21.2						9.8			10.8	
Progression Factor		1.00						0.59			0.46	
Incremental Delay, d2		0.4						0.2			0.4	
Delay (s)		21.6						6.1			5.3	
Level of Service		C						A			A	
Approach Delay (s)		21.6			0.0			6.1			5.3	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	74.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	385	172	100	743	122	70	327	52	169	917	94
Future Volume (vph)	33	385	172	100	743	122	70	327	52	169	917	94
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.95		1.00	0.98		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3375		1770	3464		1770	3466		1770	3539	1583
Flt Permitted	0.17	1.00		0.34	1.00		0.20	1.00		0.49	1.00	1.00
Satd. Flow (perm)	308	3375		628	3464		373	3466		917	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	36	418	187	109	808	133	76	355	57	184	997	102
RTOR Reduction (vph)	0	48	0	0	15	0	0	14	0	0	0	31
Lane Group Flow (vph)	36	557	0	109	926	0	76	398	0	184	997	71
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	35.5	35.5		35.5	35.5		45.5	45.5		45.5	45.5	45.5
Effective Green, g (s)	35.5	35.5		35.5	35.5		45.5	45.5		45.5	45.5	45.5
Actuated g/C Ratio	0.39	0.39		0.39	0.39		0.51	0.51		0.51	0.51	0.51
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Grp Cap (vph)	121	1331		247	1366		188	1752		463	1789	800
v/s Ratio Prot		0.17			c0.27			0.11			c0.28	
v/s Ratio Perm	0.12			0.17			0.20			0.20		0.04
v/c Ratio	0.30	0.42		0.44	0.68		0.40	0.23		0.40	0.56	0.09
Uniform Delay, d1	18.7	19.8		20.0	22.5		13.8	12.4		13.8	15.3	11.5
Progression Factor	1.00	1.00		0.74	0.74		0.75	0.66		0.69	0.67	0.49
Incremental Delay, d2	6.2	1.0		5.4	2.6		6.3	0.3		2.5	1.2	0.2
Delay (s)	24.9	20.7		20.1	19.2		16.7	8.4		12.0	11.5	5.9
Level of Service	C	C		C	B		B	A		B	B	A
Approach Delay (s)		21.0			19.3			9.7			11.1	
Approach LOS		C			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	15.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	73.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

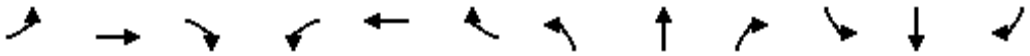


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	391	120	49	645	83	107	357	41	115	822	137
Future Volume (vph)	29	391	120	49	645	83	107	357	41	115	822	137
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	1.00	0.85	1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3415		1770	3539	1583	1770	3484		1770	3463	
Flt Permitted	0.21	1.00		0.31	1.00	1.00	0.22	1.00		0.49	1.00	
Satd. Flow (perm)	396	3415		584	3539	1583	408	3484		921	3463	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	425	130	53	701	90	116	388	45	125	893	149
RTOR Reduction (vph)	0	32	0	0	0	64	0	10	0	0	15	0
Lane Group Flow (vph)	32	523	0	53	701	27	116	423	0	125	1027	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	26.5	26.5		26.5	26.5	26.5	54.5	54.5		54.5	54.5	
Effective Green, g (s)	26.5	26.5		26.5	26.5	26.5	54.5	54.5		54.5	54.5	
Actuated g/C Ratio	0.29	0.29		0.29	0.29	0.29	0.61	0.61		0.61	0.61	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)	116	1005		171	1042	466	247	2109		557	2097	
v/s Ratio Prot		0.15			c0.20			0.12			c0.30	
v/s Ratio Perm	0.08			0.09		0.02	0.28			0.14		
v/c Ratio	0.28	0.52		0.31	0.67	0.06	0.47	0.20		0.22	0.49	
Uniform Delay, d1	24.4	26.5		24.7	27.9	22.8	9.8	8.0		8.1	10.0	
Progression Factor	1.00	1.00		0.56	0.55	0.48	1.00	1.00		0.87	0.86	
Incremental Delay, d2	5.8	1.9		4.3	3.2	0.2	6.3	0.2		0.8	0.7	
Delay (s)	30.2	28.4		18.1	18.6	11.1	16.1	8.2		7.9	9.2	
Level of Service	C	C		B	B	B	B	A		A	A	
Approach Delay (s)		28.5			17.8			9.9			9.1	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	15.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

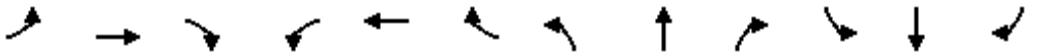
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	346	222	204	808	186	106
Future Volume (vph)	346	222	204	808	186	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	0.97	1.00
Frt	0.94		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3332		1770	3539	3433	1583
Flt Permitted	1.00		0.40	1.00	0.95	1.00
Satd. Flow (perm)	3332		743	3539	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	376	241	222	878	202	115
RTOR Reduction (vph)	87	0	0	0	0	85
Lane Group Flow (vph)	530	0	222	878	202	30
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Actuated Green, G (s)	57.5		57.5	57.5	23.5	23.5
Effective Green, g (s)	57.5		57.5	57.5	23.5	23.5
Actuated g/C Ratio	0.64		0.64	0.64	0.26	0.26
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	2128		474	2261	896	413
v/s Ratio Prot	0.16			0.25	c0.06	
v/s Ratio Perm			c0.30			0.02
v/c Ratio	0.25		0.47	0.39	0.23	0.07
Uniform Delay, d1	7.0		8.4	7.8	26.1	25.0
Progression Factor	0.28		0.78	0.81	0.88	0.95
Incremental Delay, d2	0.3		2.6	0.4	0.5	0.3
Delay (s)	2.2		9.2	6.7	23.5	24.2
Level of Service	A		A	A	C	C
Approach Delay (s)	2.2			7.2	23.8	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	8.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	44.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	78	301	167	105	585	65	157	225	49	25	310	34
Future Volume (vph)	78	301	167	105	585	65	157	225	49	25	310	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.95		1.00	0.98			0.98			0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.98			1.00	
Satd. Flow (prot)	1770	3349		1770	3486			3417			3479	
Flt Permitted	0.31	1.00		0.42	1.00			0.67			0.91	
Satd. Flow (perm)	573	3349		782	3486			2344			3160	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	85	327	182	114	636	71	171	245	53	27	337	37
RTOR Reduction (vph)	0	85	0	0	10	0	0	11	0	0	8	0
Lane Group Flow (vph)	85	424	0	114	697	0	0	458	0	0	393	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	41.5	41.5		41.5	41.5			39.5			39.5	
Effective Green, g (s)	41.5	41.5		41.5	41.5			39.5			39.5	
Actuated g/C Ratio	0.46	0.46		0.46	0.46			0.44			0.44	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Grp Cap (vph)	264	1544		360	1607			1028			1386	
v/s Ratio Prot		0.13			c0.20							
v/s Ratio Perm	0.15			0.15				c0.20			0.12	
v/c Ratio	0.32	0.27		0.32	0.43			0.45			0.28	
Uniform Delay, d1	15.3	15.0		15.3	16.3			17.6			16.2	
Progression Factor	0.53	0.40		1.30	1.35			1.00			0.58	
Incremental Delay, d2	2.9	0.4		2.2	0.8			1.4			0.5	
Delay (s)	11.0	6.4		22.2	22.8			19.0			9.8	
Level of Service	B	A		C	C			B			A	
Approach Delay (s)		7.0			22.7			19.0			9.8	
Approach LOS		A			C			B			A	

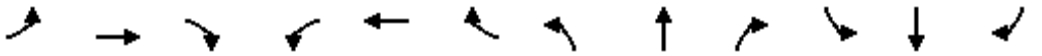
Intersection Summary			
HCM 2000 Control Delay	15.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	291	230	131	293	899	8	214	503	91	26	1025	740
Future Volume (vph)	291	230	131	293	899	8	214	503	91	26	1025	740
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.91	0.91		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.96		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1610	3212		1770	3534		1770	3539	1583	1770	3539	1583
Flt Permitted	0.20	0.58		0.33	1.00		0.13	1.00	1.00	0.45	1.00	1.00
Satd. Flow (perm)	344	1881		614	3534		234	3539	1583	834	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	316	250	142	318	977	9	233	547	99	28	1114	804
RTOR Reduction (vph)	0	40	0	0	1	0	0	0	57	0	0	39
Lane Group Flow (vph)	183	485	0	318	985	0	233	547	42	28	1114	765
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	pm+ov
Protected Phases	7	4		3	8		5	2			6	7
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	34.8	34.8		41.2	22.9		38.5	38.5	38.5	27.3	27.3	42.4
Effective Green, g (s)	34.8	34.8		41.2	22.9		38.5	38.5	38.5	27.3	27.3	42.4
Actuated g/C Ratio	0.39	0.39		0.46	0.25		0.43	0.43	0.43	0.30	0.30	0.47
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	345	950		516	899		214	1513	677	252	1073	745
v/s Ratio Prot	0.09	0.09		c0.13	c0.28		c0.08	0.15			0.31	c0.17
v/s Ratio Perm	0.12	0.11		0.16			c0.38		0.03	0.03		0.31
v/c Ratio	0.53	0.51		0.62	1.10		1.09	0.36	0.06	0.11	1.04	1.03
Uniform Delay, d1	30.5	21.1		22.9	33.5		22.6	17.4	15.1	22.6	31.4	23.8
Progression Factor	0.73	0.65		1.00	1.00		1.32	1.05	1.48	1.00	1.00	1.00
Incremental Delay, d2	1.5	0.4		2.2	59.7		86.0	0.6	0.2	0.9	37.9	40.1
Delay (s)	23.7	14.2		25.0	93.3		115.8	18.9	22.6	23.5	69.2	63.9
Level of Service	C	B		C	F		F	B	C	C	E	E
Approach Delay (s)		16.7			76.6			45.0			66.4	
Approach LOS		B			E			D			E	

Intersection Summary			
HCM 2000 Control Delay	58.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	94.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



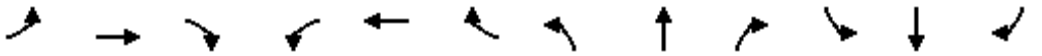
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	71	9	12	571	156	39	167	2	108	169	510
Future Volume (vph)	90	71	9	12	571	156	39	167	2	108	169	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.97		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1831		1770	1803		1770	1860		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.57	1.00		0.57	1.00	1.00
Satd. Flow (perm)	1770	1831		1770	1803		1056	1860		1056	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	98	77	10	13	621	170	42	182	2	117	184	554
RTOR Reduction (vph)	0	4	0	0	11	0	0	1	0	0	0	235
Lane Group Flow (vph)	98	83	0	13	780	0	42	183	0	117	184	319
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		6
Actuated Green, G (s)	10.3	50.5		1.0	41.2		25.0	25.0		25.0	25.0	25.0
Effective Green, g (s)	10.3	50.5		1.0	41.2		25.0	25.0		25.0	25.0	25.0
Actuated g/C Ratio	0.11	0.56		0.01	0.46		0.28	0.28		0.28	0.28	0.28
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	202	1027		19	825		293	516		293	517	439
v/s Ratio Prot	c0.06	0.05		0.01	c0.43			0.10			0.10	
v/s Ratio Perm							0.04			0.11		c0.20
v/c Ratio	0.49	0.08		0.68	0.94		0.14	0.36		0.40	0.36	0.73
Uniform Delay, d1	37.4	9.1		44.3	23.3		24.4	26.0		26.4	26.0	29.4
Progression Factor	0.71	0.83		1.00	1.00		1.00	1.00		0.49	0.49	0.13
Incremental Delay, d2	1.8	0.0		69.9	19.1		1.0	1.9		1.6	0.8	4.2
Delay (s)	28.3	7.6		114.2	42.4		25.5	28.0		14.5	13.7	8.2
Level of Service	C	A		F	D		C	C		B	B	A
Approach Delay (s)		18.6			43.6			27.5			10.2	
Approach LOS		B			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	25.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	86.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	0	375	144	553	202	0
Future Volume (vph)	0	375	144	553	202	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frt	0.85		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	3008		1770	3539	1770	
Flt Permitted	1.00		0.50	1.00	0.95	
Satd. Flow (perm)	3008		932	3539	1770	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	408	157	601	220	0
RTOR Reduction (vph)	188	0	0	0	0	0
Lane Group Flow (vph)	220	0	157	601	220	0
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases			6			8
Actuated Green, G (s)	48.5		48.5	48.5	32.5	
Effective Green, g (s)	48.5		48.5	48.5	32.5	
Actuated g/C Ratio	0.54		0.54	0.54	0.36	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Lane Grp Cap (vph)	1620		502	1907	639	
v/s Ratio Prot	0.07			c0.17	c0.12	
v/s Ratio Perm			0.17			
v/c Ratio	0.14		0.31	0.32	0.34	
Uniform Delay, d1	10.3		11.5	11.5	21.0	
Progression Factor	1.00		0.29	0.29	1.00	
Incremental Delay, d2	0.2		1.4	0.4	1.5	
Delay (s)	10.5		4.7	3.7	22.4	
Level of Service	B		A	A	C	
Approach Delay (s)	10.5			3.9	22.4	
Approach LOS	B			A	C	

Intersection Summary			
HCM 2000 Control Delay	8.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	42.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	4	6	100	4	24	20	592	169	62	420	12
Future Volume (vph)	4	4	6	100	4	24	20	592	169	62	420	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frt		0.94		1.00	0.87		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1722		1770	1621		1770	3539	1583	1770	3525	
Flt Permitted		0.94		0.75	1.00		0.48	1.00	1.00	0.41	1.00	
Satd. Flow (perm)		1641		1393	1621		899	3539	1583	758	3525	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	4	4	7	109	4	26	22	643	184	67	457	13
RTOR Reduction (vph)	0	6	0	0	23	0	0	0	41	0	1	0
Lane Group Flow (vph)	0	9	0	109	7	0	22	643	143	67	469	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		11.0		11.0	11.0		70.0	70.0	70.0	70.0	70.0	
Effective Green, g (s)		11.0		11.0	11.0		70.0	70.0	70.0	70.0	70.0	
Actuated g/C Ratio		0.12		0.12	0.12		0.78	0.78	0.78	0.78	0.78	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		200		170	198		699	2752	1231	589	2741	
v/s Ratio Prot					0.00			c0.18			0.13	
v/s Ratio Perm		0.01		c0.08			0.02		0.09	0.09		
v/c Ratio		0.04		0.64	0.04		0.03	0.23	0.12	0.11	0.17	
Uniform Delay, d1		34.9		37.6	34.8		2.3	2.7	2.4	2.4	2.6	
Progression Factor		1.00		1.00	1.00		2.46	2.76	8.69	1.49	1.40	
Incremental Delay, d2		0.1		8.0	0.1		0.1	0.2	0.2	0.4	0.1	
Delay (s)		35.0		45.6	34.9		5.7	7.7	21.4	4.0	3.7	
Level of Service		C		D	C		A	A	C	A	A	
Approach Delay (s)		35.0			43.3			10.6			3.8	
Approach LOS		C			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	11.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	44.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	54	42	434	135	45	542
Future Volume (Veh/h)	54	42	434	135	45	542
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	59	46	472	147	49	589
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						570
pX, platoon unblocked						
vC, conflicting volume	938	310			619	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	938	310			619	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	76	93			95	
cM capacity (veh/h)	249	686			957	

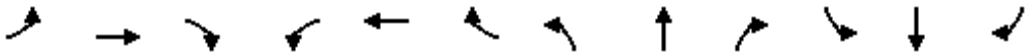
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	59	46	315	304	49	294	294
Volume Left	59	0	0	0	49	0	0
Volume Right	0	46	0	147	0	0	0
cSH	249	686	1700	1700	957	1700	1700
Volume to Capacity	0.24	0.07	0.19	0.18	0.05	0.17	0.17
Queue Length 95th (ft)	22	5	0	0	4	0	0
Control Delay (s)	23.8	10.6	0.0	0.0	9.0	0.0	0.0
Lane LOS	C	B			A		
Approach Delay (s)	18.1		0.0		0.7		
Approach LOS	C						

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	33.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	639	57	81	1306	79	55
Future Volume (vph)	639	57	81	1306	79	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3496		1770	3539	1770	1583
Flt Permitted	1.00		0.31	1.00	0.95	1.00
Satd. Flow (perm)	3496		586	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	695	62	88	1420	86	60
RTOR Reduction (vph)	12	0	0	0	0	39
Lane Group Flow (vph)	745	0	88	1420	86	21
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Actuated Green, G (s)	26.4		26.4	26.4	19.6	19.6
Effective Green, g (s)	26.4		26.4	26.4	19.6	19.6
Actuated g/C Ratio	0.48		0.48	0.48	0.36	0.36
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1678		281	1698	630	564
v/s Ratio Prot	0.21			c0.40	c0.05	
v/s Ratio Perm			0.15			0.01
v/c Ratio	0.44		0.31	0.84	0.14	0.04
Uniform Delay, d1	9.4		8.8	12.4	12.0	11.5
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2		0.6	3.8	0.5	0.1
Delay (s)	9.6		9.4	16.2	12.4	11.7
Level of Service	A		A	B	B	B
Approach Delay (s)	9.6			15.8	12.1	
Approach LOS	A			B	B	

Intersection Summary			
HCM 2000 Control Delay	13.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	48.0%	ICU Level of Service	A
Analysis Period (min)	15		

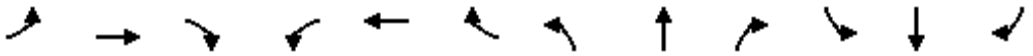
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	105	61	37	0	627	0	0	1057	330
Future Volume (vph)	0	0	0	105	61	37	0	627	0	0	1057	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5	4.5	4.5		4.5			4.5	
Lane Util. Factor				1.00	1.00	1.00		0.91			0.86	
Frt				1.00	1.00	0.85		1.00			0.96	
Flt Protected				0.95	1.00	1.00		1.00			1.00	
Satd. Flow (prot)				1770	1863	1583		5085			6179	
Flt Permitted				0.95	1.00	1.00		1.00			1.00	
Satd. Flow (perm)				1770	1863	1583		5085			6179	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	114	66	40	0	682	0	0	1149	359
RTOR Reduction (vph)	0	0	0	0	0	36	0	0	0	0	31	0
Lane Group Flow (vph)	0	0	0	114	66	4	0	682	0	0	1477	0
Turn Type				Prot	NA	Perm		NA			NA	
Protected Phases				3	8			2			6	
Permitted Phases						8						
Actuated Green, G (s)				9.8	9.8	9.8		71.2			71.2	
Effective Green, g (s)				9.8	9.8	9.8		71.2			71.2	
Actuated g/C Ratio				0.11	0.11	0.11		0.79			0.79	
Clearance Time (s)				4.5	4.5	4.5		4.5			4.5	
Vehicle Extension (s)				3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)				192	202	172		4022			4888	
v/s Ratio Prot				c0.06	0.04			0.13			c0.24	
v/s Ratio Perm						0.00						
v/c Ratio				0.59	0.33	0.03		0.17			0.30	
Uniform Delay, d1				38.2	37.1	35.8		2.3			2.6	
Progression Factor				1.00	1.00	1.00		0.23			0.24	
Incremental Delay, d2				4.9	0.9	0.1		0.1			0.1	
Delay (s)				43.1	38.0	35.9		0.6			0.7	
Level of Service				D	D	D		A			A	
Approach Delay (s)		0.0			40.2			0.6			0.7	
Approach LOS		A			D			A			A	

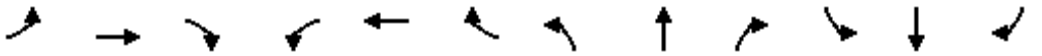
Intersection Summary			
HCM 2000 Control Delay	4.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	53.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	361	65	49	91	0	165	0	1236	169	137	743	0
Future Volume (vph)	361	65	49	91	0	165	0	1236	169	137	743	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5	4.5	
Lane Util. Factor	0.97	1.00	1.00	1.00		1.00		0.95	1.00	1.00	0.91	
Frt	1.00	1.00	0.85	1.00		0.85		1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1863	1583	1770		1583		3539	1583	1770	5085	
Flt Permitted	0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1863	1583	1770		1583		3539	1583	1770	5085	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	392	71	53	99	0	179	0	1343	184	149	808	0
RTOR Reduction (vph)	0	0	46	0	0	0	0	0	73	0	0	0
Lane Group Flow (vph)	392	71	7	99	0	179	0	1343	111	149	808	0
Turn Type	Split	NA	Perm	Prot		Prot		NA	Perm	Prot	NA	
Protected Phases	3	3		4		4		6		5	2	
Permitted Phases			3						6			
Actuated Green, G (s)	11.5	11.5	11.5	12.5		12.5		38.5	38.5	9.5	52.5	
Effective Green, g (s)	11.5	11.5	11.5	12.5		12.5		38.5	38.5	9.5	52.5	
Actuated g/C Ratio	0.13	0.13	0.13	0.14		0.14		0.43	0.43	0.11	0.58	
Clearance Time (s)	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5	4.5	
Lane Grp Cap (vph)	438	238	202	245		219		1513	677	186	2966	
v/s Ratio Prot	c0.11	0.04		0.06		c0.11		c0.38		c0.08	0.16	
v/s Ratio Perm			0.00						0.07			
v/c Ratio	0.89	0.30	0.03	0.40		0.82		0.89	0.16	0.80	0.27	
Uniform Delay, d1	38.7	35.6	34.4	35.4		37.6		23.8	15.8	39.3	9.3	
Progression Factor	1.12	1.11	1.00	1.09		1.09		1.21	2.27	1.32	0.40	
Incremental Delay, d2	20.2	2.6	0.3	4.7		26.9		6.4	0.4	28.4	0.2	
Delay (s)	63.4	42.2	34.6	43.3		67.8		35.1	36.4	80.2	3.9	
Level of Service	E	D	C	D		E		D	D	F	A	
Approach Delay (s)		57.5			59.0			35.2			15.8	
Approach LOS		E			E			D			B	

Intersection Summary			
HCM 2000 Control Delay	35.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	66.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	351	45	17	1	45	292	20	454	19	114	20	169
Future Volume (vph)	351	45	17	1	45	292	20	454	19	114	20	169
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	4.5
Lane Util. Factor	0.97	1.00		1.00	0.95			0.95			1.00	1.00
Frt	1.00	0.96		1.00	0.87			0.99			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.96	1.00
Satd. Flow (prot)	3433	1788		1770	3079			3511			1787	1583
Flt Permitted	0.95	1.00		0.71	1.00			1.00			0.96	1.00
Satd. Flow (perm)	3433	1788		1329	3079			3511			1787	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	382	49	18	1	49	317	22	493	21	124	22	184
RTOR Reduction (vph)	0	9	0	0	230	0	0	3	0	0	0	129
Lane Group Flow (vph)	382	58	0	1	136	0	0	533	0	0	146	55
Turn Type	Prot	NA		Perm	NA		Split	NA		Split	NA	custom
Protected Phases	5	2			6		3	3		4	4	4
Permitted Phases				6								5
Actuated Green, G (s)	14.6	43.9		24.8	24.8			20.5			12.1	26.7
Effective Green, g (s)	14.6	43.9		24.8	24.8			20.5			12.1	26.7
Actuated g/C Ratio	0.16	0.49		0.28	0.28			0.23			0.13	0.30
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	556	872		366	848			799			240	548
v/s Ratio Prot	c0.11	0.03			c0.04			c0.15			c0.08	0.01
v/s Ratio Perm				0.00								0.02
v/c Ratio	0.69	0.07		0.00	0.16			0.67			0.61	0.10
Uniform Delay, d1	35.5	12.2		23.6	24.7			31.6			36.7	22.9
Progression Factor	1.25	0.48		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	3.3	0.1		0.0	0.1			4.4			4.3	0.1
Delay (s)	47.8	6.0		23.6	24.8			36.0			41.0	23.0
Level of Service	D	A		C	C			D			D	C
Approach Delay (s)		41.5			24.8			36.0			31.0	
Approach LOS		D			C			D			C	

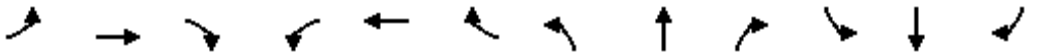
Intersection Summary			
HCM 2000 Control Delay	34.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	159	19	52	241	98	160
Future Volume (vph)	159	19	52	241	98	160
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	173	21	57	262	107	174

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2
Volume Total (vph)	194	57	262	107	174
Volume Left (vph)	0	57	0	107	0
Volume Right (vph)	21	0	0	0	174
Hadj (s)	-0.03	0.53	0.03	0.53	-0.67
Departure Headway (s)	5.5	6.0	5.5	6.4	5.2
Degree Utilization, x	0.29	0.10	0.40	0.19	0.25
Capacity (veh/h)	625	567	624	533	651
Control Delay (s)	10.7	8.5	11.0	9.7	8.7
Approach Delay (s)	10.7	10.6		9.1	
Approach LOS	B	B		A	

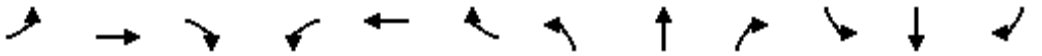
Intersection Summary			
Delay	10.1		
Level of Service	B		
Intersection Capacity Utilization	28.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	252	5	62	6	6	13	51	612	7	7	254	235
Future Volume (vph)	252	5	62	6	6	13	51	612	7	7	254	235
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	274	5	67	7	7	14	55	665	8	8	276	255

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total (vph)	346	28	55	665	8	8	276	255
Volume Left (vph)	274	7	55	0	0	8	0	0
Volume Right (vph)	67	14	0	0	8	0	0	255
Hadj (s)	0.08	-0.22	0.53	0.03	-0.67	0.53	0.03	-0.67
Departure Headway (s)	6.5	7.3	6.9	6.4	3.2	7.3	6.8	3.2
Degree Utilization, x	0.63	0.06	0.11	1.18	0.01	0.02	0.52	0.23
Capacity (veh/h)	533	437	510	567	1121	473	501	1122
Control Delay (s)	19.9	10.8	9.5	121.3	5.0	9.3	15.9	5.9
Approach Delay (s)	19.9	10.8	111.6			11.1		
Approach LOS	C	B	F			B		

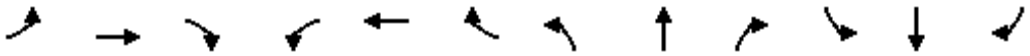
Intersection Summary				
Delay	57.5			
Level of Service	F			
Intersection Capacity Utilization	70.2%	ICU Level of Service	C	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	252	450	196	30	159	94	90	986	0	75	736	311
Future Volume (vph)	252	450	196	30	159	94	90	986	0	75	736	311
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.95		1.00	0.94		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3378		1770	3342		1770	3539		1770	3539	1583
Flt Permitted	0.35	1.00		0.38	1.00		0.35	1.00		0.95	1.00	1.00
Satd. Flow (perm)	659	3378		717	3342		651	3539		1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	274	489	213	33	173	102	98	1072	0	82	800	338
RTOR Reduction (vph)	0	60	0	0	0	0	0	0	0	0	0	177
Lane Group Flow (vph)	274	642	0	33	275	0	98	1072	0	82	800	161
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4			6					2
Actuated Green, G (s)	28.6	28.6		12.7	12.7		40.3	40.3		7.6	43.0	43.0
Effective Green, g (s)	28.6	28.6		12.7	12.7		40.3	40.3		7.6	43.0	43.0
Actuated g/C Ratio	0.32	0.32		0.14	0.14		0.45	0.45		0.08	0.48	0.48
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	350	1073		101	471		352	1584		149	1690	756
v/s Ratio Prot	c0.10	0.19			0.08		0.02	c0.30		0.05	c0.23	
v/s Ratio Perm	c0.15			0.05			0.11					0.10
v/c Ratio	0.78	0.60		0.33	0.58		0.28	0.68		0.55	0.47	0.21
Uniform Delay, d1	25.1	25.9		34.8	36.2		16.2	19.7		39.6	15.9	13.7
Progression Factor	0.67	0.53		1.00	1.00		0.65	0.72		1.35	0.52	0.31
Incremental Delay, d2	9.8	0.8		1.9	1.8		0.4	2.0		4.3	0.9	0.6
Delay (s)	26.6	14.5		36.7	38.0		10.9	16.3		57.5	9.2	4.9
Level of Service	C	B		D	D		B	B		E	A	A
Approach Delay (s)		17.9			37.9			15.8			11.3	
Approach LOS		B			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	16.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	69.3%	ICU Level of Service	C
Analysis Period (min)	15		

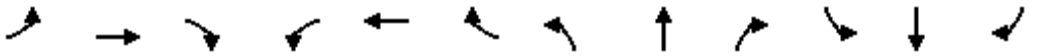
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	65	41	109	13	65	28	95	165	20	12	32	26
Future Volume (vph)	65	41	109	13	65	28	95	165	20	12	32	26
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	71	45	118	14	71	30	103	179	22	13	35	28

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total (vph)	116	118	115	304	76
Volume Left (vph)	71	0	14	103	13
Volume Right (vph)	0	118	30	22	28
Hadj (s)	0.34	-0.67	-0.10	0.06	-0.15
Departure Headway (s)	6.0	5.0	5.2	5.0	5.1
Degree Utilization, x	0.19	0.16	0.17	0.42	0.11
Capacity (veh/h)	563	676	628	693	642
Control Delay (s)	9.2	7.7	9.3	11.5	8.7
Approach Delay (s)	8.5		9.3	11.5	8.7
Approach LOS	A		A	B	A

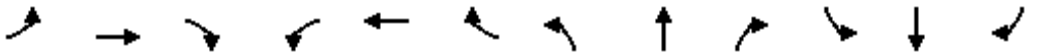
Intersection Summary				
Delay	9.9			
Level of Service	A			
Intersection Capacity Utilization	41.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	322	484	116	0	274	14	68	739	147	41	797	124
Future Volume (vph)	322	484	116	0	274	14	68	739	147	41	797	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.97			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3437			3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.33	1.00			1.00	1.00	0.25	1.00	1.00	0.27	1.00	1.00
Satd. Flow (perm)	622	3437			3539	1583	459	3539	1583	510	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	350	526	126	0	298	15	74	803	160	45	866	135
RTOR Reduction (vph)	0	26	0	0	0	0	0	0	81	0	0	40
Lane Group Flow (vph)	350	626	0	0	298	15	74	803	79	45	866	95
Turn Type	pm+pt	NA			NA	Perm	Perm	NA	Perm	Perm	NA	pm+ov
Protected Phases	7	4			8			2			6	7
Permitted Phases	4					8	2		2	6		6
Actuated Green, G (s)	36.6	36.6			13.2	13.2	44.4	44.4	44.4	44.4	44.4	63.3
Effective Green, g (s)	36.6	36.6			13.2	13.2	44.4	44.4	44.4	44.4	44.4	63.3
Actuated g/C Ratio	0.41	0.41			0.15	0.15	0.49	0.49	0.49	0.49	0.49	0.70
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	494	1397			519	232	226	1745	780	251	1745	1192
v/s Ratio Prot	c0.15	0.18			0.08			0.23			c0.24	0.02
v/s Ratio Perm	c0.14					0.01	0.16		0.05	0.09		0.04
v/c Ratio	0.71	0.45			0.57	0.06	0.33	0.46	0.10	0.18	0.50	0.08
Uniform Delay, d1	20.2	19.4			35.8	33.1	13.8	14.9	12.2	12.7	15.3	4.2
Progression Factor	0.60	0.52			1.39	1.51	1.00	1.00	1.00	0.97	0.98	0.19
Incremental Delay, d2	4.1	0.2			1.2	0.1	3.8	0.9	0.3	1.4	0.9	0.0
Delay (s)	16.2	10.3			51.0	49.9	17.6	15.8	12.4	13.7	15.9	0.8
Level of Service	B	B			D	D	B	B	B	B	B	A
Approach Delay (s)		12.4			50.9			15.4			13.9	
Approach LOS		B			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	17.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	66.6%	ICU Level of Service	C
Analysis Period (min)	15		

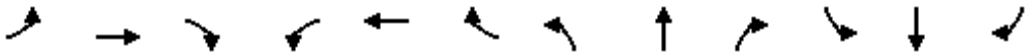
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	589	23	80	312	77	6	78	231	82	28	30
Future Volume (vph)	71	589	23	80	312	77	6	78	231	82	28	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5			4.5			4.5	
Lane Util. Factor		0.95	1.00		0.95			1.00			1.00	
Frt		1.00	0.85		0.98			0.90			0.97	
Flt Protected		0.99	1.00		0.99			1.00			0.97	
Satd. Flow (prot)		3520	1583		3423			1677			1757	
Flt Permitted		0.99	1.00		0.99			0.99			0.52	
Satd. Flow (perm)		3520	1583		3423			1670			938	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	77	640	25	87	339	84	7	85	251	89	30	33
RTOR Reduction (vph)	0	0	16	0	19	0	0	109	0	0	11	0
Lane Group Flow (vph)	0	717	9	0	491	0	0	234	0	0	141	0
Turn Type	Split	NA	Perm	Split	NA		Perm	NA		Perm	NA	
Protected Phases	2	2		1	1			8			4	
Permitted Phases			2				8			4		
Actuated Green, G (s)		32.4	32.4		17.4			26.7			26.7	
Effective Green, g (s)		32.4	32.4		17.4			26.7			26.7	
Actuated g/C Ratio		0.36	0.36		0.19			0.30			0.30	
Clearance Time (s)		4.5	4.5		4.5			4.5			4.5	
Vehicle Extension (s)		3.0	3.0		3.0			3.0			3.0	
Lane Grp Cap (vph)		1267	569		661			495			278	
v/s Ratio Prot		c0.20			c0.14							
v/s Ratio Perm			0.01					0.14			c0.15	
v/c Ratio		0.57	0.02		0.74			0.47			0.51	
Uniform Delay, d1		23.1	18.5		34.2			25.9			26.2	
Progression Factor		0.64	1.00		1.09			1.00			1.00	
Incremental Delay, d2		1.8	0.0		3.5			3.2			6.5	
Delay (s)		16.7	18.6		40.8			29.1			32.6	
Level of Service		B	B		D			C			C	
Approach Delay (s)		16.7			40.8			29.1			32.6	
Approach LOS		B			D			C			C	

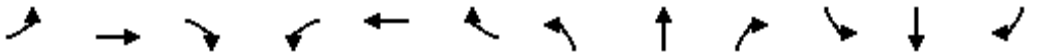
Intersection Summary			
HCM 2000 Control Delay	27.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



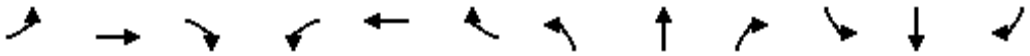
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	269	568	180	20	1743	0	0	611	25
Future Volume (vph)	0	0	0	269	568	180	20	1743	0	0	611	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5	4.5		4.5	4.5			4.5	
Lane Util. Factor				0.86	0.86		1.00	0.91			0.91	
Frt				1.00	0.97		1.00	1.00			0.99	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1522	4630		1770	5085			5055	
Flt Permitted				0.95	1.00		0.36	1.00			1.00	
Satd. Flow (perm)				1522	4630		676	5085			5055	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	292	617	196	22	1895	0	0	664	27
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	5	0
Lane Group Flow (vph)	0	0	0	263	842	0	22	1895	0	0	686	0
Turn Type				Prot	NA		Perm	NA			NA	
Protected Phases				3	8			2			6	
Permitted Phases							2					
Actuated Green, G (s)				30.5	30.5		50.5	50.5			50.5	
Effective Green, g (s)				30.5	30.5		50.5	50.5			50.5	
Actuated g/C Ratio				0.34	0.34		0.56	0.56			0.56	
Clearance Time (s)				4.5	4.5		4.5	4.5			4.5	
Lane Grp Cap (vph)				515	1569		379	2853			2836	
v/s Ratio Prot				0.17	c0.18			c0.37			0.14	
v/s Ratio Perm							0.03					
v/c Ratio				0.51	0.54		0.06	0.66			0.24	
Uniform Delay, d1				23.8	24.0		9.0	13.8			10.0	
Progression Factor				1.00	1.00		0.86	0.66			1.02	
Incremental Delay, d2				3.6	1.3		0.1	0.6			0.2	
Delay (s)				27.4	25.4		7.9	9.7			10.4	
Level of Service				C	C		A	A			B	
Approach Delay (s)		0.0			25.8			9.7			10.4	
Approach LOS		A			C			A			B	

Intersection Summary					
HCM 2000 Control Delay	14.6	HCM 2000 Level of Service		B	
HCM 2000 Volume to Capacity ratio	0.62				
Actuated Cycle Length (s)	90.0	Sum of lost time (s)		9.0	
Intersection Capacity Utilization	56.5%	ICU Level of Service		B	
Analysis Period (min)	15				
c Critical Lane Group					



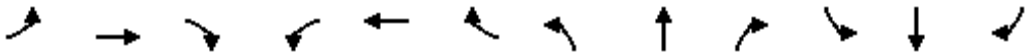
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	243	57	84	0	0	0	0	611	66	50	935	0
Future Volume (vph)	243	57	84	0	0	0	0	611	66	50	935	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5						4.5		4.5	4.5	
Lane Util. Factor	0.91	0.91						0.91		1.00	0.91	
Frt	1.00	0.95						0.99		1.00	1.00	
Flt Protected	0.95	0.98						1.00		0.95	1.00	
Satd. Flow (prot)	1610	3152						5011		1770	5085	
Flt Permitted	0.95	0.98						1.00		0.31	1.00	
Satd. Flow (perm)	1610	3152						5011		586	5085	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	264	62	91	0	0	0	0	664	72	54	1016	0
RTOR Reduction (vph)	0	61	0	0	0	0	0	15	0	0	0	0
Lane Group Flow (vph)	143	214	0	0	0	0	0	721	0	54	1016	0
Turn Type	Prot	NA						NA		pm+pt	NA	
Protected Phases	7	4						2		1	6	
Permitted Phases										6		
Actuated Green, G (s)	29.5	29.5						35.5		51.5	51.5	
Effective Green, g (s)	29.5	29.5						35.5		51.5	51.5	
Actuated g/C Ratio	0.33	0.33						0.39		0.57	0.57	
Clearance Time (s)	4.5	4.5						4.5		4.5	4.5	
Lane Grp Cap (vph)	527	1033						1976		486	2909	
v/s Ratio Prot	c0.09	0.07						0.14		0.01	c0.20	
v/s Ratio Perm										0.05		
v/c Ratio	0.27	0.21						0.37		0.11	0.35	
Uniform Delay, d1	22.3	21.8						19.3		11.5	10.3	
Progression Factor	1.00	1.00						0.92		0.40	0.41	
Incremental Delay, d2	1.3	0.5						0.4		0.5	0.3	
Delay (s)	23.6	22.3						18.1		5.1	4.5	
Level of Service	C	C						B		A	A	
Approach Delay (s)		22.7			0.0			18.1			4.6	
Approach LOS		C			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	91	968	193	114	936	118	98	697	120	98	651	122
Future Volume (vph)	91	968	193	114	936	118	98	697	120	98	651	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	5000		1770	4974		1770	4965	
Flt Permitted	0.24	1.00	1.00	0.11	1.00		0.19	1.00		0.18	1.00	
Satd. Flow (perm)	439	3539	1583	200	5000		350	4974		331	4965	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	99	1052	210	124	1017	128	107	758	130	107	708	133
RTOR Reduction (vph)	0	0	43	0	17	0	0	27	0	0	31	0
Lane Group Flow (vph)	99	1052	167	124	1128	0	107	861	0	107	810	0
Turn Type	Perm	NA	pm+ov	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4	5	3	8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	35.5	35.5	43.0	46.5	46.5		30.0	22.5		30.0	22.5	
Effective Green, g (s)	35.5	35.5	43.0	46.5	46.5		30.0	22.5		30.0	22.5	
Actuated g/C Ratio	0.39	0.39	0.48	0.52	0.52		0.33	0.25		0.33	0.25	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)	173	1395	756	216	2583		235	1243		230	1241	
v/s Ratio Prot		c0.30	0.02	c0.04	0.23		0.04	c0.17		c0.04	0.16	
v/s Ratio Perm	0.23		0.09	0.25			0.11			0.12		
v/c Ratio	0.57	0.75	0.22	0.57	0.44		0.46	0.69		0.47	0.65	
Uniform Delay, d1	21.3	23.5	13.7	15.6	13.6		31.9	30.6		32.4	30.3	
Progression Factor	0.58	0.57	0.51	1.00	1.00		0.59	0.40		0.80	0.62	
Incremental Delay, d2	10.4	3.0	0.5	10.6	0.5		6.1	3.1		6.4	2.6	
Delay (s)	22.8	16.5	7.5	26.3	14.1		24.9	15.4		32.4	21.2	
Level of Service	C	B	A	C	B		C	B		C	C	
Approach Delay (s)		15.5			15.3			16.4			22.5	
Approach LOS		B			B			B			C	

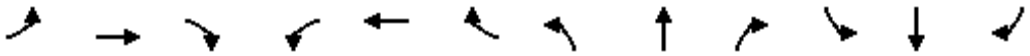
Intersection Summary			
HCM 2000 Control Delay	17.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	69.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	322	70	56	426	356	177	981	50	96	396	57
Future Volume (vph)	103	322	70	56	426	356	177	981	50	96	396	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3445		1770	3539	1583	1770	3539	1583	1770	4989	
Flt Permitted	0.35	1.00		0.38	1.00	1.00	0.46	1.00	1.00	0.21	1.00	
Satd. Flow (perm)	655	3445		714	3539	1583	861	3539	1583	386	4989	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	112	350	76	61	463	387	192	1066	54	104	430	62
RTOR Reduction (vph)	0	22	0	0	0	53	0	0	22	0	18	0
Lane Group Flow (vph)	112	404	0	61	463	334	192	1066	32	104	474	0
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8		8	2		2	6		
Actuated Green, G (s)	19.0	19.0		27.8	27.8	27.8	53.2	53.2	53.2	53.2	53.2	
Effective Green, g (s)	19.0	19.0		27.8	27.8	27.8	53.2	53.2	53.2	53.2	53.2	
Actuated g/C Ratio	0.21	0.21		0.31	0.31	0.31	0.59	0.59	0.59	0.59	0.59	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	138	727		271	1093	488	508	2091	935	228	2949	
v/s Ratio Prot		0.12		0.01	0.13			c0.30			0.09	
v/s Ratio Perm	c0.17			0.06		c0.21	0.22		0.02	0.27		
v/c Ratio	0.81	0.56		0.23	0.42	0.69	0.38	0.51	0.03	0.46	0.16	
Uniform Delay, d1	33.8	31.7		27.3	24.7	27.3	9.7	10.8	7.7	10.3	8.3	
Progression Factor	1.00	1.00		0.38	0.52	0.36	0.73	0.76	1.19	0.56	0.40	
Incremental Delay, d2	29.1	0.9		0.1	0.1	1.0	1.8	0.8	0.1	6.2	0.1	
Delay (s)	62.9	32.7		10.5	12.9	10.9	8.9	8.9	9.2	11.9	3.5	
Level of Service	E	C		B	B	B	A	A	A	B	A	
Approach Delay (s)		38.9			11.9			8.9			4.9	
Approach LOS		D			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	13.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	66.1%	ICU Level of Service	C
Analysis Period (min)	15		

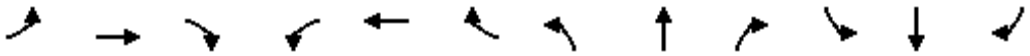
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	952	265	118	869	303	288	699	150	246	312	49
Future Volume (vph)	47	952	265	118	869	303	288	699	150	246	312	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3467	
Flt Permitted	0.14	1.00	1.00	0.15	1.00	1.00	0.38	1.00	1.00	0.20	1.00	
Satd. Flow (perm)	263	3539	1583	270	3539	1583	708	3539	1583	363	3467	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	51	1035	288	128	945	329	313	760	163	267	339	53
RTOR Reduction (vph)	0	0	188	0	0	199	0	0	123	0	14	0
Lane Group Flow (vph)	51	1035	100	128	945	130	313	760	40	267	378	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		
Actuated Green, G (s)	31.3	31.3	31.3	35.6	35.6	35.6	34.8	21.9	21.9	32.0	20.5	
Effective Green, g (s)	31.3	31.3	31.3	35.6	35.6	35.6	34.8	21.9	21.9	32.0	20.5	
Actuated g/C Ratio	0.35	0.35	0.35	0.40	0.40	0.40	0.39	0.24	0.24	0.36	0.23	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	141	1230	550	228	1399	626	425	861	385	308	789	
v/s Ratio Prot	0.01	c0.29		0.05	c0.27		0.11	c0.21		c0.11	0.11	
v/s Ratio Perm	0.11		0.06	0.18		0.08	0.18		0.03	0.20		
v/c Ratio	0.36	0.84	0.18	0.56	0.68	0.21	0.74	0.88	0.10	0.87	0.48	
Uniform Delay, d1	22.2	27.1	20.4	31.5	22.4	17.9	20.9	32.8	26.4	23.4	30.1	
Progression Factor	1.00	1.00	1.00	0.76	0.69	0.21	0.71	0.71	0.44	0.75	0.83	
Incremental Delay, d2	1.6	7.1	0.7	2.2	1.9	0.5	5.9	9.6	0.1	21.3	0.5	
Delay (s)	23.8	34.1	21.2	26.3	17.4	4.3	20.6	32.8	11.8	38.9	25.3	
Level of Service	C	C	C	C	B	A	C	C	B	D	C	
Approach Delay (s)		31.0			15.1			27.0			30.8	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	25.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	80.8%	ICU Level of Service	D
Analysis Period (min)	15		

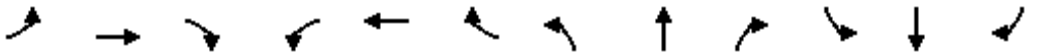
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	71	83	157	129	523	44	451	69	303	233	128
Future Volume (vph)	155	71	83	157	129	523	44	451	69	303	233	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	0.91	0.91		1.00	1.00	1.00	0.97	0.95	1.00	0.97	0.95	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	0.99		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1610	3148		1770	1863	1583	3433	3539	1583	3433	3351	
Flt Permitted	0.67	0.83		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1132	2644		1770	1863	1583	3433	3539	1583	3433	3351	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	168	77	90	171	140	568	48	490	75	329	253	139
RTOR Reduction (vph)	0	77	0	0	0	348	0	0	51	0	69	0
Lane Group Flow (vph)	104	154	0	171	140	220	48	490	24	329	323	0
Turn Type	Perm	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4					8			2			
Actuated Green, G (s)	13.2	13.2		13.4	31.1	31.1	3.8	29.1	29.1	16.3	41.6	
Effective Green, g (s)	13.2	13.2		13.4	31.1	31.1	3.8	29.1	29.1	16.3	41.6	
Actuated g/C Ratio	0.15	0.15		0.15	0.35	0.35	0.04	0.32	0.32	0.18	0.46	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	166	387		263	643	547	144	1144	511	621	1548	
v/s Ratio Prot				c0.10	0.08		0.01	c0.14		c0.10	0.10	
v/s Ratio Perm	c0.09	0.06				0.14			0.02			
v/c Ratio	0.63	0.40		0.65	0.22	0.40	0.33	0.43	0.05	0.53	0.21	
Uniform Delay, d1	36.1	34.8		36.1	20.8	22.4	41.9	23.9	20.9	33.4	14.4	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.68	0.52	
Incremental Delay, d2	7.2	0.7		5.6	0.2	0.5	1.4	1.2	0.2	0.7	0.3	
Delay (s)	43.3	35.5		41.7	21.0	22.9	43.2	25.1	21.1	23.4	7.8	
Level of Service	D	D		D	C	C	D	C	C	C	A	
Approach Delay (s)		37.9			26.3			26.0			14.9	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	24.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	62.2%	ICU Level of Service	B
Analysis Period (min)	15		

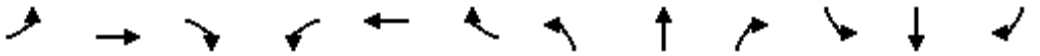
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	229	237	1	0	646	363	5	660	35	189	276	187
Future Volume (vph)	229	237	1	0	646	363	5	660	35	189	276	187
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95			0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00			0.95		1.00	0.99		1.00	0.94	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3537			3348		1770	3512		1770	3325	
Flt Permitted	0.95	1.00			1.00		0.41	1.00		0.27	1.00	
Satd. Flow (perm)	1770	3537			3348		767	3512		495	3325	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	249	258	1	0	702	395	5	717	38	205	300	203
RTOR Reduction (vph)	0	1	0	0	87	0	0	4	0	0	118	0
Lane Group Flow (vph)	249	258	0	0	1010	0	5	751	0	205	385	0
Turn Type	Prot	NA			NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	16.2	43.2			22.5		37.8	37.8		37.8	37.8	
Effective Green, g (s)	16.2	43.2			22.5		37.8	37.8		37.8	37.8	
Actuated g/C Ratio	0.18	0.48			0.25		0.42	0.42		0.42	0.42	
Clearance Time (s)	4.5	4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	318	1697			837		322	1475		207	1396	
v/s Ratio Prot	c0.14	0.07			c0.30			0.21			0.12	
v/s Ratio Perm							0.01			c0.41		
v/c Ratio	0.78	0.15			1.21		0.02	0.51		0.99	0.28	
Uniform Delay, d1	35.2	13.1			33.8		15.2	19.3		25.9	17.1	
Progression Factor	0.83	0.59			1.66		1.00	1.00		1.00	1.00	
Incremental Delay, d2	11.1	0.0			103.6		0.1	1.3		60.1	0.5	
Delay (s)	40.3	7.8			159.6		15.3	20.5		86.0	17.6	
Level of Service	D	A			F		B	C		F	B	
Approach Delay (s)		23.7			159.6			20.5			37.4	
Approach LOS		C			F			C			D	

Intersection Summary			
HCM 2000 Control Delay	74.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	87.0%	ICU Level of Service	E
Analysis Period (min)	15		

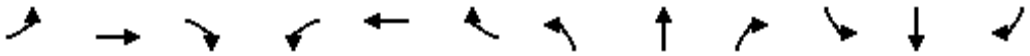
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	95	179	32	196	27	533	880	28	9	339	101
Future Volume (vph)	108	95	179	32	196	27	533	880	28	9	339	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1829		1770	3523		1770	4910	
Flt Permitted	0.37	1.00	1.00	0.69	1.00		0.43	1.00		0.22	1.00	
Satd. Flow (perm)	695	1863	1583	1286	1829		805	3523		410	4910	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	117	103	195	35	213	29	579	957	30	10	368	110
RTOR Reduction (vph)	0	0	157	0	6	0	0	2	0	0	55	0
Lane Group Flow (vph)	117	103	38	35	236	0	579	985	0	10	423	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	17.5	17.5	17.5	17.5	17.5		63.5	63.5		25.9	25.9	
Effective Green, g (s)	17.5	17.5	17.5	17.5	17.5		63.5	63.5		25.9	25.9	
Actuated g/C Ratio	0.19	0.19	0.19	0.19	0.19		0.71	0.71		0.29	0.29	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	135	362	307	250	355		922	2485		117	1412	
v/s Ratio Prot		0.06			0.13		c0.23	0.28			0.09	
v/s Ratio Perm	c0.17		0.02	0.03			c0.21			0.02		
v/c Ratio	0.87	0.28	0.12	0.14	0.67		0.63	0.40		0.09	0.30	
Uniform Delay, d1	35.1	30.9	29.9	30.0	33.5		9.9	5.4		23.4	25.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.66	0.57		1.00	1.00	
Incremental Delay, d2	40.3	0.4	0.2	0.3	4.7		1.1	0.4		1.4	0.5	
Delay (s)	75.4	31.3	30.1	30.3	38.2		7.6	3.5		24.8	25.5	
Level of Service	E	C	C	C	D		A	A		C	C	
Approach Delay (s)		43.2			37.2			5.0			25.5	
Approach LOS		D			D			A			C	

Intersection Summary			
HCM 2000 Control Delay	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	71.3%	ICU Level of Service	C
Analysis Period (min)	15		

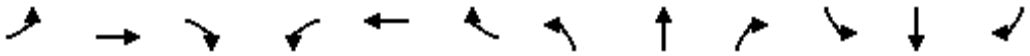
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	81	0	0	0	100	1113	646	0	698	51
Future Volume (Veh/h)	0	0	81	0	0	0	100	1113	646	0	698	51
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	88	0	0	0	109	1210	702	0	759	55
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								206			797	
pX, platoon unblocked	0.68	0.68		0.68	0.68	0.68				0.68		
vC, conflicting volume	1610	2214	280	1769	2242	605	814			1210		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	941	1837	280	1177	1878	0	814			350		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	88	100	100	100	87			100		
cM capacity (veh/h)	132	44	717	78	41	732	809			814		

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	88	109	605	605	702	304	304	207
Volume Left	0	109	0	0	0	0	0	0
Volume Right	88	0	0	0	702	0	0	55
cSH	717	809	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.12	0.13	0.36	0.36	0.41	0.18	0.18	0.12
Queue Length 95th (ft)	10	12	0	0	0	0	0	0
Control Delay (s)	10.7	10.1	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	B						
Approach Delay (s)	10.7	0.5				0.0		
Approach LOS	B							

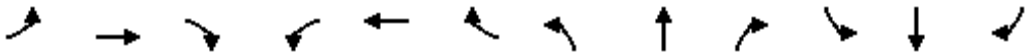
Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	43.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	930	22	33	63	0	39	0	890	15	3	775	0
Future Volume (vph)	930	22	33	63	0	39	0	890	15	3	775	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5		4.5		4.5		4.5	4.5	
Lane Util. Factor	0.97	1.00		1.00		1.00		0.91		1.00	0.91	
Frt	1.00	0.91		1.00		0.85		1.00		1.00	1.00	
Flt Protected	0.95	1.00		0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)	3433	1695		1770		1583		5073		1770	5085	
Flt Permitted	0.95	1.00		0.95		1.00		1.00		0.24	1.00	
Satd. Flow (perm)	3433	1695		1770		1583		5073		450	5085	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1011	24	36	68	0	42	0	967	16	3	842	0
RTOR Reduction (vph)	0	27	0	0	0	40	0	1	0	0	0	0
Lane Group Flow (vph)	1011	33	0	68	0	2	0	982	0	3	842	0
Turn Type	pm+pt	NA		Prot		Perm		NA		Perm	NA	
Protected Phases	7	4		3				2			6	
Permitted Phases	4					8				6		
Actuated Green, G (s)	34.3	22.3		7.5		3.3		46.7		46.7	46.7	
Effective Green, g (s)	34.3	22.3		7.5		3.3		46.7		46.7	46.7	
Actuated g/C Ratio	0.38	0.25		0.08		0.04		0.52		0.52	0.52	
Clearance Time (s)	4.5	4.5		4.5		4.5		4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	1308	419		147		58		2632		233	2638	
v/s Ratio Prot	c0.23	0.02		0.04				c0.19			0.17	
v/s Ratio Perm	0.07					0.00				0.01		
v/c Ratio	0.77	0.08		0.46		0.03		0.37		0.01	0.32	
Uniform Delay, d1	24.4	26.0		39.3		41.8		12.9		10.5	12.5	
Progression Factor	0.35	0.24		1.00		1.00		0.41		0.75	0.70	
Incremental Delay, d2	2.1	0.1		2.3		0.2		0.3		0.1	0.3	
Delay (s)	10.7	6.4		41.6		42.0		5.6		8.0	9.0	
Level of Service	B	A		D		D		A		A	A	
Approach Delay (s)		10.4			41.8			5.6			9.0	
Approach LOS		B			D			A			A	

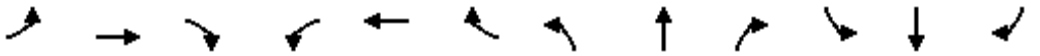
Intersection Summary			
HCM 2000 Control Delay	9.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	59.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



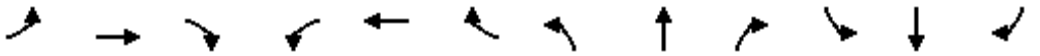
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	78	1011	0	0	1208	23	415	884	242	0	0	0
Future Volume (vph)	78	1011	0	0	1208	23	415	884	242	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5		4.5	4.5				
Lane Util. Factor	1.00	0.95			0.91		0.86	0.86				
Frt	1.00	1.00			1.00		1.00	0.97				
Flt Protected	0.95	1.00			1.00		0.95	1.00				
Satd. Flow (prot)	1770	3539			5071		1522	4648				
Flt Permitted	0.15	1.00			1.00		0.95	1.00				
Satd. Flow (perm)	273	3539			5071		1522	4648				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	85	1099	0	0	1313	25	451	961	263	0	0	0
RTOR Reduction (vph)	0	0	0	0	2	0	0	43	0	0	0	0
Lane Group Flow (vph)	85	1099	0	0	1336	0	406	1226	0	0	0	0
Turn Type	Perm	NA			NA		pm+pt	NA				
Protected Phases		4			8		6	2				
Permitted Phases	4						2					
Actuated Green, G (s)	47.5	47.5			47.5		33.5	33.5				
Effective Green, g (s)	47.5	47.5			47.5		33.5	33.5				
Actuated g/C Ratio	0.53	0.53			0.53		0.37	0.37				
Clearance Time (s)	4.5	4.5			4.5		4.5	4.5				
Lane Grp Cap (vph)	144	1867			2676		566	1730				
v/s Ratio Prot		0.31			0.26		c0.27	0.26				
v/s Ratio Perm	c0.31											
v/c Ratio	0.59	0.59			0.50		0.72	0.71				
Uniform Delay, d1	14.6	14.6			13.6		24.2	24.1				
Progression Factor	1.00	1.00			0.85		1.00	1.00				
Incremental Delay, d2	16.5	1.4			0.6		7.6	2.5				
Delay (s)	31.1	15.9			12.2		31.8	26.6				
Level of Service	C	B			B		C	C				
Approach Delay (s)		17.0			12.2			27.8			0.0	
Approach LOS		B			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	19.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	62.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



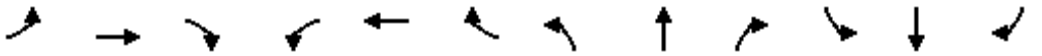
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	97	495	21	190	1082	0	0	154	39
Future Volume (vph)	0	0	0	97	495	21	190	1082	0	0	154	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.5		4.5	4.5			4.5	
Lane Util. Factor					0.91		1.00	0.95			0.95	
Frt					0.99		1.00	1.00			0.97	
Flt Protected					0.99		0.95	1.00			1.00	
Satd. Flow (prot)					5019		1770	3539			3433	
Flt Permitted					0.99		0.62	1.00			1.00	
Satd. Flow (perm)					5019		1156	3539			3433	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	105	538	23	207	1176	0	0	167	42
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	0	0	16	0
Lane Group Flow (vph)	0	0	0	0	662	0	207	1176	0	0	193	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8			2					
Actuated Green, G (s)					24.5		56.5	56.5			56.5	
Effective Green, g (s)					24.5		56.5	56.5			56.5	
Actuated g/C Ratio					0.27		0.63	0.63			0.63	
Clearance Time (s)					4.5		4.5	4.5			4.5	
Lane Grp Cap (vph)					1366		725	2221			2155	
v/s Ratio Prot								c0.33			0.06	
v/s Ratio Perm					0.13		0.18					
v/c Ratio					0.48		0.29	0.53			0.09	
Uniform Delay, d1					27.5		7.6	9.3			6.6	
Progression Factor					0.25		0.27	0.25			1.00	
Incremental Delay, d2					1.1		0.8	0.7			0.1	
Delay (s)					7.9		2.8	3.0			6.7	
Level of Service					A		A	A			A	
Approach Delay (s)		0.0			7.9			3.0			6.7	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	4.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



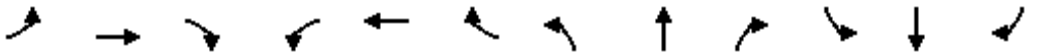
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑						↑↑			↑↑	
Traffic Volume (vph)	82	289	21	0	0	0	0	1190	186	0	251	0
Future Volume (vph)	82	289	21	0	0	0	0	1190	186	0	251	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5						4.5			4.5	
Lane Util. Factor		0.95						0.95			0.95	
Frt		0.99						0.98			1.00	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		3474						3467			3539	
Flt Permitted		0.99						1.00			1.00	
Satd. Flow (perm)		3474						3467			3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	89	314	23	0	0	0	0	1293	202	0	273	0
RTOR Reduction (vph)	0	5	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	421	0	0	0	0	0	1495	0	0	273	0
Turn Type	Perm	NA						NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4											
Actuated Green, G (s)		20.5						60.5			60.5	
Effective Green, g (s)		20.5						60.5			60.5	
Actuated g/C Ratio		0.23						0.67			0.67	
Clearance Time (s)		4.5						4.5			4.5	
Lane Grp Cap (vph)		791						2330			2378	
v/s Ratio Prot								c0.43			0.08	
v/s Ratio Perm		0.12										
v/c Ratio		0.53						0.64			0.11	
Uniform Delay, d1		30.5						8.5			5.2	
Progression Factor		1.00						0.66			1.28	
Incremental Delay, d2		2.6						1.0			0.1	
Delay (s)		33.1						6.6			6.8	
Level of Service		C						A			A	
Approach Delay (s)		33.1			0.0			6.6			6.8	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	124	695	114	72	414	245	150	1115	73	87	400	163
Future Volume (vph)	124	695	114	72	414	245	150	1115	73	87	400	163
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.98		1.00	0.94		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3464		1770	3342		1770	3507		1770	3539	1583
Flt Permitted	0.25	1.00		0.17	1.00		0.48	1.00		0.12	1.00	1.00
Satd. Flow (perm)	474	3464		317	3342		900	3507		229	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	135	755	124	78	450	266	163	1212	79	95	435	177
RTOR Reduction (vph)	0	15	0	0	34	0	0	5	0	0	0	82
Lane Group Flow (vph)	135	864	0	78	682	0	163	1286	0	95	435	95
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	32.5	32.5		32.5	32.5		48.5	48.5		48.5	48.5	48.5
Effective Green, g (s)	32.5	32.5		32.5	32.5		48.5	48.5		48.5	48.5	48.5
Actuated g/C Ratio	0.36	0.36		0.36	0.36		0.54	0.54		0.54	0.54	0.54
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Grp Cap (vph)	171	1250		114	1206		485	1889		123	1907	853
v/s Ratio Prot		0.25			0.20			0.37			0.12	
v/s Ratio Perm	c0.29			0.25			0.18			c0.41		0.06
v/c Ratio	0.79	0.69		0.68	0.57		0.34	0.68		0.77	0.23	0.11
Uniform Delay, d1	25.7	24.5		24.4	23.1		11.7	15.1		16.4	10.9	10.2
Progression Factor	1.00	1.00		0.76	0.72		0.50	0.43		0.84	0.80	0.40
Incremental Delay, d2	30.0	3.2		27.9	1.9		1.4	1.6		36.6	0.3	0.3
Delay (s)	55.7	27.6		46.4	18.5		7.2	8.1		50.3	9.0	4.4
Level of Service	E	C		D	B		A	A		D	A	A
Approach Delay (s)		31.4			21.3			8.0			13.4	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	17.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	80.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

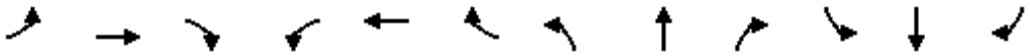


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	112	828	127	94	484	236	137	1037	85	86	462	176
Future Volume (vph)	112	828	127	94	484	236	137	1037	85	86	462	176
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.99		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3469		1770	3539	1583	1770	3499		1770	3393	
Flt Permitted	0.40	1.00		0.14	1.00	1.00	0.32	1.00		0.12	1.00	
Satd. Flow (perm)	737	3469		262	3539	1583	601	3499		219	3393	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	122	900	138	102	526	257	149	1127	92	93	502	191
RTOR Reduction (vph)	0	13	0	0	0	28	0	7	0	0	44	0
Lane Group Flow (vph)	122	1025	0	102	526	229	149	1212	0	93	649	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	37.5	37.5		37.5	37.5	37.5	43.5	43.5		43.5	43.5	
Effective Green, g (s)	37.5	37.5		37.5	37.5	37.5	43.5	43.5		43.5	43.5	
Actuated g/C Ratio	0.42	0.42		0.42	0.42	0.42	0.48	0.48		0.48	0.48	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)	307	1445		109	1474	659	290	1691		105	1639	
v/s Ratio Prot		0.30			0.15			0.35			0.19	
v/s Ratio Perm	0.17			c0.39		0.14	0.25			c0.42		
v/c Ratio	0.40	0.71		0.94	0.36	0.35	0.51	0.72		0.89	0.40	
Uniform Delay, d1	18.4	21.7		25.1	18.0	17.9	16.0	18.4		21.0	14.9	
Progression Factor	1.00	1.00		0.46	0.39	0.27	1.00	1.00		0.83	0.82	
Incremental Delay, d2	3.8	3.0		65.6	0.6	1.3	6.4	2.6		59.6	0.7	
Delay (s)	22.2	24.7		77.3	7.5	6.2	22.4	21.0		77.1	12.8	
Level of Service	C	C		E	A	A	C	C		E	B	
Approach Delay (s)		24.4			15.2			21.2			20.4	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	20.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

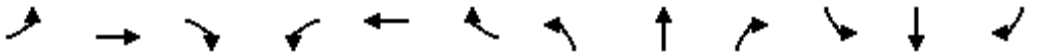
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	748	105	96	464	309	280
Future Volume (vph)	748	105	96	464	309	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	0.97	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3474		1770	3539	3433	1583
Flt Permitted	1.00		0.25	1.00	0.95	1.00
Satd. Flow (perm)	3474		458	3539	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	813	114	104	504	336	304
RTOR Reduction (vph)	12	0	0	0	0	108
Lane Group Flow (vph)	915	0	104	504	336	196
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Actuated Green, G (s)	50.5		50.5	50.5	30.5	30.5
Effective Green, g (s)	50.5		50.5	50.5	30.5	30.5
Actuated g/C Ratio	0.56		0.56	0.56	0.34	0.34
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	1949		256	1985	1163	536
v/s Ratio Prot	c0.26			0.14	0.10	
v/s Ratio Perm			0.23			c0.12
v/c Ratio	0.47		0.41	0.25	0.29	0.37
Uniform Delay, d1	11.8		11.2	10.1	21.8	22.5
Progression Factor	0.28		0.88	0.87	0.62	0.38
Incremental Delay, d2	0.6		4.5	0.3	0.5	1.5
Delay (s)	3.8		14.4	9.1	14.0	9.9
Level of Service	A		B	A	B	A
Approach Delay (s)	3.8			10.0	12.1	
Approach LOS	A			B	B	

Intersection Summary			
HCM 2000 Control Delay	8.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	49.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	809	129	69	574	81	184	425	140	32	190	64
Future Volume (vph)	86	809	129	69	574	81	184	425	140	32	190	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.98		1.00	0.98			0.97			0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	3466		1770	3474			3398			3401	
Flt Permitted	0.31	1.00		0.18	1.00			0.76			0.82	
Satd. Flow (perm)	582	3466		339	3474			2617			2817	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	93	879	140	75	624	88	200	462	152	35	207	70
RTOR Reduction (vph)	0	14	0	0	12	0	0	22	0	0	30	0
Lane Group Flow (vph)	93	1005	0	75	700	0	0	792	0	0	282	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	43.3	43.3		43.3	43.3			37.7			37.7	
Effective Green, g (s)	43.3	43.3		43.3	43.3			37.7			37.7	
Actuated g/C Ratio	0.48	0.48		0.48	0.48			0.42			0.42	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Grp Cap (vph)	280	1667		163	1671			1096			1180	
v/s Ratio Prot		c0.29			0.20							
v/s Ratio Perm	0.16			0.22				c0.30			0.10	
v/c Ratio	0.33	0.60		0.46	0.42			0.72			0.24	
Uniform Delay, d1	14.4	17.1		15.6	15.2			21.8			16.9	
Progression Factor	0.39	0.36		1.14	1.14			1.00			0.37	
Incremental Delay, d2	2.2	1.1		8.7	0.7			4.1			0.5	
Delay (s)	7.8	7.3		26.5	18.1			25.9			6.7	
Level of Service	A	A		C	B			C			A	
Approach Delay (s)		7.3			18.9			25.9			6.7	
Approach LOS		A			B			C			A	

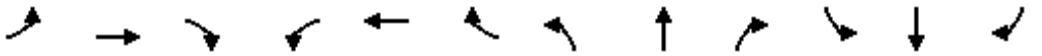
Intersection Summary			
HCM 2000 Control Delay	15.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	75.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	437	650	304	157	608	36	230	561	82	38	557	377
Future Volume (vph)	437	650	304	157	608	36	230	561	82	38	557	377
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.91	0.91		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.96		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1610	3228		1770	3510		1770	3539	1583	1770	3539	1583
Flt Permitted	0.16	0.63		0.24	1.00		0.27	1.00	1.00	0.29	1.00	1.00
Satd. Flow (perm)	277	2027		445	3510		499	3539	1583	540	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	475	707	330	171	661	39	250	610	89	41	605	410
RTOR Reduction (vph)	0	46	0	0	5	0	0	0	53	0	0	39
Lane Group Flow (vph)	380	1086	0	171	695	0	250	610	36	41	605	371
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	pm+ov
Protected Phases	7	4		3	8		5	2			6	7
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	44.3	44.3		26.5	20.0		36.7	36.7	36.7	22.7	22.7	42.5
Effective Green, g (s)	44.3	44.3		26.5	20.0		36.7	36.7	36.7	22.7	22.7	42.5
Actuated g/C Ratio	0.49	0.49		0.29	0.22		0.41	0.41	0.41	0.25	0.25	0.47
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	429	1261		226	780		337	1443	645	136	892	747
v/s Ratio Prot	c0.19	c0.19		0.05	0.20		c0.08	0.17			0.17	0.11
v/s Ratio Perm	c0.24	0.23		0.17			c0.22		0.02	0.08		0.13
v/c Ratio	0.89	0.86		0.76	0.89		0.74	0.42	0.06	0.30	0.68	0.50
Uniform Delay, d1	22.4	20.1		24.8	33.9		29.0	19.1	16.2	27.2	30.4	16.4
Progression Factor	1.03	0.46		1.00	1.00		0.73	0.65	0.45	1.00	1.00	1.00
Incremental Delay, d2	13.8	4.3		13.5	12.4		4.7	0.5	0.1	5.6	4.1	0.5
Delay (s)	36.9	13.6		38.3	46.4		25.9	12.9	7.3	32.8	34.5	16.9
Level of Service	D	B		D	D		C	B	A	C	C	B
Approach Delay (s)		19.4			44.8			15.8			27.6	
Approach LOS		B			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	25.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	88.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



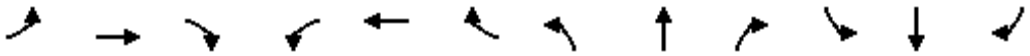
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	483	408	10	6	245	164	17	313	4	95	132	208
Future Volume (vph)	483	408	10	6	245	164	17	313	4	95	132	208
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.94		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1856		1770	1751		1770	1859		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.62	1.00		0.25	1.00	1.00
Satd. Flow (perm)	1770	1856		1770	1751		1157	1859		464	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	525	443	11	7	266	178	18	340	4	103	143	226
RTOR Reduction (vph)	0	1	0	0	27	0	0	1	0	0	0	173
Lane Group Flow (vph)	525	453	0	7	417	0	18	343	0	103	143	53
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		6
Actuated Green, G (s)	32.2	54.2		1.0	23.0		21.3	21.3		21.3	21.3	21.3
Effective Green, g (s)	32.2	54.2		1.0	23.0		21.3	21.3		21.3	21.3	21.3
Actuated g/C Ratio	0.36	0.60		0.01	0.26		0.24	0.24		0.24	0.24	0.24
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	633	1117		19	447		273	439		109	440	374
v/s Ratio Prot	c0.30	0.24		0.00	c0.24			0.18			0.08	
v/s Ratio Perm							0.02			c0.22		0.03
v/c Ratio	0.83	0.41		0.37	0.93		0.07	0.78		0.94	0.33	0.14
Uniform Delay, d1	26.4	9.4		44.2	32.8		26.6	32.2		33.8	28.4	27.1
Progression Factor	0.76	0.29		1.00	1.00		1.00	1.00		0.71	0.75	0.80
Incremental Delay, d2	7.5	0.2		11.7	26.6		0.5	13.0		56.4	1.3	0.5
Delay (s)	27.6	2.9		55.9	59.3		27.1	45.2		80.3	22.5	22.3
Level of Service	C	A		E	E		C	D		F	C	C
Approach Delay (s)		16.1			59.3			44.3			35.0	
Approach LOS		B			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	33.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	86.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	725	210	106	472	255	274
Future Volume (vph)	725	210	106	472	255	274
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.97		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3420		1770	3539	1770	1583
Flt Permitted	1.00		0.23	1.00	0.95	1.00
Satd. Flow (perm)	3420		430	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	788	228	115	513	277	298
RTOR Reduction (vph)	30	0	0	0	0	147
Lane Group Flow (vph)	986	0	115	513	277	151
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases			6			8
Actuated Green, G (s)	55.5		55.5	55.5	25.5	25.5
Effective Green, g (s)	55.5		55.5	55.5	25.5	25.5
Actuated g/C Ratio	0.62		0.62	0.62	0.28	0.28
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	2109		265	2182	501	448
v/s Ratio Prot	c0.29			0.14	c0.16	
v/s Ratio Perm			0.27			0.10
v/c Ratio	0.47		0.43	0.24	0.55	0.34
Uniform Delay, d1	9.3		9.0	7.7	27.4	25.6
Progression Factor	0.31		1.37	0.63	1.00	1.00
Incremental Delay, d2	0.6		5.0	0.2	4.3	2.0
Delay (s)	3.5		17.3	5.1	31.8	27.6
Level of Service	A		B	A	C	C
Approach Delay (s)	3.5			7.3	29.6	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	11.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	58.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	5	19	210	14	104	25	898	60	20	374	12
Future Volume (vph)	14	5	19	210	14	104	25	898	60	20	374	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frt		0.93		1.00	0.87		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1703		1770	1616		1770	3539	1583	1770	3523	
Flt Permitted		0.90		0.73	1.00		0.51	1.00	1.00	0.26	1.00	
Satd. Flow (perm)		1556		1360	1616		943	3539	1583	480	3523	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	15	5	21	228	15	113	27	976	65	22	407	13
RTOR Reduction (vph)	0	16	0	0	69	0	0	0	21	0	2	0
Lane Group Flow (vph)	0	25	0	228	59	0	27	976	44	22	418	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		20.6		20.6	20.6		60.4	60.4	60.4	60.4	60.4	
Effective Green, g (s)		20.6		20.6	20.6		60.4	60.4	60.4	60.4	60.4	
Actuated g/C Ratio		0.23		0.23	0.23		0.67	0.67	0.67	0.67	0.67	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		356		311	369		632	2375	1062	322	2364	
v/s Ratio Prot					0.04			c0.28			0.12	
v/s Ratio Perm		0.02		c0.17			0.03		0.03	0.05		
v/c Ratio		0.07		0.73	0.16		0.04	0.41	0.04	0.07	0.18	
Uniform Delay, d1		27.2		32.2	27.8		5.0	6.7	5.0	5.1	5.5	
Progression Factor		1.00		1.00	1.00		2.56	2.91	5.66	0.89	0.98	
Incremental Delay, d2		0.1		8.6	0.2		0.1	0.4	0.1	0.4	0.1	
Delay (s)		27.3		40.8	28.0		12.9	20.0	28.4	4.9	5.5	
Level of Service		C		D	C		B	B	C	A	A	
Approach Delay (s)		27.3			36.2			20.3			5.5	
Approach LOS		C			D			C			A	

Intersection Summary			
HCM 2000 Control Delay	20.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	50.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	20	17	821	56	12	474
Future Volume (Veh/h)	20	17	821	56	12	474
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	18	892	61	13	515
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						553
pX, platoon unblocked						
vC, conflicting volume	1206	476			953	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1206	476			953	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	87	97			98	
cM capacity (veh/h)	173	535			717	

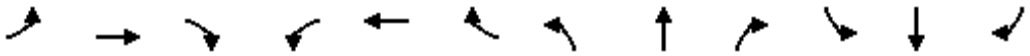
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	22	18	595	358	13	258	258
Volume Left	22	0	0	0	13	0	0
Volume Right	0	18	0	61	0	0	0
cSH	173	535	1700	1700	717	1700	1700
Volume to Capacity	0.13	0.03	0.35	0.21	0.02	0.15	0.15
Queue Length 95th (ft)	11	3	0	0	1	0	0
Control Delay (s)	28.8	12.0	0.0	0.0	10.1	0.0	0.0
Lane LOS	D	B			B		
Approach Delay (s)	21.2		0.0		0.2		
Approach LOS	C						

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	34.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1110	62	67	1038	116	109
Future Volume (vph)	1110	62	67	1038	116	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3511		1770	3539	1770	1583
Flt Permitted	1.00		0.14	1.00	0.95	1.00
Satd. Flow (perm)	3511		260	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1207	67	73	1128	126	118
RTOR Reduction (vph)	8	0	0	0	0	35
Lane Group Flow (vph)	1266	0	73	1128	126	83
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Actuated Green, G (s)	28.7		28.7	28.7	22.3	22.3
Effective Green, g (s)	28.7		28.7	28.7	22.3	22.3
Actuated g/C Ratio	0.48		0.48	0.48	0.37	0.37
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1679		124	1692	657	588
v/s Ratio Prot	c0.36			0.32	c0.07	
v/s Ratio Perm			0.28			0.05
v/c Ratio	0.75		0.59	0.67	0.19	0.14
Uniform Delay, d1	12.8		11.4	12.0	12.8	12.5
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	2.0		7.0	1.0	0.6	0.5
Delay (s)	14.7		18.3	13.0	13.4	13.0
Level of Service	B		B	B	B	B
Approach Delay (s)	14.7			13.3	13.2	
Approach LOS	B			B	B	

Intersection Summary			
HCM 2000 Control Delay	14.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	54.5%	ICU Level of Service	A
Analysis Period (min)	15		

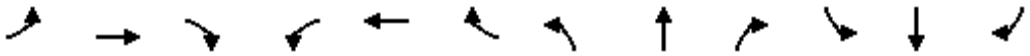
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	138	55	61	0	854	0	0	847	112
Future Volume (vph)	0	0	0	138	55	61	0	854	0	0	847	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5	4.5	4.5		4.5			4.5	
Lane Util. Factor				1.00	1.00	1.00		0.91			0.86	
Frt				1.00	1.00	0.85		1.00			0.98	
Flt Protected				0.95	1.00	1.00		1.00			1.00	
Satd. Flow (prot)				1770	1863	1583		5085			6295	
Flt Permitted				0.95	1.00	1.00		1.00			1.00	
Satd. Flow (perm)				1770	1863	1583		5085			6295	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	150	60	66	0	928	0	0	921	122
RTOR Reduction (vph)	0	0	0	0	0	56	0	0	0	0	14	0
Lane Group Flow (vph)	0	0	0	150	60	10	0	928	0	0	1029	0
Turn Type				Prot	NA	Perm		NA			NA	
Protected Phases				3	8			2			6	
Permitted Phases						8						
Actuated Green, G (s)				13.0	13.0	13.0		68.0			68.0	
Effective Green, g (s)				13.0	13.0	13.0		68.0			68.0	
Actuated g/C Ratio				0.14	0.14	0.14		0.76			0.76	
Clearance Time (s)				4.5	4.5	4.5		4.5			4.5	
Vehicle Extension (s)				3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)				255	269	228		3842			4756	
v/s Ratio Prot				c0.08	0.03			c0.18			0.16	
v/s Ratio Perm						0.01						
v/c Ratio				0.59	0.22	0.04		0.24			0.22	
Uniform Delay, d1				36.0	34.0	33.1		3.3			3.2	
Progression Factor				1.00	1.00	1.00		0.49			0.26	
Incremental Delay, d2				3.4	0.4	0.1		0.1			0.1	
Delay (s)				39.4	34.5	33.2		1.8			0.9	
Level of Service				D	C	C		A			A	
Approach Delay (s)		0.0			36.9			1.8			0.9	
Approach LOS		A			D			A			A	

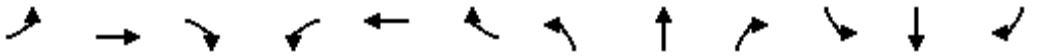
Intersection Summary			
HCM 2000 Control Delay	5.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	32	118	154	0	205	0	703	154	132	1213	0
Future Volume (vph)	44	32	118	154	0	205	0	703	154	132	1213	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5	4.5	
Lane Util. Factor	0.97	1.00	1.00	1.00		1.00		0.95	1.00	1.00	0.91	
Frt	1.00	1.00	0.85	1.00		0.85		1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1863	1583	1770		1583		3539	1583	1770	5085	
Flt Permitted	0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1863	1583	1770		1583		3539	1583	1770	5085	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	48	35	128	167	0	223	0	764	167	143	1318	0
RTOR Reduction (vph)	0	0	116	0	0	0	0	0	103	0	0	0
Lane Group Flow (vph)	48	35	12	167	0	223	0	764	64	143	1318	0
Turn Type	Split	NA	Perm	Prot		Prot		NA	Perm	Prot	NA	
Protected Phases	3	3		4		4		6		5	2	
Permitted Phases			3						6			
Actuated Green, G (s)	8.5	8.5	8.5	21.5		21.5		28.5	28.5	13.5	46.5	
Effective Green, g (s)	8.5	8.5	8.5	21.5		21.5		28.5	28.5	13.5	46.5	
Actuated g/C Ratio	0.09	0.09	0.09	0.24		0.24		0.32	0.32	0.15	0.52	
Clearance Time (s)	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5	4.5	
Lane Grp Cap (vph)	324	175	149	422		378		1120	501	265	2627	
v/s Ratio Prot	0.01	c0.02		0.09		c0.14		c0.22		0.08	c0.26	
v/s Ratio Perm			0.01						0.04			
v/c Ratio	0.15	0.20	0.08	0.40		0.59		0.68	0.13	0.54	0.50	
Uniform Delay, d1	37.4	37.6	37.2	28.8		30.3		26.8	21.9	35.4	14.2	
Progression Factor	0.81	0.82	0.63	1.00		1.00		1.61	3.78	1.38	0.59	
Incremental Delay, d2	0.9	2.5	1.0	2.8		6.6		3.1	0.5	6.5	0.6	
Delay (s)	31.3	33.4	24.3	31.6		37.0		46.2	83.3	55.4	9.0	
Level of Service	C	C	C	C		D		D	F	E	A	
Approach Delay (s)		27.4			34.6			52.8			13.6	
Approach LOS		C			C			D			B	

Intersection Summary			
HCM 2000 Control Delay	29.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	52.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	243	61	14	10	198	144	13	38	59	186	68	192
Future Volume (vph)	243	61	14	10	198	144	13	38	59	186	68	192
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	4.5
Lane Util. Factor	0.97	1.00		1.00	0.95			0.95			1.00	1.00
Frt	1.00	0.97		1.00	0.94			0.92			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	1.00
Satd. Flow (prot)	3433	1811		1770	3315			3235			1797	1583
Flt Permitted	0.95	1.00		0.95	1.00			0.99			0.96	1.00
Satd. Flow (perm)	3433	1811		1770	3315			3235			1797	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	264	66	15	11	215	157	14	41	64	202	74	209
RTOR Reduction (vph)	0	10	0	0	137	0	0	52	0	0	0	172
Lane Group Flow (vph)	264	71	0	11	235	0	0	67	0	0	276	37
Turn Type	Split	NA		Split	NA		Split	NA		Split	NA	custom
Protected Phases	2	2		1	1		3	3		4	4	4
Permitted Phases												5
Actuated Green, G (s)	23.0	23.0		10.4	10.4			14.5			14.1	14.1
Effective Green, g (s)	23.0	23.0		10.4	10.4			14.5			14.1	14.1
Actuated g/C Ratio	0.29	0.29		0.13	0.13			0.18			0.18	0.18
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	986	520		230	430			586			316	279
v/s Ratio Prot	c0.08	0.04		0.01	c0.07			c0.02			c0.15	0.02
v/s Ratio Perm												
v/c Ratio	0.27	0.14		0.05	0.55			0.11			0.87	0.13
Uniform Delay, d1	22.0	21.1		30.5	32.6			27.4			32.1	27.8
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	0.7	0.5		0.1	1.4			0.4			22.4	0.2
Delay (s)	22.7	21.7		30.6	34.0			27.8			54.4	28.0
Level of Service	C	C		C	C			C			D	C
Approach Delay (s)		22.4			33.9			27.8			43.0	
Approach LOS		C			C			C			D	

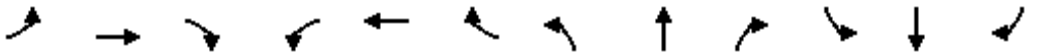
Intersection Summary			
HCM 2000 Control Delay	33.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	22.5
Intersection Capacity Utilization	48.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	231	23	93	205	58	57
Future Volume (vph)	231	23	93	205	58	57
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	251	25	101	223	63	62

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2
Volume Total (vph)	276	101	223	63	62
Volume Left (vph)	0	101	0	63	0
Volume Right (vph)	25	0	0	0	62
Hadj (s)	-0.02	0.53	0.03	0.53	-0.67
Departure Headway (s)	5.0	5.7	5.2	6.5	5.3
Degree Utilization, x	0.39	0.16	0.32	0.11	0.09
Capacity (veh/h)	689	613	676	514	623
Control Delay (s)	11.1	8.5	9.4	9.1	7.6
Approach Delay (s)	11.1	9.1		8.4	
Approach LOS	B	A		A	

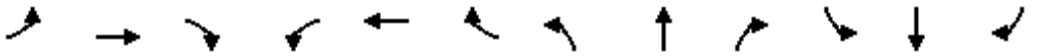
Intersection Summary			
Delay	9.8		
Level of Service	A		
Intersection Capacity Utilization	32.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	199	4	85	3	4	7	72	370	7	9	377	222
Future Volume (vph)	199	4	85	3	4	7	72	370	7	9	377	222
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	216	4	92	3	4	8	78	402	8	10	410	241

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total (vph)	312	15	78	402	8	10	410	241
Volume Left (vph)	216	3	78	0	0	10	0	0
Volume Right (vph)	92	8	0	0	8	0	0	241
Hadj (s)	0.00	-0.25	0.53	0.03	-0.67	0.53	0.03	-0.67
Departure Headway (s)	6.3	7.1	6.9	6.4	3.2	7.0	6.4	3.2
Degree Utilization, x	0.55	0.03	0.15	0.71	0.01	0.02	0.73	0.21
Capacity (veh/h)	530	407	504	546	1121	497	540	1122
Control Delay (s)	16.8	10.4	9.9	22.3	5.0	8.9	23.9	5.9
Approach Delay (s)	16.8	10.4	20.0			17.1		
Approach LOS	C	B	C			C		

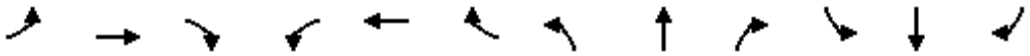
Intersection Summary				
Delay	18.0			
Level of Service	C			
Intersection Capacity Utilization	56.9%	ICU Level of Service	B	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	106	166	152	25	355	41	260	709	0	30	866	442
Future Volume (vph)	106	166	152	25	355	41	260	709	0	30	866	442
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.93		1.00	0.98		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3285		1770	3484		1770	3539		1770	3539	1583
Flt Permitted	0.24	1.00		0.54	1.00		0.22	1.00		0.95	1.00	1.00
Satd. Flow (perm)	441	3285		1014	3484		416	3539		1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	115	180	165	27	386	45	283	771	0	33	941	480
RTOR Reduction (vph)	0	118	0	0	0	0	0	0	0	0	0	186
Lane Group Flow (vph)	115	227	0	27	431	0	283	771	0	33	941	294
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4			6					2
Actuated Green, G (s)	25.5	25.5		15.8	15.8		47.2	47.2		3.8	34.7	34.7
Effective Green, g (s)	25.5	25.5		15.8	15.8		47.2	47.2		3.8	34.7	34.7
Actuated g/C Ratio	0.28	0.28		0.18	0.18		0.52	0.52		0.04	0.39	0.39
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	201	930		178	611		463	1856		74	1364	610
v/s Ratio Prot	c0.03	0.07			c0.12		c0.11	0.22		0.02	c0.27	
v/s Ratio Perm	0.13			0.03			0.21					0.19
v/c Ratio	0.57	0.24		0.15	0.71		0.61	0.42		0.45	0.69	0.48
Uniform Delay, d1	25.4	24.8		31.4	34.9		21.8	13.0		42.1	23.1	20.9
Progression Factor	0.78	0.65		1.00	1.00		0.51	0.31		1.40	0.45	0.18
Incremental Delay, d2	3.8	0.1		0.4	3.7		2.1	0.6		3.8	2.6	2.4
Delay (s)	23.8	16.3		31.8	38.6		13.3	4.6		62.6	13.1	6.1
Level of Service	C	B		C	D		B	A		E	B	A
Approach Delay (s)		18.1			38.2			6.9			11.9	
Approach LOS		B			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	14.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		

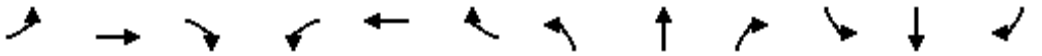
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	50	25	64	7	104	3	363	92	11	6	47	62
Future Volume (vph)	50	25	64	7	104	3	363	92	11	6	47	62
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	27	70	8	113	3	395	100	12	7	51	67

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total (vph)	81	70	124	507	125
Volume Left (vph)	54	0	8	395	7
Volume Right (vph)	0	70	3	12	67
Hadj (s)	0.37	-0.67	0.03	0.18	-0.28
Departure Headway (s)	6.8	5.7	6.0	5.1	5.2
Degree Utilization, x	0.15	0.11	0.21	0.72	0.18
Capacity (veh/h)	481	563	532	687	631
Control Delay (s)	9.8	8.2	10.6	19.9	9.4
Approach Delay (s)	9.1		10.6	19.9	9.4
Approach LOS	A		B	C	A

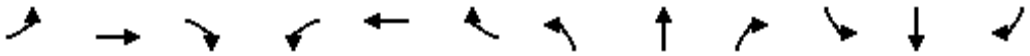
Intersection Summary				
Delay	15.4			
Level of Service	C			
Intersection Capacity Utilization	50.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	528	27	2	942	51	13	861	168
Future Volume (vph)	0	0	0	0	528	27	2	942	51	13	861	168
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor					0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt					1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected					1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)					3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted					1.00	1.00	0.24	1.00	1.00	0.21	1.00	1.00
Satd. Flow (perm)					3539	1583	447	3539	1583	388	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	574	29	2	1024	55	14	936	183
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	25	0	0	25
Lane Group Flow (vph)	0	0	0	0	574	29	2	1024	30	14	936	158
Turn Type	pm+pt				NA	Perm	Perm	NA	Perm	Perm	NA	pm+ov
Protected Phases	7	4			8			2			6	7
Permitted Phases	4					8	2		2	6		6
Actuated Green, G (s)					21.0	21.0	49.7	49.7	49.7	49.7	49.7	55.5
Effective Green, g (s)					21.0	21.0	49.7	49.7	49.7	49.7	49.7	55.5
Actuated g/C Ratio					0.23	0.23	0.55	0.55	0.55	0.55	0.55	0.62
Clearance Time (s)					4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)					3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)					825	369	246	1954	874	214	1954	1055
v/s Ratio Prot					c0.16			c0.29			0.26	c0.01
v/s Ratio Perm						0.02	0.00		0.02	0.04		0.09
v/c Ratio					0.70	0.08	0.01	0.52	0.03	0.07	0.48	0.15
Uniform Delay, d1					31.6	26.9	9.1	12.7	9.2	9.4	12.3	7.3
Progression Factor					1.62	1.70	1.00	1.00	1.00	0.51	0.40	0.10
Incremental Delay, d2					1.6	0.1	0.1	1.0	0.1	0.5	0.7	0.1
Delay (s)					52.7	45.8	9.1	13.7	9.3	5.2	5.6	0.8
Level of Service					D	D	A	B	A	A	A	A
Approach Delay (s)		0.0			52.4			13.5			4.8	
Approach LOS		A			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	18.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	48.1%	ICU Level of Service	A
Analysis Period (min)	15		

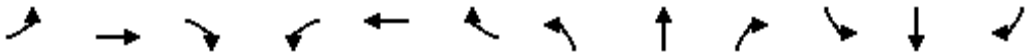
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	117	10	184	531	406	4	19	27	27	33	20
Future Volume (vph)	31	117	10	184	531	406	4	19	27	27	33	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5			4.5			4.5	
Lane Util. Factor		0.95	1.00		0.95			1.00			1.00	
Frt		1.00	0.85		0.95			0.93			0.97	
Flt Protected		0.99	1.00		0.99			1.00			0.98	
Satd. Flow (prot)		3502	1583		3320			1721			1770	
Flt Permitted		0.99	1.00		0.99			0.98			0.90	
Satd. Flow (perm)		3502	1583		3320			1701			1620	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	34	127	11	200	577	441	4	21	29	29	36	22
RTOR Reduction (vph)	0	0	8	0	95	0	0	23	0	0	14	0
Lane Group Flow (vph)	0	161	3	0	1123	0	0	31	0	0	73	0
Turn Type	Split	NA	Perm	Split	NA		Perm	NA		Perm	NA	
Protected Phases	2	2		1	1			8			4	
Permitted Phases			2				8			4		
Actuated Green, G (s)		22.3	22.3		36.1			18.1			18.1	
Effective Green, g (s)		22.3	22.3		36.1			18.1			18.1	
Actuated g/C Ratio		0.25	0.25		0.40			0.20			0.20	
Clearance Time (s)		4.5	4.5		4.5			4.5			4.5	
Vehicle Extension (s)		3.0	3.0		3.0			3.0			3.0	
Lane Grp Cap (vph)		867	392		1331			342			325	
v/s Ratio Prot		c0.05			c0.34							
v/s Ratio Perm			0.00					0.02			c0.05	
v/c Ratio		0.19	0.01		0.84			0.09			0.23	
Uniform Delay, d1		26.7	25.5		24.4			29.3			30.1	
Progression Factor		1.06	1.00		0.61			1.00			1.00	
Incremental Delay, d2		0.5	0.0		2.8			0.5			1.6	
Delay (s)		28.8	25.5		17.8			29.8			31.7	
Level of Service		C	C		B			C			C	
Approach Delay (s)		28.6			17.8			29.8			31.7	
Approach LOS		C			B			C			C	

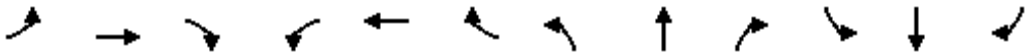
Intersection Summary			
HCM 2000 Control Delay	20.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	55.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



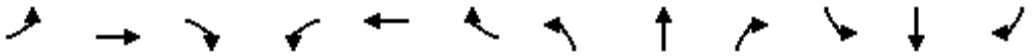
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	480	1755	229	115	838	0	0	865	55
Future Volume (vph)	0	0	0	480	1755	229	115	838	0	0	865	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5	4.5		4.5	4.5			4.5	
Lane Util. Factor				0.86	0.86		1.00	0.91			0.91	
Frt				1.00	0.98		1.00	1.00			0.99	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1522	4719		1770	5085			5040	
Flt Permitted				0.95	1.00		0.21	1.00			1.00	
Satd. Flow (perm)				1522	4719		383	5085			5040	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	522	1908	249	125	911	0	0	940	60
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	0	0	470	2209	0	125	911	0	0	997	0
Turn Type				Prot	NA		Perm	NA			NA	
Protected Phases				3	8			2			6	
Permitted Phases							2					
Actuated Green, G (s)				44.5	44.5		36.5	36.5			36.5	
Effective Green, g (s)				44.5	44.5		36.5	36.5			36.5	
Actuated g/C Ratio				0.49	0.49		0.41	0.41			0.41	
Clearance Time (s)				4.5	4.5		4.5	4.5			4.5	
Lane Grp Cap (vph)				752	2333		155	2062			2044	
v/s Ratio Prot				0.31	c0.47			0.18			0.20	
v/s Ratio Perm							c0.33					
v/c Ratio				0.62	0.95		0.81	0.44			0.49	
Uniform Delay, d1				16.6	21.6		23.6	19.4			19.8	
Progression Factor				1.00	1.00		0.67	0.54			0.24	
Incremental Delay, d2				3.9	9.8		28.1	0.5			0.8	
Delay (s)				20.5	31.4		44.0	11.0			5.5	
Level of Service				C	C		D	B			A	
Approach Delay (s)		0.0			29.5			15.0			5.5	
Approach LOS		A			C			B			A	

Intersection Summary				
HCM 2000 Control Delay	21.2	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.88			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0	
Intersection Capacity Utilization	72.1%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				



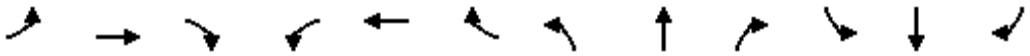
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	57	18	0	0	0	0	519	118	64	1110	0
Future Volume (vph)	107	57	18	0	0	0	0	519	118	64	1110	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5						4.5		4.5	4.5	
Lane Util. Factor	0.91	0.91						0.91		1.00	0.91	
Frt	1.00	0.98						0.97		1.00	1.00	
Flt Protected	0.95	0.98						1.00		0.95	1.00	
Satd. Flow (prot)	1610	3252						4944		1770	5085	
Flt Permitted	0.95	0.98						1.00		0.34	1.00	
Satd. Flow (perm)	1610	3252						4944		634	5085	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	116	62	20	0	0	0	0	564	128	70	1207	0
RTOR Reduction (vph)	0	14	0	0	0	0	0	41	0	0	0	0
Lane Group Flow (vph)	66	118	0	0	0	0	0	651	0	70	1207	0
Turn Type	Prot	NA						NA		pm+pt	NA	
Protected Phases	7	4						2		1	6	
Permitted Phases										6		
Actuated Green, G (s)	25.5	25.5						37.5		55.5	55.5	
Effective Green, g (s)	25.5	25.5						37.5		55.5	55.5	
Actuated g/C Ratio	0.28	0.28						0.42		0.62	0.62	
Clearance Time (s)	4.5	4.5						4.5		4.5	4.5	
Lane Grp Cap (vph)	456	921						2060		561	3135	
v/s Ratio Prot	c0.04	0.04						0.13		0.02	c0.24	
v/s Ratio Perm										0.06		
v/c Ratio	0.14	0.13						0.32		0.12	0.39	
Uniform Delay, d1	24.1	24.0						17.6		9.2	8.7	
Progression Factor	1.00	1.00						1.40		0.23	0.24	
Incremental Delay, d2	0.7	0.3						0.3		0.4	0.3	
Delay (s)	24.8	24.3						25.0		2.6	2.4	
Level of Service	C	C						C		A	A	
Approach Delay (s)		24.4			0.0			25.0			2.5	
Approach LOS		C			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	54.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	499	99	116	1239	47	123	413	129	78	1176	157
Future Volume (vph)	49	499	99	116	1239	47	123	413	129	78	1176	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	5057		1770	4904		1770	4995	
Flt Permitted	0.14	1.00	1.00	0.29	1.00		0.16	1.00		0.28	1.00	
Satd. Flow (perm)	263	3539	1583	544	5057		305	4904		527	4995	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	53	542	108	126	1347	51	134	449	140	85	1278	171
RTOR Reduction (vph)	0	0	65	0	5	0	0	63	0	0	19	0
Lane Group Flow (vph)	53	542	43	126	1393	0	134	526	0	85	1430	0
Turn Type	Perm	NA	pm+ov	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4	5	3	8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	28.5	28.5	36.0	38.3	38.3		31.9	31.9		30.7	30.7	
Effective Green, g (s)	28.5	28.5	36.0	38.3	38.3		31.9	31.9		30.7	30.7	
Actuated g/C Ratio	0.32	0.32	0.40	0.43	0.43		0.35	0.35		0.34	0.34	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)	83	1120	633	303	2152		230	1738		266	1703	
v/s Ratio Prot		0.15	0.01	0.02	c0.28		c0.05	0.11		0.02	c0.29	
v/s Ratio Perm	0.20		0.02	0.15			0.16			0.09		
v/c Ratio	0.64	0.48	0.07	0.42	0.65		0.58	0.30		0.32	0.84	
Uniform Delay, d1	26.3	24.8	16.7	16.9	20.5		31.4	21.0		20.9	27.4	
Progression Factor	0.86	0.84	0.69	1.00	1.00		0.64	0.27		0.57	0.71	
Incremental Delay, d2	31.5	1.5	0.2	4.2	1.5		10.3	0.4		3.0	4.9	
Delay (s)	54.2	22.2	11.7	21.0	22.0		30.4	6.1		14.8	24.2	
Level of Service	D	C	B	C	C		C	A		B	C	
Approach Delay (s)		23.0			21.9			10.6			23.7	
Approach LOS		C			C			B			C	

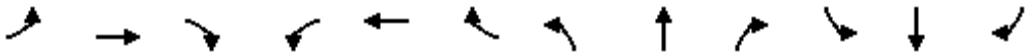
Intersection Summary			
HCM 2000 Control Delay	20.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	77.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	116	63	51	753	147	58	265	12	145	970	244
Future Volume (vph)	56	116	63	51	753	147	58	265	12	145	970	244
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3353		1770	3539	1583	1770	3539	1583	1770	4932	
Flt Permitted	0.18	1.00		0.63	1.00	1.00	0.16	1.00	1.00	0.58	1.00	
Satd. Flow (perm)	339	3353		1173	3539	1583	292	3539	1583	1072	4932	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	61	126	68	55	818	160	63	288	13	158	1054	265
RTOR Reduction (vph)	0	51	0	0	0	71	0	0	6	0	37	0
Lane Group Flow (vph)	61	143	0	55	818	89	63	288	7	158	1282	0
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8		8	2		2	6		
Actuated Green, G (s)	22.0	22.0		30.9	30.9	30.9	50.1	50.1	50.1	50.1	50.1	
Effective Green, g (s)	22.0	22.0		30.9	30.9	30.9	50.1	50.1	50.1	50.1	50.1	
Actuated g/C Ratio	0.24	0.24		0.34	0.34	0.34	0.56	0.56	0.56	0.56	0.56	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	82	819		431	1215	543	162	1970	881	596	2745	
v/s Ratio Prot		0.04		0.01	c0.23			0.08			c0.26	
v/s Ratio Perm	c0.18			0.04		0.06	0.22		0.00	0.15		
v/c Ratio	0.74	0.17		0.13	0.67	0.16	0.39	0.15	0.01	0.27	0.47	
Uniform Delay, d1	31.4	26.8		20.4	25.2	20.6	11.3	9.6	8.9	10.4	12.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00	0.72	0.52	1.00	0.27	0.24	
Incremental Delay, d2	30.1	0.1		0.1	1.5	0.1	6.8	0.2	0.0	1.0	0.5	
Delay (s)	61.5	26.9		20.5	26.7	20.7	15.0	5.2	8.9	3.8	3.4	
Level of Service	E	C		C	C	C	B	A	A	A	A	
Approach Delay (s)		35.2			25.5			7.0			3.4	
Approach LOS		D			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

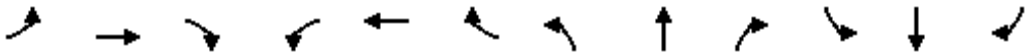
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	444	199	253	1256	345	159	374	60	150	361	30
Future Volume (vph)	52	444	199	253	1256	345	159	374	60	150	361	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3498	
Flt Permitted	0.11	1.00	1.00	0.37	1.00	1.00	0.56	1.00	1.00	0.56	1.00	
Satd. Flow (perm)	207	3539	1583	693	3539	1583	1049	3539	1583	1049	3498	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	57	483	216	275	1365	375	173	407	65	163	392	33
RTOR Reduction (vph)	0	0	130	0	0	177	0	0	54	0	7	0
Lane Group Flow (vph)	57	483	86	275	1365	198	173	407	11	163	418	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		
Actuated Green, G (s)	40.3	36.0	36.0	52.1	43.3	43.3	15.9	15.9	15.9	15.6	15.6	
Effective Green, g (s)	40.3	36.0	36.0	52.1	43.3	43.3	15.9	15.9	15.9	15.6	15.6	
Actuated g/C Ratio	0.45	0.40	0.40	0.58	0.48	0.48	0.18	0.18	0.18	0.17	0.17	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	167	1415	633	539	1702	761	255	625	279	249	606	
v/s Ratio Prot	0.02	0.14		c0.07	c0.39		0.07	c0.11		0.06	c0.12	
v/s Ratio Perm	0.14		0.05	0.23		0.12	0.05		0.01	0.05		
v/c Ratio	0.34	0.34	0.14	0.51	0.80	0.26	0.68	0.65	0.04	0.65	0.69	
Uniform Delay, d1	16.5	18.8	17.1	10.1	19.7	13.8	34.3	34.5	30.7	33.9	34.9	
Progression Factor	1.00	1.00	1.00	0.70	0.68	0.16	0.91	0.91	1.00	0.94	0.95	
Incremental Delay, d2	1.2	0.7	0.4	0.1	0.4	0.1	6.7	2.3	0.1	6.0	3.2	
Delay (s)	17.8	19.4	17.6	7.1	13.8	2.3	38.1	33.9	30.8	37.9	36.3	
Level of Service	B	B	B	A	B	A	D	C	C	D	D	
Approach Delay (s)		18.8			10.7			34.7			36.7	
Approach LOS		B			B			C			D	

Intersection Summary			
HCM 2000 Control Delay	19.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		

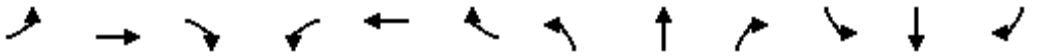
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	116	68	72	106	128	336	40	179	101	430	150	235
Future Volume (vph)	116	68	72	106	128	336	40	179	101	430	150	235
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	0.91	0.91		1.00	1.00	1.00	0.97	0.95	1.00	0.97	0.95	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	0.99		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1610	3150		1770	1863	1583	3433	3539	1583	3433	3215	
Flt Permitted	0.67	0.86		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1133	2746		1770	1863	1583	3433	3539	1583	3433	3215	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	126	74	78	115	139	365	43	195	110	467	163	255
RTOR Reduction (vph)	0	67	0	0	0	260	0	0	72	0	121	0
Lane Group Flow (vph)	87	124	0	115	139	105	43	195	38	467	297	0
Turn Type	Perm	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4					8			2			
Actuated Green, G (s)	12.4	12.4		9.1	26.0	26.0	3.3	31.3	31.3	19.2	47.2	
Effective Green, g (s)	12.4	12.4		9.1	26.0	26.0	3.3	31.3	31.3	19.2	47.2	
Actuated g/C Ratio	0.14	0.14		0.10	0.29	0.29	0.04	0.35	0.35	0.21	0.52	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	156	378		178	538	457	125	1230	550	732	1686	
v/s Ratio Prot				c0.06	0.07		0.01	0.06		c0.14	c0.09	
v/s Ratio Perm	c0.08	0.05				0.07			0.02			
v/c Ratio	0.56	0.33		0.65	0.26	0.23	0.34	0.16	0.07	0.64	0.18	
Uniform Delay, d1	36.2	35.0		38.9	24.6	24.4	42.3	20.3	19.6	32.2	11.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.69	0.48	
Incremental Delay, d2	4.3	0.5		7.8	0.3	0.3	1.7	0.3	0.2	1.6	0.2	
Delay (s)	40.5	35.5		46.7	24.8	24.6	43.9	20.5	19.9	24.0	5.6	
Level of Service	D	D		D	C	C	D	C	B	C	A	
Approach Delay (s)		37.1			28.8			23.2			15.3	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	23.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	44.0%	ICU Level of Service	A
Analysis Period (min)	15		

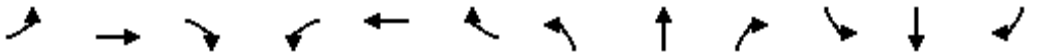
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	200	5	0	403	183	1	171	42	226	495	546
Future Volume (vph)	61	200	5	0	403	183	1	171	42	226	495	546
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95			0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00			0.95		1.00	0.97		1.00	0.92	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3527			3373		1770	3434		1770	3261	
Flt Permitted	0.95	1.00			1.00		0.16	1.00		0.61	1.00	
Satd. Flow (perm)	1770	3527			3373		297	3434		1131	3261	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	66	217	5	0	438	199	1	186	46	246	538	593
RTOR Reduction (vph)	0	3	0	0	78	0	0	22	0	0	202	0
Lane Group Flow (vph)	66	219	0	0	559	0	1	210	0	246	930	0
Turn Type	Prot	NA			NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	5.6	26.0			15.9		35.0	35.0		35.0	35.0	
Effective Green, g (s)	5.6	26.0			15.9		35.0	35.0		35.0	35.0	
Actuated g/C Ratio	0.08	0.37			0.23		0.50	0.50		0.50	0.50	
Clearance Time (s)	4.5	4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	141	1310			766		148	1717		565	1630	
v/s Ratio Prot	c0.04	0.06			c0.17			0.06			c0.29	
v/s Ratio Perm							0.00			0.22		
v/c Ratio	0.47	0.17			0.73		0.01	0.12		0.44	0.57	
Uniform Delay, d1	30.8	14.7			25.1		8.8	9.3		11.2	12.2	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.4	0.1			3.5		0.1	0.1		2.4	1.5	
Delay (s)	33.2	14.8			28.6		8.9	9.5		13.6	13.7	
Level of Service	C	B			C		A	A		B	B	
Approach Delay (s)		19.0			28.6			9.5			13.7	
Approach LOS		B			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	17.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		

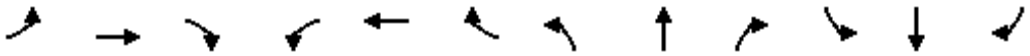
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	69	167	29	153	10	190	265	12	11	1162	154
Future Volume (vph)	81	69	167	29	153	10	190	265	12	11	1162	154
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1845		1770	3516		1770	4996	
Flt Permitted	0.47	1.00	1.00	0.71	1.00		0.13	1.00		0.57	1.00	
Satd. Flow (perm)	871	1863	1583	1319	1845		236	3516		1058	4996	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	88	75	182	32	166	11	207	288	13	12	1263	167
RTOR Reduction (vph)	0	0	154	0	3	0	0	3	0	0	14	0
Lane Group Flow (vph)	88	75	28	32	174	0	207	298	0	12	1416	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	13.8	13.8	13.8	13.8	13.8		67.2	67.2		52.1	52.1	
Effective Green, g (s)	13.8	13.8	13.8	13.8	13.8		67.2	67.2		52.1	52.1	
Actuated g/C Ratio	0.15	0.15	0.15	0.15	0.15		0.75	0.75		0.58	0.58	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	133	285	242	202	282		356	2625		612	2892	
v/s Ratio Prot		0.04			0.09		c0.07	0.08			0.28	
v/s Ratio Perm	c0.10		0.02	0.02			c0.36			0.01		
v/c Ratio	0.66	0.26	0.12	0.16	0.62		0.58	0.11		0.02	0.49	
Uniform Delay, d1	35.9	33.6	32.8	33.1	35.6		7.0	3.2		8.1	11.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.79	0.47		1.00	1.00	
Incremental Delay, d2	11.7	0.5	0.2	0.4	4.0		2.4	0.1		0.1	0.6	
Delay (s)	47.6	34.1	33.1	33.4	39.6		14.8	1.6		8.1	11.7	
Level of Service	D	C	C	C	D		B	A		A	B	
Approach Delay (s)		37.0			38.7			7.0			11.7	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	16.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		

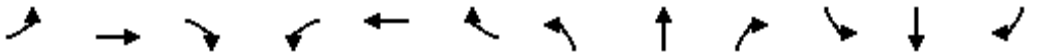
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	64	0	0	0	57	371	235	0	1349	229
Future Volume (Veh/h)	0	0	64	0	0	0	57	371	235	0	1349	229
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	70	0	0	0	62	403	255	0	1466	249
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								206			797	
pX, platoon unblocked	0.91	0.91	0.90	0.91	0.91	0.99	0.90			0.99		
vC, conflicting volume	1916	2118	613	1086	2242	202	1715			403		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1594	1816	194	679	1953	172	1415			376		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	90	100	100	100	86			100		
cM capacity (veh/h)	58	60	735	247	49	833	431			1167		

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	70	62	202	202	255	586	586	542
Volume Left	0	62	0	0	0	0	0	0
Volume Right	70	0	0	0	255	0	0	249
cSH	735	431	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.10	0.14	0.12	0.12	0.15	0.34	0.34	0.32
Queue Length 95th (ft)	8	12	0	0	0	0	0	0
Control Delay (s)	10.4	14.7	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	B						
Approach Delay (s)	10.4	1.3				0.0		
Approach LOS	B							

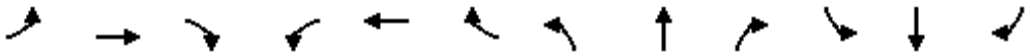
Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	41.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	191	37	15	20	0	11	0	460	49	37	1376	0
Future Volume (vph)	191	37	15	20	0	11	0	460	49	37	1376	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5		4.5		4.5		4.5	4.5	
Lane Util. Factor	0.97	1.00		1.00		1.00		0.91		1.00	0.91	
Frt	1.00	0.96		1.00		0.85		0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)	3433	1783		1770		1583		5012		1770	5085	
Flt Permitted	0.95	1.00		0.95		1.00		1.00		0.43	1.00	
Satd. Flow (perm)	3433	1783		1770		1583		5012		810	5085	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	208	40	16	22	0	12	0	500	53	40	1496	0
RTOR Reduction (vph)	0	14	0	0	0	12	0	9	0	0	0	0
Lane Group Flow (vph)	208	42	0	22	0	0	0	544	0	40	1496	0
Turn Type	pm+pt	NA		Prot		Perm		NA		Perm	NA	
Protected Phases	7	4		3				2			6	
Permitted Phases	4					8				6		
Actuated Green, G (s)	18.0	9.5		4.0		1.1		63.0		63.0	63.0	
Effective Green, g (s)	18.0	9.5		4.0		1.1		63.0		63.0	63.0	
Actuated g/C Ratio	0.20	0.11		0.04		0.01		0.70		0.70	0.70	
Clearance Time (s)	4.5	4.5		4.5		4.5		4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	686	188		78		19		3508		567	3559	
v/s Ratio Prot	c0.04	0.02		0.01				0.11			c0.29	
v/s Ratio Perm	0.02					0.00				0.05		
v/c Ratio	0.30	0.22		0.28		0.01		0.15		0.07	0.42	
Uniform Delay, d1	30.7	36.9		41.6		43.9		4.5		4.3	5.7	
Progression Factor	0.79	0.63		1.00		1.00		0.26		0.61	0.52	
Incremental Delay, d2	0.2	0.6		2.0		0.2		0.1		0.2	0.4	
Delay (s)	24.4	23.9		43.6		44.1		1.3		2.8	3.3	
Level of Service	C	C		D		D		A		A	A	
Approach Delay (s)		24.3			43.8			1.3			3.3	
Approach LOS		C			D			A			A	

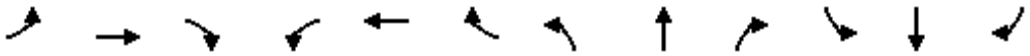
Intersection Summary			
HCM 2000 Control Delay	5.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	46.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



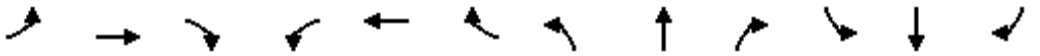
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	551	0	0	1499	20	120	161	95	0	0	0
Future Volume (vph)	63	551	0	0	1499	20	120	161	95	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5		4.5	4.5				
Lane Util. Factor	1.00	0.95			0.91		0.86	0.86				
Frt	1.00	1.00			1.00		1.00	0.95				
Flt Protected	0.95	1.00			1.00		0.95	1.00				
Satd. Flow (prot)	1770	3539			5075		1522	4542				
Flt Permitted	0.12	1.00			1.00		0.95	1.00				
Satd. Flow (perm)	216	3539			5075		1522	4542				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	68	599	0	0	1629	22	130	175	103	0	0	0
RTOR Reduction (vph)	0	0	0	0	2	0	0	81	0	0	0	0
Lane Group Flow (vph)	68	599	0	0	1649	0	103	224	0	0	0	0
Turn Type	Perm	NA			NA		pm+pt	NA				
Protected Phases		4			8		6	2				
Permitted Phases	4						2					
Actuated Green, G (s)	61.5	61.5			61.5		19.5	19.5				
Effective Green, g (s)	61.5	61.5			61.5		19.5	19.5				
Actuated g/C Ratio	0.68	0.68			0.68		0.22	0.22				
Clearance Time (s)	4.5	4.5			4.5		4.5	4.5				
Lane Grp Cap (vph)	147	2418			3467		329	984				
v/s Ratio Prot		0.17			c0.32		c0.07	0.05				
v/s Ratio Perm	0.32											
v/c Ratio	0.46	0.25			0.48		0.31	0.23				
Uniform Delay, d1	6.6	5.4			6.7		29.6	29.0				
Progression Factor	1.00	1.00			0.32		1.00	1.00				
Incremental Delay, d2	10.1	0.2			0.3		2.5	0.5				
Delay (s)	16.7	5.7			2.5		32.1	29.6				
Level of Service	B	A			A		C	C				
Approach Delay (s)		6.8			2.5			30.2			0.0	
Approach LOS		A			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	7.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	50.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



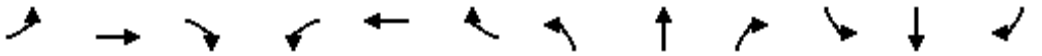
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	300	1564	60	87	267	0	0	338	41
Future Volume (vph)	0	0	0	300	1564	60	87	267	0	0	338	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.5		4.5	4.5			4.5	
Lane Util. Factor					0.91		1.00	0.95			0.95	
Frt					1.00		1.00	1.00			0.98	
Flt Protected					0.99		0.95	1.00			1.00	
Satd. Flow (prot)					5022		1770	3539			3481	
Flt Permitted					0.99		0.44	1.00			1.00	
Satd. Flow (perm)					5022		810	3539			3481	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	326	1700	65	95	290	0	0	367	45
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	0	0	10	0
Lane Group Flow (vph)	0	0	0	0	2087	0	95	290	0	0	402	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8			2					
Actuated Green, G (s)					53.5		27.5	27.5			27.5	
Effective Green, g (s)					53.5		27.5	27.5			27.5	
Actuated g/C Ratio					0.59		0.31	0.31			0.31	
Clearance Time (s)					4.5		4.5	4.5			4.5	
Lane Grp Cap (vph)					2985		247	1081			1063	
v/s Ratio Prot								0.08			0.12	
v/s Ratio Perm					0.42		c0.12					
v/c Ratio					0.70		0.38	0.27			0.38	
Uniform Delay, d1					12.7		24.6	23.6			24.5	
Progression Factor					0.17		0.61	0.62			1.00	
Incremental Delay, d2					0.5		4.4	0.6			1.0	
Delay (s)					2.7		19.5	15.3			25.6	
Level of Service					A		B	B			C	
Approach Delay (s)		0.0			2.7			16.3			25.6	
Approach LOS		A			A			B			C	

Intersection Summary			
HCM 2000 Control Delay	7.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	74.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



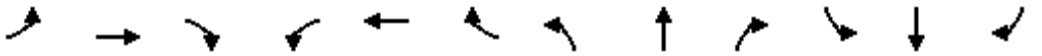
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑						↑↑			↑↑	
Traffic Volume (vph)	35	133	152	0	0	0	0	319	61	0	638	0
Future Volume (vph)	35	133	152	0	0	0	0	319	61	0	638	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5						4.5			4.5	
Lane Util. Factor		0.95						0.95			0.95	
Frt		0.93						0.98			1.00	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		3270						3454			3539	
Flt Permitted		0.99						1.00			1.00	
Satd. Flow (perm)		3270						3454			3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	145	165	0	0	0	0	347	66	0	693	0
RTOR Reduction (vph)	0	109	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	239	0	0	0	0	0	413	0	0	693	0
Turn Type	Perm	NA						NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4											
Actuated Green, G (s)		30.5						50.5			50.5	
Effective Green, g (s)		30.5						50.5			50.5	
Actuated g/C Ratio		0.34						0.56			0.56	
Clearance Time (s)		4.5						4.5			4.5	
Lane Grp Cap (vph)		1108						1938			1985	
v/s Ratio Prot								0.12			c0.20	
v/s Ratio Perm		0.07										
v/c Ratio		0.22						0.21			0.35	
Uniform Delay, d1		21.2						9.8			10.8	
Progression Factor		1.00						0.59			0.46	
Incremental Delay, d2		0.4						0.2			0.4	
Delay (s)		21.7						6.1			5.3	
Level of Service		C						A			A	
Approach Delay (s)		21.7			0.0			6.1			5.3	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	74.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	385	172	100	743	122	70	327	52	169	917	94
Future Volume (vph)	33	385	172	100	743	122	70	327	52	169	917	94
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.95		1.00	0.98		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3375		1770	3464		1770	3466		1770	3539	1583
Flt Permitted	0.17	1.00		0.34	1.00		0.20	1.00		0.49	1.00	1.00
Satd. Flow (perm)	308	3375		628	3464		373	3466		917	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	36	418	187	109	808	133	76	355	57	184	997	102
RTOR Reduction (vph)	0	48	0	0	15	0	0	14	0	0	0	31
Lane Group Flow (vph)	36	557	0	109	926	0	76	398	0	184	997	71
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	35.5	35.5		35.5	35.5		45.5	45.5		45.5	45.5	45.5
Effective Green, g (s)	35.5	35.5		35.5	35.5		45.5	45.5		45.5	45.5	45.5
Actuated g/C Ratio	0.39	0.39		0.39	0.39		0.51	0.51		0.51	0.51	0.51
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Grp Cap (vph)	121	1331		247	1366		188	1752		463	1789	800
v/s Ratio Prot		0.17			c0.27			0.11			c0.28	
v/s Ratio Perm	0.12			0.17			0.20			0.20		0.04
v/c Ratio	0.30	0.42		0.44	0.68		0.40	0.23		0.40	0.56	0.09
Uniform Delay, d1	18.7	19.8		20.0	22.5		13.8	12.4		13.8	15.3	11.5
Progression Factor	1.00	1.00		0.74	0.74		0.75	0.66		0.69	0.67	0.49
Incremental Delay, d2	6.2	1.0		5.4	2.6		6.3	0.3		2.5	1.2	0.2
Delay (s)	24.9	20.7		20.1	19.2		16.7	8.4		12.0	11.5	5.9
Level of Service	C	C		C	B		B	A		B	B	A
Approach Delay (s)		21.0			19.3			9.7			11.1	
Approach LOS		C			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	15.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	73.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

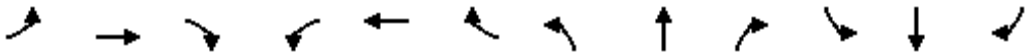


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	391	120	49	645	83	107	357	41	115	822	137
Future Volume (vph)	29	391	120	49	645	83	107	357	41	115	822	137
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	1.00	0.85	1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3415		1770	3539	1583	1770	3484		1770	3463	
Flt Permitted	0.21	1.00		0.31	1.00	1.00	0.22	1.00		0.49	1.00	
Satd. Flow (perm)	396	3415		584	3539	1583	408	3484		921	3463	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	425	130	53	701	90	116	388	45	125	893	149
RTOR Reduction (vph)	0	32	0	0	0	64	0	10	0	0	15	0
Lane Group Flow (vph)	32	523	0	53	701	27	116	423	0	125	1027	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	26.5	26.5		26.5	26.5	26.5	54.5	54.5		54.5	54.5	
Effective Green, g (s)	26.5	26.5		26.5	26.5	26.5	54.5	54.5		54.5	54.5	
Actuated g/C Ratio	0.29	0.29		0.29	0.29	0.29	0.61	0.61		0.61	0.61	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)	116	1005		171	1042	466	247	2109		557	2097	
v/s Ratio Prot		0.15			c0.20			0.12			c0.30	
v/s Ratio Perm	0.08			0.09		0.02	0.28			0.14		
v/c Ratio	0.28	0.52		0.31	0.67	0.06	0.47	0.20		0.22	0.49	
Uniform Delay, d1	24.4	26.5		24.7	27.9	22.8	9.8	8.0		8.1	10.0	
Progression Factor	1.00	1.00		0.56	0.55	0.48	1.00	1.00		0.87	0.86	
Incremental Delay, d2	5.8	1.9		4.3	3.2	0.2	6.3	0.2		0.8	0.7	
Delay (s)	30.2	28.4		18.1	18.6	11.1	16.1	8.2		7.9	9.2	
Level of Service	C	C		B	B	B	B	A		A	A	
Approach Delay (s)		28.5			17.8			9.9			9.1	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	15.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

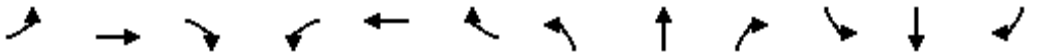
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	346	222	204	808	186	106
Future Volume (vph)	346	222	204	808	186	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	0.97	1.00
Frt	0.94		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3332		1770	3539	3433	1583
Flt Permitted	1.00		0.40	1.00	0.95	1.00
Satd. Flow (perm)	3332		743	3539	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	376	241	222	878	202	115
RTOR Reduction (vph)	87	0	0	0	0	85
Lane Group Flow (vph)	530	0	222	878	202	30
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Actuated Green, G (s)	57.5		57.5	57.5	23.5	23.5
Effective Green, g (s)	57.5		57.5	57.5	23.5	23.5
Actuated g/C Ratio	0.64		0.64	0.64	0.26	0.26
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	2128		474	2261	896	413
v/s Ratio Prot	0.16			0.25	c0.06	
v/s Ratio Perm			c0.30			0.02
v/c Ratio	0.25		0.47	0.39	0.23	0.07
Uniform Delay, d1	7.0		8.4	7.8	26.1	25.0
Progression Factor	0.28		0.77	0.80	0.88	0.95
Incremental Delay, d2	0.3		2.6	0.4	0.5	0.3
Delay (s)	2.2		9.1	6.6	23.5	24.2
Level of Service	A		A	A	C	C
Approach Delay (s)	2.2			7.1	23.8	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	8.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	44.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	78	301	167	105	585	65	157	225	49	25	310	34
Future Volume (vph)	78	301	167	105	585	65	157	225	49	25	310	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.95		1.00	0.98			0.98			0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.98			1.00	
Satd. Flow (prot)	1770	3349		1770	3486			3417			3479	
Flt Permitted	0.31	1.00		0.42	1.00			0.67			0.91	
Satd. Flow (perm)	573	3349		782	3486			2344			3160	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	85	327	182	114	636	71	171	245	53	27	337	37
RTOR Reduction (vph)	0	85	0	0	10	0	0	11	0	0	8	0
Lane Group Flow (vph)	85	424	0	114	697	0	0	458	0	0	393	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	41.5	41.5		41.5	41.5			39.5			39.5	
Effective Green, g (s)	41.5	41.5		41.5	41.5			39.5			39.5	
Actuated g/C Ratio	0.46	0.46		0.46	0.46			0.44			0.44	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Grp Cap (vph)	264	1544		360	1607			1028			1386	
v/s Ratio Prot		0.13			c0.20							
v/s Ratio Perm	0.15			0.15				c0.20			0.12	
v/c Ratio	0.32	0.27		0.32	0.43			0.45			0.28	
Uniform Delay, d1	15.3	15.0		15.3	16.3			17.6			16.2	
Progression Factor	0.53	0.40		1.31	1.35			1.00			0.58	
Incremental Delay, d2	2.9	0.4		2.2	0.8			1.4			0.5	
Delay (s)	11.0	6.4		22.2	22.8			19.0			9.8	
Level of Service	B	A		C	C			B			A	
Approach Delay (s)		7.0			22.7			19.0			9.8	
Approach LOS		A			C			B			A	

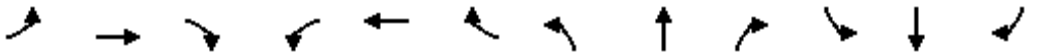
Intersection Summary			
HCM 2000 Control Delay	15.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	291	231	131	293	900	8	214	503	91	26	1025	740
Future Volume (vph)	291	231	131	293	900	8	214	503	91	26	1025	740
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.91	0.91		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.96		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1610	3212		1770	3534		1770	3539	1583	1770	3539	1583
Flt Permitted	0.20	0.58		0.33	1.00		0.13	1.00	1.00	0.45	1.00	1.00
Satd. Flow (perm)	344	1881		612	3534		234	3539	1583	834	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	316	251	142	318	978	9	233	547	99	28	1114	804
RTOR Reduction (vph)	0	40	0	0	1	0	0	0	57	0	0	39
Lane Group Flow (vph)	183	486	0	318	986	0	233	547	42	28	1114	765
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	pm+ov
Protected Phases	7	4		3	8		5	2			6	7
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	34.8	34.8		41.2	22.9		38.5	38.5	38.5	27.3	27.3	42.4
Effective Green, g (s)	34.8	34.8		41.2	22.9		38.5	38.5	38.5	27.3	27.3	42.4
Actuated g/C Ratio	0.39	0.39		0.46	0.25		0.43	0.43	0.43	0.30	0.30	0.47
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	345	950		515	899		214	1513	677	252	1073	745
v/s Ratio Prot	0.09	0.09		c0.13	c0.28		c0.08	0.15			0.31	c0.17
v/s Ratio Perm	0.12	0.11		0.16			c0.38		0.03	0.03		0.31
v/c Ratio	0.53	0.51		0.62	1.10		1.09	0.36	0.06	0.11	1.04	1.03
Uniform Delay, d1	30.5	21.1		22.9	33.5		22.6	17.4	15.1	22.6	31.4	23.8
Progression Factor	0.73	0.66		1.00	1.00		1.32	1.05	1.48	1.00	1.00	1.00
Incremental Delay, d2	1.5	0.4		2.2	60.1		86.0	0.6	0.2	0.9	37.9	40.1
Delay (s)	23.7	14.3		25.1	93.7		115.8	18.9	22.6	23.5	69.2	63.9
Level of Service	C	B		C	F		F	B	C	C	E	E
Approach Delay (s)		16.7			77.0			45.0			66.4	
Approach LOS		B			E			D			E	

Intersection Summary			
HCM 2000 Control Delay	58.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	94.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



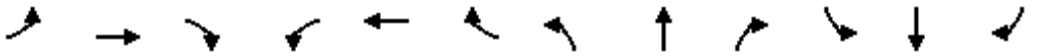
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	71	9	12	571	156	39	167	2	108	169	510
Future Volume (vph)	90	71	9	12	571	156	39	167	2	108	169	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.97		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1831		1770	1803		1770	1860		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.57	1.00		0.57	1.00	1.00
Satd. Flow (perm)	1770	1831		1770	1803		1056	1860		1056	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	98	77	10	13	621	170	42	182	2	117	184	554
RTOR Reduction (vph)	0	4	0	0	11	0	0	1	0	0	0	235
Lane Group Flow (vph)	98	83	0	13	780	0	42	183	0	117	184	319
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		6
Actuated Green, G (s)	10.3	50.5		1.0	41.2		25.0	25.0		25.0	25.0	25.0
Effective Green, g (s)	10.3	50.5		1.0	41.2		25.0	25.0		25.0	25.0	25.0
Actuated g/C Ratio	0.11	0.56		0.01	0.46		0.28	0.28		0.28	0.28	0.28
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	202	1027		19	825		293	516		293	517	439
v/s Ratio Prot	c0.06	0.05		0.01	c0.43			0.10			0.10	
v/s Ratio Perm							0.04			0.11		c0.20
v/c Ratio	0.49	0.08		0.68	0.94		0.14	0.36		0.40	0.36	0.73
Uniform Delay, d1	37.4	9.1		44.3	23.3		24.4	26.0		26.4	26.0	29.4
Progression Factor	0.71	0.83		1.00	1.00		1.00	1.00		0.49	0.49	0.13
Incremental Delay, d2	1.8	0.0		69.9	19.1		1.0	1.9		1.6	0.8	4.2
Delay (s)	28.3	7.5		114.2	42.4		25.5	28.0		14.5	13.7	8.2
Level of Service	C	A		F	D		C	C		B	B	A
Approach Delay (s)		18.6			43.6			27.5			10.2	
Approach LOS		B			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	25.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	86.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	0	375	144	553	202	0
Future Volume (vph)	0	375	144	553	202	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frt	0.85		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	3008		1770	3539	1770	
Flt Permitted	1.00		0.50	1.00	0.95	
Satd. Flow (perm)	3008		932	3539	1770	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	408	157	601	220	0
RTOR Reduction (vph)	188	0	0	0	0	0
Lane Group Flow (vph)	220	0	157	601	220	0
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases			6			8
Actuated Green, G (s)	48.5		48.5	48.5	32.5	
Effective Green, g (s)	48.5		48.5	48.5	32.5	
Actuated g/C Ratio	0.54		0.54	0.54	0.36	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Lane Grp Cap (vph)	1620		502	1907	639	
v/s Ratio Prot	0.07			c0.17	c0.12	
v/s Ratio Perm			0.17			
v/c Ratio	0.14		0.31	0.32	0.34	
Uniform Delay, d1	10.3		11.5	11.5	21.0	
Progression Factor	1.00		0.29	0.29	1.00	
Incremental Delay, d2	0.2		1.4	0.4	1.5	
Delay (s)	10.5		4.7	3.7	22.4	
Level of Service	B		A	A	C	
Approach Delay (s)	10.5			3.9	22.4	
Approach LOS	B			A	C	

Intersection Summary			
HCM 2000 Control Delay	8.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	42.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	4	6	100	4	24	20	592	169	62	420	12
Future Volume (vph)	4	4	6	100	4	24	20	592	169	62	420	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frt		0.94		1.00	0.87		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1722		1770	1621		1770	3539	1583	1770	3525	
Flt Permitted		0.94		0.75	1.00		0.48	1.00	1.00	0.41	1.00	
Satd. Flow (perm)		1641		1393	1621		899	3539	1583	758	3525	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	4	4	7	109	4	26	22	643	184	67	457	13
RTOR Reduction (vph)	0	6	0	0	23	0	0	0	41	0	1	0
Lane Group Flow (vph)	0	9	0	109	7	0	22	643	143	67	469	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		11.0		11.0	11.0		70.0	70.0	70.0	70.0	70.0	
Effective Green, g (s)		11.0		11.0	11.0		70.0	70.0	70.0	70.0	70.0	
Actuated g/C Ratio		0.12		0.12	0.12		0.78	0.78	0.78	0.78	0.78	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		200		170	198		699	2752	1231	589	2741	
v/s Ratio Prot					0.00			c0.18			0.13	
v/s Ratio Perm		0.01		c0.08			0.02		0.09	0.09		
v/c Ratio		0.04		0.64	0.04		0.03	0.23	0.12	0.11	0.17	
Uniform Delay, d1		34.9		37.6	34.8		2.3	2.7	2.4	2.4	2.6	
Progression Factor		1.00		1.00	1.00		2.51	2.81	8.88	1.00	1.00	
Incremental Delay, d2		0.1		8.0	0.1		0.1	0.2	0.2	0.4	0.1	
Delay (s)		35.0		45.6	34.9		5.8	7.8	21.9	2.8	2.7	
Level of Service		C		D	C		A	A	C	A	A	
Approach Delay (s)		35.0			43.3			10.8			2.7	
Approach LOS		C			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	44.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	54	42	434	192	45	635
Future Volume (Veh/h)	54	42	434	192	45	635
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	59	46	472	209	49	690
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						596
pX, platoon unblocked						
vC, conflicting volume	1020	340			681	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1020	340			681	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	73	93			95	
cM capacity (veh/h)	220	655			907	

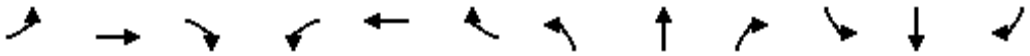
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	59	46	315	366	49	345	345
Volume Left	59	0	0	0	49	0	0
Volume Right	0	46	0	209	0	0	0
cSH	220	655	1700	1700	907	1700	1700
Volume to Capacity	0.27	0.07	0.19	0.22	0.05	0.20	0.20
Queue Length 95th (ft)	26	6	0	0	4	0	0
Control Delay (s)	27.2	10.9	0.0	0.0	9.2	0.0	0.0
Lane LOS	D	B			A		
Approach Delay (s)	20.1		0.0		0.6		
Approach LOS	C						

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	34.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	639	59	81	1306	80	55
Future Volume (vph)	639	59	81	1306	80	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3494		1770	3539	1770	1583
Flt Permitted	1.00		0.31	1.00	0.95	1.00
Satd. Flow (perm)	3494		584	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	695	64	88	1420	87	60
RTOR Reduction (vph)	13	0	0	0	0	39
Lane Group Flow (vph)	746	0	88	1420	87	21
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Actuated Green, G (s)	26.4		26.4	26.4	19.6	19.6
Effective Green, g (s)	26.4		26.4	26.4	19.6	19.6
Actuated g/C Ratio	0.48		0.48	0.48	0.36	0.36
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1677		280	1698	630	564
v/s Ratio Prot	0.21			c0.40	c0.05	
v/s Ratio Perm			0.15			0.01
v/c Ratio	0.44		0.31	0.84	0.14	0.04
Uniform Delay, d1	9.5		8.8	12.4	12.0	11.5
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2		0.6	3.8	0.5	0.1
Delay (s)	9.6		9.4	16.2	12.4	11.7
Level of Service	A		A	B	B	B
Approach Delay (s)	9.6			15.8	12.1	
Approach LOS	A			B	B	

Intersection Summary			
HCM 2000 Control Delay	13.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	48.0%	ICU Level of Service	A
Analysis Period (min)	15		

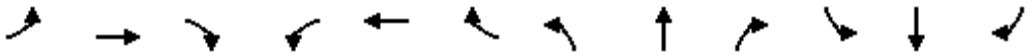
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	113	61	38	0	627	0	0	1060	330
Future Volume (vph)	0	0	0	113	61	38	0	627	0	0	1060	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5	4.5	4.5		4.5			4.5	
Lane Util. Factor				1.00	1.00	1.00		0.91			0.86	
Frt				1.00	1.00	0.85		1.00			0.96	
Flt Protected				0.95	1.00	1.00		1.00			1.00	
Satd. Flow (prot)				1770	1863	1583		5085			6179	
Flt Permitted				0.95	1.00	1.00		1.00			1.00	
Satd. Flow (perm)				1770	1863	1583		5085			6179	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	123	66	41	0	682	0	0	1152	359
RTOR Reduction (vph)	0	0	0	0	0	36	0	0	0	0	34	0
Lane Group Flow (vph)	0	0	0	123	66	5	0	682	0	0	1477	0
Turn Type				Prot	NA	Perm		NA			NA	
Protected Phases				3	8			2			6	
Permitted Phases						8						
Actuated Green, G (s)				11.6	11.6	11.6		69.4			69.4	
Effective Green, g (s)				11.6	11.6	11.6		69.4			69.4	
Actuated g/C Ratio				0.13	0.13	0.13		0.77			0.77	
Clearance Time (s)				4.5	4.5	4.5		4.5			4.5	
Vehicle Extension (s)				3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)				228	240	204		3921			4764	
v/s Ratio Prot				c0.07	0.04			0.13			c0.24	
v/s Ratio Perm						0.00						
v/c Ratio				0.54	0.28	0.03		0.17			0.31	
Uniform Delay, d1				36.7	35.4	34.3		2.7			3.1	
Progression Factor				1.00	1.00	1.00		0.36			0.23	
Incremental Delay, d2				2.4	0.6	0.1		0.1			0.1	
Delay (s)				39.1	36.0	34.3		1.1			0.8	
Level of Service				D	D	C		A			A	
Approach Delay (s)		0.0			37.4			1.1			0.8	
Approach LOS		A			D			A			A	

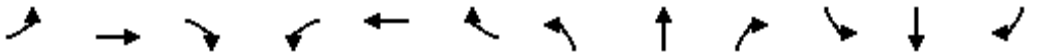
Intersection Summary			
HCM 2000 Control Delay	4.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	54.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	361	65	49	91	0	165	0	1263	169	137	775	0
Future Volume (vph)	361	65	49	91	0	165	0	1263	169	137	775	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5	4.5	
Lane Util. Factor	0.97	1.00	1.00	1.00		1.00		0.95	1.00	1.00	0.91	
Frt	1.00	1.00	0.85	1.00		0.85		1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1863	1583	1770		1583		3539	1583	1770	5085	
Flt Permitted	0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1863	1583	1770		1583		3539	1583	1770	5085	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	392	71	53	99	0	179	0	1373	184	149	842	0
RTOR Reduction (vph)	0	0	46	0	0	0	0	0	73	0	0	0
Lane Group Flow (vph)	392	71	7	99	0	179	0	1373	111	149	842	0
Turn Type	Split	NA	Perm	Prot		Prot		NA	Perm	Prot	NA	
Protected Phases	3	3		4		4		6		5	2	
Permitted Phases			3						6			
Actuated Green, G (s)	11.5	11.5	11.5	12.5		12.5		38.5	38.5	9.5	52.5	
Effective Green, g (s)	11.5	11.5	11.5	12.5		12.5		38.5	38.5	9.5	52.5	
Actuated g/C Ratio	0.13	0.13	0.13	0.14		0.14		0.43	0.43	0.11	0.58	
Clearance Time (s)	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5	4.5	
Lane Grp Cap (vph)	438	238	202	245		219		1513	677	186	2966	
v/s Ratio Prot	c0.11	0.04		0.06		c0.11		c0.39		c0.08	0.17	
v/s Ratio Perm			0.00						0.07			
v/c Ratio	0.89	0.30	0.03	0.40		0.82		0.91	0.16	0.80	0.28	
Uniform Delay, d1	38.7	35.6	34.4	35.4		37.6		24.1	15.8	39.3	9.4	
Progression Factor	1.12	1.11	1.00	1.00		1.00		1.21	2.30	1.35	0.43	
Incremental Delay, d2	20.1	2.6	0.3	4.9		27.5		7.5	0.4	28.4	0.2	
Delay (s)	63.4	42.2	34.6	40.2		65.2		36.7	36.8	81.5	4.3	
Level of Service	E	D	C	D		E		D	D	F	A	
Approach Delay (s)		57.5			56.3			36.7			15.9	
Approach LOS		E			E			D			B	

Intersection Summary			
HCM 2000 Control Delay	35.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	66.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	351	148	17	47	45	292	20	454	71	114	20	169
Future Volume (vph)	351	148	17	47	45	292	20	454	71	114	20	169
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	4.5
Lane Util. Factor	0.97	1.00		1.00	0.95			0.95			1.00	1.00
Frt	1.00	0.98		1.00	0.87			0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.96	1.00
Satd. Flow (prot)	3433	1835		1770	3079			3464			1787	1583
Flt Permitted	0.95	1.00		0.95	1.00			1.00			0.96	1.00
Satd. Flow (perm)	3433	1835		1770	3079			3464			1787	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	382	161	18	51	49	317	22	493	77	124	22	184
RTOR Reduction (vph)	0	5	0	0	286	0	0	13	0	0	0	165
Lane Group Flow (vph)	382	174	0	51	80	0	0	579	0	0	146	19
Turn Type	Split	NA		Split	NA		Split	NA		Split	NA	custom
Protected Phases	2	2		1	1		3	3		4	4	4
Permitted Phases												5
Actuated Green, G (s)	22.8	22.8		7.8	7.8			23.0			8.4	8.4
Effective Green, g (s)	22.8	22.8		7.8	7.8			23.0			8.4	8.4
Actuated g/C Ratio	0.29	0.29		0.10	0.10			0.29			0.11	0.11
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	978	522		172	300			995			187	166
v/s Ratio Prot	c0.11	0.09		c0.03	0.03			c0.17			c0.08	0.01
v/s Ratio Perm												
v/c Ratio	0.39	0.33		0.30	0.27			0.58			0.78	0.12
Uniform Delay, d1	23.0	22.6		33.6	33.4			24.4			34.9	32.4
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	1.2	1.7		1.0	0.5			2.5			18.8	0.3
Delay (s)	24.2	24.3		34.5	33.9			26.9			53.7	32.8
Level of Service	C	C		C	C			C			D	C
Approach Delay (s)		24.2			34.0			26.9			42.0	
Approach LOS		C			C			C			D	

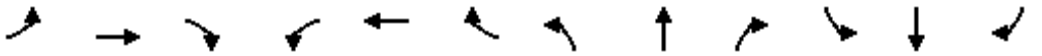
Intersection Summary			
HCM 2000 Control Delay	30.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	22.5
Intersection Capacity Utilization	58.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	159	19	52	241	98	160
Future Volume (vph)	159	19	52	241	98	160
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	173	21	57	262	107	174

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2
Volume Total (vph)	194	57	262	107	174
Volume Left (vph)	0	57	0	107	0
Volume Right (vph)	21	0	0	0	174
Hadj (s)	-0.03	0.53	0.03	0.53	-0.67
Departure Headway (s)	5.5	6.0	5.5	6.4	5.2
Degree Utilization, x	0.29	0.10	0.40	0.19	0.25
Capacity (veh/h)	625	567	624	533	651
Control Delay (s)	10.7	8.5	11.0	9.7	8.7
Approach Delay (s)	10.7	10.6		9.1	
Approach LOS	B	B		A	

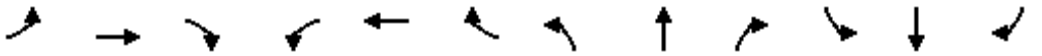
Intersection Summary			
Delay	10.1		
Level of Service	B		
Intersection Capacity Utilization	28.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	252	5	62	6	6	13	51	619	7	7	261	235
Future Volume (vph)	252	5	62	6	6	13	51	619	7	7	261	235
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	274	5	67	7	7	14	55	673	8	8	284	255

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total (vph)	346	28	55	673	8	8	284	255
Volume Left (vph)	274	7	55	0	0	8	0	0
Volume Right (vph)	67	14	0	0	8	0	0	255
Hadj (s)	0.08	-0.22	0.53	0.03	-0.67	0.53	0.03	-0.67
Departure Headway (s)	6.6	7.4	6.9	6.4	3.2	7.3	6.8	3.2
Degree Utilization, x	0.63	0.06	0.11	1.20	0.01	0.02	0.54	0.23
Capacity (veh/h)	531	434	508	566	1121	473	501	1122
Control Delay (s)	20.0	10.8	9.6	128.0	5.0	9.3	16.4	5.9
Approach Delay (s)	20.0	10.8	117.8			11.4		
Approach LOS	C	B	F			B		

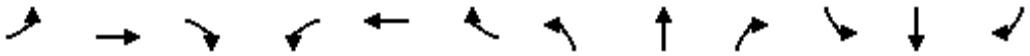
Intersection Summary				
Delay	60.5			
Level of Service	F			
Intersection Capacity Utilization	70.6%	ICU Level of Service	C	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	252	450	196	30	159	94	90	1013	0	75	768	311
Future Volume (vph)	252	450	196	30	159	94	90	1013	0	75	768	311
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.95		1.00	0.94		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3378		1770	3342		1770	3539		1770	3539	1583
Flt Permitted	0.35	1.00		0.38	1.00		0.34	1.00		0.95	1.00	1.00
Satd. Flow (perm)	659	3378		717	3342		629	3539		1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	274	489	213	33	173	102	98	1101	0	82	835	338
RTOR Reduction (vph)	0	60	0	0	0	0	0	0	0	0	0	177
Lane Group Flow (vph)	274	642	0	33	275	0	98	1101	0	82	835	161
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4			6					2
Actuated Green, G (s)	28.6	28.6		12.7	12.7		40.3	40.3		7.6	43.0	43.0
Effective Green, g (s)	28.6	28.6		12.7	12.7		40.3	40.3		7.6	43.0	43.0
Actuated g/C Ratio	0.32	0.32		0.14	0.14		0.45	0.45		0.08	0.48	0.48
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	350	1073		101	471		343	1584		149	1690	756
v/s Ratio Prot	c0.10	0.19			0.08		0.02	c0.31		0.05	c0.24	
v/s Ratio Perm	c0.15			0.05			0.11					0.10
v/c Ratio	0.78	0.60		0.33	0.58		0.29	0.70		0.55	0.49	0.21
Uniform Delay, d1	25.1	25.9		34.8	36.2		16.3	19.9		39.6	16.1	13.7
Progression Factor	0.60	0.48		1.00	1.00		0.64	0.71		1.37	0.45	0.12
Incremental Delay, d2	9.8	0.8		1.9	1.8		0.4	2.2		4.3	1.0	0.6
Delay (s)	25.0	13.1		36.7	38.0		10.9	16.4		58.6	8.2	2.3
Level of Service	C	B		D	D		B	B		E	A	A
Approach Delay (s)		16.5			37.9			15.9			9.9	
Approach LOS		B			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	15.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

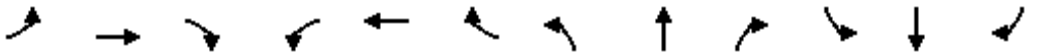
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	65	41	109	13	65	28	95	165	20	12	32	26
Future Volume (vph)	65	41	109	13	65	28	95	165	20	12	32	26
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	71	45	118	14	71	30	103	179	22	13	35	28

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total (vph)	116	118	115	304	76
Volume Left (vph)	71	0	14	103	13
Volume Right (vph)	0	118	30	22	28
Hadj (s)	0.34	-0.67	-0.10	0.06	-0.15
Departure Headway (s)	6.0	5.0	5.2	5.0	5.1
Degree Utilization, x	0.19	0.16	0.17	0.42	0.11
Capacity (veh/h)	563	676	628	693	642
Control Delay (s)	9.2	7.7	9.3	11.5	8.7
Approach Delay (s)	8.5		9.3	11.5	8.7
Approach LOS	A		A	B	A

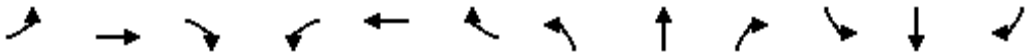
Intersection Summary				
Delay	9.9			
Level of Service	A			
Intersection Capacity Utilization	41.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	322	484	116	0	274	14	68	766	147	41	829	124
Future Volume (vph)	322	484	116	0	274	14	68	766	147	41	829	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.97			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3437			3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.33	1.00			1.00	1.00	0.23	1.00	1.00	0.26	1.00	1.00
Satd. Flow (perm)	622	3437			3539	1583	433	3539	1583	486	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	350	526	126	0	298	15	74	833	160	45	901	135
RTOR Reduction (vph)	0	26	0	0	0	0	0	0	81	0	0	40
Lane Group Flow (vph)	350	626	0	0	298	15	74	833	79	45	901	95
Turn Type	pm+pt	NA			NA	Perm	Perm	NA	Perm	Perm	NA	pm+ov
Protected Phases	7	4			8			2			6	7
Permitted Phases	4					8	2		2	6		6
Actuated Green, G (s)	36.5	36.5			13.2	13.2	44.5	44.5	44.5	44.5	44.5	63.3
Effective Green, g (s)	36.5	36.5			13.2	13.2	44.5	44.5	44.5	44.5	44.5	63.3
Actuated g/C Ratio	0.41	0.41			0.15	0.15	0.49	0.49	0.49	0.49	0.49	0.70
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	492	1393			519	232	214	1749	782	240	1749	1192
v/s Ratio Prot	c0.15	0.18			0.08			0.24			c0.25	0.02
v/s Ratio Perm	c0.14					0.01	0.17		0.05	0.09		0.04
v/c Ratio	0.71	0.45			0.57	0.06	0.35	0.48	0.10	0.19	0.52	0.08
Uniform Delay, d1	20.3	19.4			35.8	33.1	13.9	15.0	12.1	12.7	15.4	4.2
Progression Factor	0.60	0.53			1.40	1.51	1.00	1.00	1.00	1.09	1.09	0.15
Incremental Delay, d2	4.3	0.2			1.2	0.1	4.4	0.9	0.3	1.5	1.0	0.0
Delay (s)	16.5	10.5			51.2	50.1	18.3	16.0	12.4	15.4	17.7	0.6
Level of Service	B	B			D	D	B	B	B	B	B	A
Approach Delay (s)		12.6			51.1			15.6			15.5	
Approach LOS		B			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	17.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	67.5%	ICU Level of Service	C
Analysis Period (min)	15		

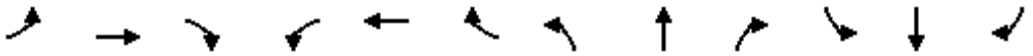
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	589	23	80	312	77	6	78	231	82	28	30
Future Volume (vph)	71	589	23	80	312	77	6	78	231	82	28	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5			4.5			4.5	
Lane Util. Factor		0.95	1.00		0.95			1.00			1.00	
Frt		1.00	0.85		0.98			0.90			0.97	
Flt Protected		0.99	1.00		0.99			1.00			0.97	
Satd. Flow (prot)		3520	1583		3423			1677			1757	
Flt Permitted		0.99	1.00		0.99			0.99			0.52	
Satd. Flow (perm)		3520	1583		3423			1670			938	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	77	640	25	87	339	84	7	85	251	89	30	33
RTOR Reduction (vph)	0	0	16	0	19	0	0	109	0	0	11	0
Lane Group Flow (vph)	0	717	9	0	491	0	0	234	0	0	141	0
Turn Type	Split	NA	Perm	Split	NA		Perm	NA		Perm	NA	
Protected Phases	2	2		1	1			8			4	
Permitted Phases			2				8			4		
Actuated Green, G (s)		32.4	32.4		17.4			26.7			26.7	
Effective Green, g (s)		32.4	32.4		17.4			26.7			26.7	
Actuated g/C Ratio		0.36	0.36		0.19			0.30			0.30	
Clearance Time (s)		4.5	4.5		4.5			4.5			4.5	
Vehicle Extension (s)		3.0	3.0		3.0			3.0			3.0	
Lane Grp Cap (vph)		1267	569		661			495			278	
v/s Ratio Prot		c0.20			c0.14							
v/s Ratio Perm			0.01					0.14			c0.15	
v/c Ratio		0.57	0.02		0.74			0.47			0.51	
Uniform Delay, d1		23.1	18.5		34.2			25.9			26.2	
Progression Factor		0.64	1.00		1.09			1.00			1.00	
Incremental Delay, d2		1.8	0.0		3.5			3.2			6.5	
Delay (s)		16.5	18.6		40.8			29.1			32.6	
Level of Service		B	B		D			C			C	
Approach Delay (s)		16.6			40.8			29.1			32.6	
Approach LOS		B			D			C			C	

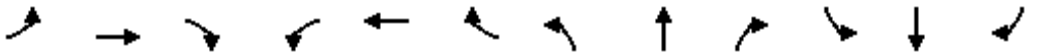
Intersection Summary			
HCM 2000 Control Delay	27.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



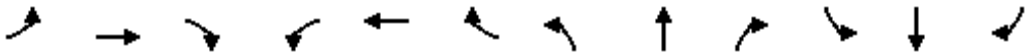
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	269	568	180	20	1770	0	0	643	25
Future Volume (vph)	0	0	0	269	568	180	20	1770	0	0	643	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5	4.5		4.5	4.5			4.5	
Lane Util. Factor				0.86	0.86		1.00	0.91			0.91	
Frt				1.00	0.97		1.00	1.00			0.99	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1522	4630		1770	5085			5057	
Flt Permitted				0.95	1.00		0.35	1.00			1.00	
Satd. Flow (perm)				1522	4630		647	5085			5057	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	292	617	196	22	1924	0	0	699	27
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	0	0	263	842	0	22	1924	0	0	722	0
Turn Type				Prot	NA		Perm	NA			NA	
Protected Phases				3	8			2			6	
Permitted Phases							2					
Actuated Green, G (s)				30.5	30.5		50.5	50.5			50.5	
Effective Green, g (s)				30.5	30.5		50.5	50.5			50.5	
Actuated g/C Ratio				0.34	0.34		0.56	0.56			0.56	
Clearance Time (s)				4.5	4.5		4.5	4.5			4.5	
Lane Grp Cap (vph)				515	1569		363	2853			2837	
v/s Ratio Prot				0.17	c0.18			c0.38			0.14	
v/s Ratio Perm							0.03					
v/c Ratio				0.51	0.54		0.06	0.67			0.25	
Uniform Delay, d1				23.8	24.0		9.0	13.9			10.1	
Progression Factor				1.00	1.00		0.86	0.66			0.96	
Incremental Delay, d2				3.6	1.3		0.1	0.6			0.2	
Delay (s)				27.4	25.4		7.9	9.8			9.9	
Level of Service				C	C		A	A			A	
Approach Delay (s)		0.0			25.8			9.8			9.9	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	14.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



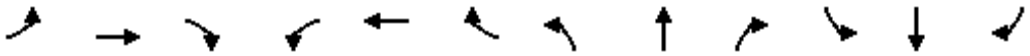
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	243	66	84	0	0	0	0	611	93	56	977	0
Future Volume (vph)	243	66	84	0	0	0	0	611	93	56	977	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5						4.5		4.5	4.5	
Lane Util. Factor	0.91	0.91						0.91		1.00	0.91	
Frt	1.00	0.95						0.98		1.00	1.00	
Flt Protected	0.95	0.98						1.00		0.95	1.00	
Satd. Flow (prot)	1610	3159						4985		1770	5085	
Flt Permitted	0.95	0.98						1.00		0.30	1.00	
Satd. Flow (perm)	1610	3159						4985		561	5085	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	264	72	91	0	0	0	0	664	101	61	1062	0
RTOR Reduction (vph)	0	57	0	0	0	0	0	22	0	0	0	0
Lane Group Flow (vph)	145	225	0	0	0	0	0	743	0	61	1062	0
Turn Type	Prot	NA						NA		pm+pt	NA	
Protected Phases	7	4						2		1	6	
Permitted Phases										6		
Actuated Green, G (s)	29.5	29.5						35.5		51.5	51.5	
Effective Green, g (s)	29.5	29.5						35.5		51.5	51.5	
Actuated g/C Ratio	0.33	0.33						0.39		0.57	0.57	
Clearance Time (s)	4.5	4.5						4.5		4.5	4.5	
Lane Grp Cap (vph)	527	1035						1966		475	2909	
v/s Ratio Prot	c0.09	0.07						0.15		0.02	c0.21	
v/s Ratio Perm										0.06		
v/c Ratio	0.28	0.22						0.38		0.13	0.37	
Uniform Delay, d1	22.4	21.9						19.4		11.9	10.4	
Progression Factor	1.00	1.00						0.95		0.37	0.40	
Incremental Delay, d2	1.3	0.5						0.4		0.5	0.3	
Delay (s)	23.6	22.4						18.9		5.0	4.5	
Level of Service	C	C						B		A	A	
Approach Delay (s)		22.8			0.0			18.9			4.5	
Approach LOS		C			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	12.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	91	968	193	114	936	124	98	704	120	103	657	122
Future Volume (vph)	91	968	193	114	936	124	98	704	120	103	657	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	4996		1770	4974		1770	4966	
Flt Permitted	0.23	1.00	1.00	0.11	1.00		0.19	1.00		0.18	1.00	
Satd. Flow (perm)	436	3539	1583	200	4996		355	4974		331	4966	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	99	1052	210	124	1017	135	107	765	130	112	714	133
RTOR Reduction (vph)	0	0	43	0	19	0	0	27	0	0	30	0
Lane Group Flow (vph)	99	1052	167	124	1133	0	107	868	0	112	817	0
Turn Type	Perm	NA	pm+ov	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4	5	3	8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	35.5	35.5	43.0	46.5	46.5		31.0	23.5		29.0	22.5	
Effective Green, g (s)	35.5	35.5	43.0	46.5	46.5		31.0	23.5		29.0	22.5	
Actuated g/C Ratio	0.39	0.39	0.48	0.52	0.52		0.34	0.26		0.32	0.25	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)	171	1395	756	216	2581		240	1298		210	1241	
v/s Ratio Prot		c0.30	0.02	c0.04	0.23		0.04	c0.17		c0.04	0.16	
v/s Ratio Perm	0.23		0.09	0.25			0.12			0.13		
v/c Ratio	0.58	0.75	0.22	0.57	0.44		0.45	0.67		0.53	0.66	
Uniform Delay, d1	21.4	23.5	13.7	15.6	13.6		31.5	29.8		33.3	30.3	
Progression Factor	0.58	0.57	0.51	1.00	1.00		0.56	0.38		0.80	0.61	
Incremental Delay, d2	10.8	3.0	0.5	10.6	0.5		5.8	2.7		9.1	2.7	
Delay (s)	23.2	16.5	7.5	26.3	14.1		23.4	14.1		35.8	21.1	
Level of Service	C	B	A	C	B		C	B		D	C	
Approach Delay (s)		15.6			15.3			15.1			22.8	
Approach LOS		B			B			B			C	

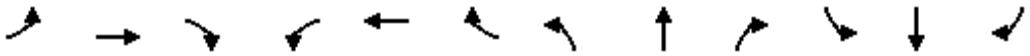
Intersection Summary			
HCM 2000 Control Delay	16.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	70.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	322	70	58	426	356	177	993	50	96	403	57
Future Volume (vph)	103	322	70	58	426	356	177	993	50	96	403	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3445		1770	3539	1583	1770	3539	1583	1770	4991	
Flt Permitted	0.35	1.00		0.38	1.00	1.00	0.46	1.00	1.00	0.20	1.00	
Satd. Flow (perm)	655	3445		714	3539	1583	854	3539	1583	378	4991	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	112	350	76	63	463	387	192	1079	54	104	438	62
RTOR Reduction (vph)	0	22	0	0	0	50	0	0	22	0	18	0
Lane Group Flow (vph)	112	404	0	63	463	337	192	1079	32	104	482	0
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8		8	2		2	6		
Actuated Green, G (s)	19.0	19.0		27.8	27.8	27.8	53.2	53.2	53.2	53.2	53.2	
Effective Green, g (s)	19.0	19.0		27.8	27.8	27.8	53.2	53.2	53.2	53.2	53.2	
Actuated g/C Ratio	0.21	0.21		0.31	0.31	0.31	0.59	0.59	0.59	0.59	0.59	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	138	727		271	1093	488	504	2091	935	223	2950	
v/s Ratio Prot		0.12		0.01	0.13			c0.30			0.10	
v/s Ratio Perm	c0.17			0.06		c0.21	0.22		0.02	0.28		
v/c Ratio	0.81	0.56		0.23	0.42	0.69	0.38	0.52	0.03	0.47	0.16	
Uniform Delay, d1	33.8	31.7		27.4	24.7	27.3	9.7	10.8	7.7	10.4	8.3	
Progression Factor	1.00	1.00		1.00	1.00	1.00	0.73	0.75	1.17	0.55	0.39	
Incremental Delay, d2	29.1	0.9		0.4	0.3	4.0	1.9	0.8	0.1	6.6	0.1	
Delay (s)	62.9	32.7		27.8	25.0	31.4	8.9	8.9	9.1	12.3	3.4	
Level of Service	E	C		C	C	C	A	A	A	B	A	
Approach Delay (s)		38.9			27.9			8.9			4.9	
Approach LOS		D			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	66.4%	ICU Level of Service	C
Analysis Period (min)	15		

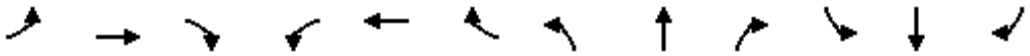
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	952	265	118	869	303	288	699	153	246	312	49
Future Volume (vph)	47	952	265	118	869	303	288	699	153	246	312	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3467	
Flt Permitted	0.14	1.00	1.00	0.15	1.00	1.00	0.37	1.00	1.00	0.20	1.00	
Satd. Flow (perm)	263	3539	1583	270	3539	1583	698	3539	1583	367	3467	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	51	1035	288	128	945	329	313	760	166	267	339	53
RTOR Reduction (vph)	0	0	188	0	0	199	0	0	126	0	14	0
Lane Group Flow (vph)	51	1035	100	128	945	130	313	760	40	267	378	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		
Actuated Green, G (s)	31.3	31.3	31.3	35.6	35.6	35.6	35.0	21.9	21.9	31.8	20.3	
Effective Green, g (s)	31.3	31.3	31.3	35.6	35.6	35.6	35.0	21.9	21.9	31.8	20.3	
Actuated g/C Ratio	0.35	0.35	0.35	0.40	0.40	0.40	0.39	0.24	0.24	0.35	0.23	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	141	1230	550	228	1399	626	427	861	385	308	782	
v/s Ratio Prot	0.01	c0.29		0.05	c0.27		0.11	c0.21		c0.11	0.11	
v/s Ratio Perm	0.11		0.06	0.18		0.08	0.18		0.03	0.19		
v/c Ratio	0.36	0.84	0.18	0.56	0.68	0.21	0.73	0.88	0.10	0.87	0.48	
Uniform Delay, d1	22.2	27.1	20.4	31.5	22.4	17.9	20.7	32.8	26.4	23.5	30.3	
Progression Factor	1.00	1.00	1.00	0.76	0.69	0.21	0.72	0.70	0.42	0.95	1.04	
Incremental Delay, d2	1.6	7.1	0.7	2.2	1.9	0.5	5.7	9.6	0.1	21.3	0.5	
Delay (s)	23.8	34.1	21.2	26.3	17.3	4.2	20.6	32.7	11.3	43.7	32.0	
Level of Service	C	C	C	C	B	A	C	C	B	D	C	
Approach Delay (s)		31.0			15.1			26.8			36.7	
Approach LOS		C			B			C			D	

Intersection Summary			
HCM 2000 Control Delay	25.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	80.8%	ICU Level of Service	D
Analysis Period (min)	15		

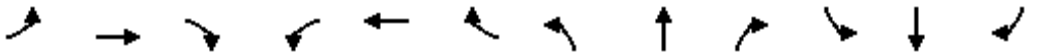
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	158	71	95	157	129	523	54	451	69	303	233	130
Future Volume (vph)	158	71	95	157	129	523	54	451	69	303	233	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	0.91	0.91		1.00	1.00	1.00	0.97	0.95	1.00	0.97	0.95	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	0.99		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1610	3134		1770	1863	1583	3433	3539	1583	3433	3349	
Flt Permitted	0.67	0.84		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1132	2651		1770	1863	1583	3433	3539	1583	3433	3349	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	172	77	103	171	140	568	59	490	75	329	253	141
RTOR Reduction (vph)	0	87	0	0	0	345	0	0	50	0	74	0
Lane Group Flow (vph)	110	155	0	171	140	223	59	490	25	329	320	0
Turn Type	Perm	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4					8			2			
Actuated Green, G (s)	13.6	13.6		13.4	31.5	31.5	5.1	29.7	29.7	15.3	39.9	
Effective Green, g (s)	13.6	13.6		13.4	31.5	31.5	5.1	29.7	29.7	15.3	39.9	
Actuated g/C Ratio	0.15	0.15		0.15	0.35	0.35	0.06	0.33	0.33	0.17	0.44	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	171	400		263	652	554	194	1167	522	583	1484	
v/s Ratio Prot				c0.10	0.08		0.02	c0.14		c0.10	0.10	
v/s Ratio Perm	c0.10	0.06				0.14			0.02			
v/c Ratio	0.64	0.39		0.65	0.21	0.40	0.30	0.42	0.05	0.56	0.22	
Uniform Delay, d1	35.9	34.4		36.1	20.6	22.1	40.7	23.4	20.5	34.3	15.4	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.69	0.54	
Incremental Delay, d2	8.0	0.6		5.6	0.2	0.5	0.9	1.1	0.2	1.1	0.3	
Delay (s)	43.9	35.1		41.7	20.7	22.6	41.6	24.6	20.7	24.8	8.7	
Level of Service	D	D		D	C	C	D	C	C	C	A	
Approach Delay (s)		37.8			26.0			25.7			16.0	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	24.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		

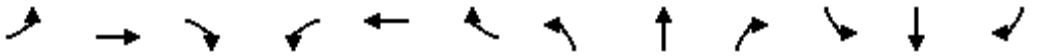
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	229	237	1	0	646	363	5	660	35	189	276	187
Future Volume (vph)	229	237	1	0	646	363	5	660	35	189	276	187
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95			0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00			0.95		1.00	0.99		1.00	0.94	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3537			3348		1770	3512		1770	3325	
Flt Permitted	0.95	1.00			1.00		0.40	1.00		0.26	1.00	
Satd. Flow (perm)	1770	3537			3348		750	3512		484	3325	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	249	258	1	0	702	395	5	717	38	205	300	203
RTOR Reduction (vph)	0	0	0	0	71	0	0	3	0	0	106	0
Lane Group Flow (vph)	249	259	0	0	1026	0	5	752	0	205	397	0
Turn Type	Prot	NA			NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	17.4	54.4			32.5		46.6	46.6		46.6	46.6	
Effective Green, g (s)	17.4	54.4			32.5		46.6	46.6		46.6	46.6	
Actuated g/C Ratio	0.16	0.49			0.30		0.42	0.42		0.42	0.42	
Clearance Time (s)	4.5	4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	279	1749			989		317	1487		205	1408	
v/s Ratio Prot	c0.14	0.07			c0.31			0.21			0.12	
v/s Ratio Perm							0.01			c0.42		
v/c Ratio	0.89	0.15			1.04		0.02	0.51		1.00	0.28	
Uniform Delay, d1	45.4	15.2			38.8		18.4	23.2		31.7	20.7	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	28.0	0.0			38.7		0.1	1.2		62.9	0.5	
Delay (s)	73.3	15.2			77.5		18.5	24.5		94.6	21.2	
Level of Service	E	B			E		B	C		F	C	
Approach Delay (s)		43.7			77.5			24.4			42.5	
Approach LOS		D			E			C			D	

Intersection Summary			
HCM 2000 Control Delay	50.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	87.0%	ICU Level of Service	E
Analysis Period (min)	15		

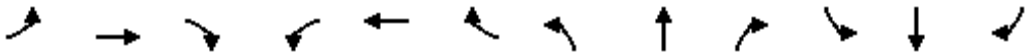
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	95	179	32	196	27	533	892	28	9	346	101
Future Volume (vph)	108	95	179	32	196	27	533	892	28	9	346	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1829		1770	3523		1770	4913	
Flt Permitted	0.37	1.00	1.00	0.69	1.00		0.43	1.00		0.21	1.00	
Satd. Flow (perm)	695	1863	1583	1286	1829		792	3523		399	4913	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	117	103	195	35	213	29	579	970	30	10	376	110
RTOR Reduction (vph)	0	0	157	0	6	0	0	2	0	0	53	0
Lane Group Flow (vph)	117	103	38	35	236	0	579	998	0	10	433	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	17.5	17.5	17.5	17.5	17.5		63.5	63.5		25.5	25.5	
Effective Green, g (s)	17.5	17.5	17.5	17.5	17.5		63.5	63.5		25.5	25.5	
Actuated g/C Ratio	0.19	0.19	0.19	0.19	0.19		0.71	0.71		0.28	0.28	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	135	362	307	250	355		922	2485		113	1392	
v/s Ratio Prot		0.06			0.13		c0.23	0.28			0.09	
v/s Ratio Perm	c0.17		0.02	0.03			c0.21			0.03		
v/c Ratio	0.87	0.28	0.12	0.14	0.67		0.63	0.40		0.09	0.31	
Uniform Delay, d1	35.1	30.9	29.9	30.0	33.5		9.9	5.4		23.7	25.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.69	0.64		1.00	1.00	
Incremental Delay, d2	40.3	0.4	0.2	0.3	4.7		1.1	0.4		1.5	0.6	
Delay (s)	75.4	31.3	30.1	30.3	38.2		8.0	3.9		25.2	25.9	
Level of Service	E	C	C	C	D		A	A		C	C	
Approach Delay (s)		43.2			37.2			5.4			25.9	
Approach LOS		D			D			A			C	

Intersection Summary			
HCM 2000 Control Delay	17.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		

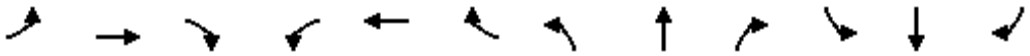
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	81	0	0	0	100	1125	646	0	708	51
Future Volume (Veh/h)	0	0	81	0	0	0	100	1125	646	0	708	51
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	88	0	0	0	109	1223	702	0	770	55
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								206			797	
pX, platoon unblocked	0.67	0.67		0.67	0.67	0.67				0.67		
vC, conflicting volume	1627	2238	284	1786	2266	612	825			1223		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	959	1868	284	1195	1909	0	825			358		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	88	100	100	100	86			100		
cM capacity (veh/h)	127	42	713	75	39	729	801			805		

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	88	109	612	612	702	308	308	209
Volume Left	0	109	0	0	0	0	0	0
Volume Right	88	0	0	0	702	0	0	55
cSH	713	801	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.12	0.14	0.36	0.36	0.41	0.18	0.18	0.12
Queue Length 95th (ft)	11	12	0	0	0	0	0	0
Control Delay (s)	10.8	10.2	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	B						
Approach Delay (s)	10.8	0.5				0.0		
Approach LOS	B							

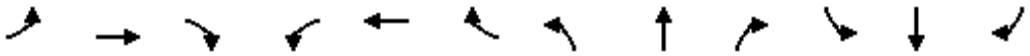
Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	43.3%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	930	22	33	63	0	39	0	902	15	3	785	0
Future Volume (vph)	930	22	33	63	0	39	0	902	15	3	785	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5		4.5		4.5		4.5	4.5	
Lane Util. Factor	0.97	1.00		1.00		1.00		0.91		1.00	0.91	
Frt	1.00	0.91		1.00		0.85		1.00		1.00	1.00	
Flt Protected	0.95	1.00		0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)	3433	1695		1770		1583		5073		1770	5085	
Flt Permitted	0.95	1.00		0.95		1.00		1.00		0.24	1.00	
Satd. Flow (perm)	3433	1695		1770		1583		5073		442	5085	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1011	24	36	68	0	42	0	980	16	3	853	0
RTOR Reduction (vph)	0	27	0	0	0	40	0	1	0	0	0	0
Lane Group Flow (vph)	1011	33	0	68	0	2	0	995	0	3	853	0
Turn Type	pm+pt	NA		Prot		Perm		NA		Perm	NA	
Protected Phases	7	4		3				2			6	
Permitted Phases	4					8				6		
Actuated Green, G (s)	34.3	22.3		7.5		3.3		46.7		46.7	46.7	
Effective Green, g (s)	34.3	22.3		7.5		3.3		46.7		46.7	46.7	
Actuated g/C Ratio	0.38	0.25		0.08		0.04		0.52		0.52	0.52	
Clearance Time (s)	4.5	4.5		4.5		4.5		4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	1308	419		147		58		2632		229	2638	
v/s Ratio Prot	c0.23	0.02		0.04				c0.20			0.17	
v/s Ratio Perm	0.07					0.00				0.01		
v/c Ratio	0.77	0.08		0.46		0.03		0.38		0.01	0.32	
Uniform Delay, d1	24.4	26.0		39.3		41.8		13.0		10.5	12.5	
Progression Factor	0.35	0.24		1.00		1.00		0.45		0.76	0.71	
Incremental Delay, d2	2.1	0.1		2.3		0.2		0.3		0.1	0.3	
Delay (s)	10.7	6.4		41.6		42.0		6.1		8.1	9.2	
Level of Service	B	A		D		D		A		A	A	
Approach Delay (s)		10.4			41.8			6.1			9.2	
Approach LOS		B			D			A			A	

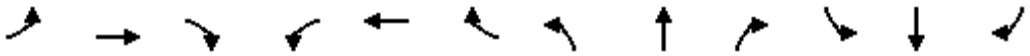
Intersection Summary			
HCM 2000 Control Delay	9.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



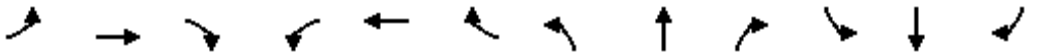
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	78	1011	0	0	1208	23	415	884	242	0	0	0
Future Volume (vph)	78	1011	0	0	1208	23	415	884	242	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5		4.5	4.5				
Lane Util. Factor	1.00	0.95			0.91		0.86	0.86				
Frt	1.00	1.00			1.00		1.00	0.97				
Flt Protected	0.95	1.00			1.00		0.95	1.00				
Satd. Flow (prot)	1770	3539			5071		1522	4648				
Flt Permitted	0.15	1.00			1.00		0.95	1.00				
Satd. Flow (perm)	273	3539			5071		1522	4648				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	85	1099	0	0	1313	25	451	961	263	0	0	0
RTOR Reduction (vph)	0	0	0	0	2	0	0	43	0	0	0	0
Lane Group Flow (vph)	85	1099	0	0	1336	0	406	1226	0	0	0	0
Turn Type	Perm	NA			NA		pm+pt	NA				
Protected Phases		4			8		6	2				
Permitted Phases	4						2					
Actuated Green, G (s)	47.5	47.5			47.5		33.5	33.5				
Effective Green, g (s)	47.5	47.5			47.5		33.5	33.5				
Actuated g/C Ratio	0.53	0.53			0.53		0.37	0.37				
Clearance Time (s)	4.5	4.5			4.5		4.5	4.5				
Lane Grp Cap (vph)	144	1867			2676		566	1730				
v/s Ratio Prot		0.31			0.26		c0.27	0.26				
v/s Ratio Perm	c0.31											
v/c Ratio	0.59	0.59			0.50		0.72	0.71				
Uniform Delay, d1	14.6	14.6			13.6		24.2	24.1				
Progression Factor	1.00	1.00			0.85		1.00	1.00				
Incremental Delay, d2	16.5	1.4			0.6		7.6	2.5				
Delay (s)	31.1	15.9			12.2		31.8	26.6				
Level of Service	C	B			B		C	C				
Approach Delay (s)		17.0			12.2			27.8			0.0	
Approach LOS		B			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	19.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	62.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



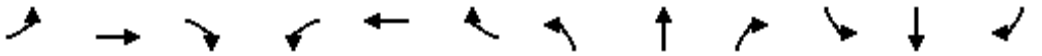
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	97	495	21	190	1091	0	0	154	39
Future Volume (vph)	0	0	0	97	495	21	190	1091	0	0	154	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.5		4.5	4.5			4.5	
Lane Util. Factor					0.91		1.00	0.95			0.95	
Frt					0.99		1.00	1.00			0.97	
Flt Protected					0.99		0.95	1.00			1.00	
Satd. Flow (prot)					5019		1770	3539			3433	
Flt Permitted					0.99		0.62	1.00			1.00	
Satd. Flow (perm)					5019		1156	3539			3433	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	105	538	23	207	1186	0	0	167	42
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	0	0	16	0
Lane Group Flow (vph)	0	0	0	0	662	0	207	1186	0	0	193	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8			2					
Actuated Green, G (s)					24.5		56.5	56.5			56.5	
Effective Green, g (s)					24.5		56.5	56.5			56.5	
Actuated g/C Ratio					0.27		0.63	0.63			0.63	
Clearance Time (s)					4.5		4.5	4.5			4.5	
Lane Grp Cap (vph)					1366		725	2221			2155	
v/s Ratio Prot								c0.34			0.06	
v/s Ratio Perm					0.13		0.18					
v/c Ratio					0.48		0.29	0.53			0.09	
Uniform Delay, d1					27.5		7.6	9.4			6.6	
Progression Factor					0.25		0.35	0.32			1.00	
Incremental Delay, d2					1.1		0.8	0.7			0.1	
Delay (s)					7.8		3.4	3.7			6.7	
Level of Service					A		A	A			A	
Approach Delay (s)		0.0			7.8			3.6			6.7	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



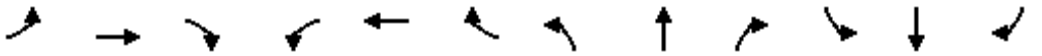
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑						↑↑			↑↑	
Traffic Volume (vph)	91	289	21	0	0	0	0	1190	186	0	251	0
Future Volume (vph)	91	289	21	0	0	0	0	1190	186	0	251	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5						4.5			4.5	
Lane Util. Factor		0.95						0.95			0.95	
Frt		0.99						0.98			1.00	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		3472						3467			3539	
Flt Permitted		0.99						1.00			1.00	
Satd. Flow (perm)		3472						3467			3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	99	314	23	0	0	0	0	1293	202	0	273	0
RTOR Reduction (vph)	0	5	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	431	0	0	0	0	0	1495	0	0	273	0
Turn Type	Perm	NA						NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4											
Actuated Green, G (s)		20.5						60.5			60.5	
Effective Green, g (s)		20.5						60.5			60.5	
Actuated g/C Ratio		0.23						0.67			0.67	
Clearance Time (s)		4.5						4.5			4.5	
Lane Grp Cap (vph)		790						2330			2378	
v/s Ratio Prot								c0.43			0.08	
v/s Ratio Perm		0.12										
v/c Ratio		0.55						0.64			0.11	
Uniform Delay, d1		30.6						8.5			5.2	
Progression Factor		1.00						0.62			1.36	
Incremental Delay, d2		2.7						1.0			0.1	
Delay (s)		33.4						6.3			7.2	
Level of Service		C						A			A	
Approach Delay (s)		33.4			0.0			6.3			7.2	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	124	695	114	72	414	245	150	1115	73	87	400	163
Future Volume (vph)	124	695	114	72	414	245	150	1115	73	87	400	163
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.98		1.00	0.94		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3464		1770	3342		1770	3507		1770	3539	1583
Flt Permitted	0.25	1.00		0.17	1.00		0.48	1.00		0.12	1.00	1.00
Satd. Flow (perm)	474	3464		317	3342		900	3507		229	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	135	755	124	78	450	266	163	1212	79	95	435	177
RTOR Reduction (vph)	0	15	0	0	34	0	0	5	0	0	0	82
Lane Group Flow (vph)	135	864	0	78	682	0	163	1286	0	95	435	95
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	32.5	32.5		32.5	32.5		48.5	48.5		48.5	48.5	48.5
Effective Green, g (s)	32.5	32.5		32.5	32.5		48.5	48.5		48.5	48.5	48.5
Actuated g/C Ratio	0.36	0.36		0.36	0.36		0.54	0.54		0.54	0.54	0.54
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Grp Cap (vph)	171	1250		114	1206		485	1889		123	1907	853
v/s Ratio Prot		0.25			0.20			0.37			0.12	
v/s Ratio Perm	c0.29			0.25			0.18			c0.41		0.06
v/c Ratio	0.79	0.69		0.68	0.57		0.34	0.68		0.77	0.23	0.11
Uniform Delay, d1	25.7	24.5		24.4	23.1		11.7	15.1		16.4	10.9	10.2
Progression Factor	1.00	1.00		0.74	0.70		0.52	0.45		0.89	0.80	0.40
Incremental Delay, d2	30.0	3.2		27.9	1.9		1.4	1.6		36.6	0.3	0.3
Delay (s)	55.7	27.6		46.0	18.1		7.5	8.4		51.2	9.0	4.4
Level of Service	E	C		D	B		A	A		D	A	A
Approach Delay (s)		31.4			20.8			8.3			13.5	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	17.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	80.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

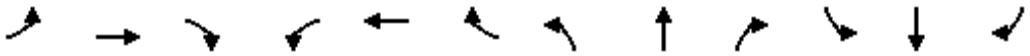


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	112	828	127	94	484	236	137	1037	85	86	462	176
Future Volume (vph)	112	828	127	94	484	236	137	1037	85	86	462	176
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.99		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3469		1770	3539	1583	1770	3499		1770	3393	
Flt Permitted	0.40	1.00		0.14	1.00	1.00	0.32	1.00		0.12	1.00	
Satd. Flow (perm)	737	3469		262	3539	1583	601	3499		219	3393	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	122	900	138	102	526	257	149	1127	92	93	502	191
RTOR Reduction (vph)	0	13	0	0	0	28	0	7	0	0	44	0
Lane Group Flow (vph)	122	1025	0	102	526	229	149	1212	0	93	649	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	37.5	37.5		37.5	37.5	37.5	43.5	43.5		43.5	43.5	
Effective Green, g (s)	37.5	37.5		37.5	37.5	37.5	43.5	43.5		43.5	43.5	
Actuated g/C Ratio	0.42	0.42		0.42	0.42	0.42	0.48	0.48		0.48	0.48	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)	307	1445		109	1474	659	290	1691		105	1639	
v/s Ratio Prot		0.30			0.15			0.35			0.19	
v/s Ratio Perm	0.17			c0.39		0.14	0.25			c0.42		
v/c Ratio	0.40	0.71		0.94	0.36	0.35	0.51	0.72		0.89	0.40	
Uniform Delay, d1	18.4	21.7		25.1	18.0	17.9	16.0	18.4		21.0	14.9	
Progression Factor	1.00	1.00		0.47	0.39	0.28	1.00	1.00		0.85	0.84	
Incremental Delay, d2	3.8	3.0		65.6	0.6	1.3	6.4	2.6		59.6	0.7	
Delay (s)	22.2	24.7		77.4	7.6	6.2	22.4	21.0		77.5	13.1	
Level of Service	C	C		E	A	A	C	C		E	B	
Approach Delay (s)		24.4			15.3			21.2			20.7	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	20.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

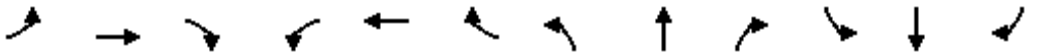
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	748	105	96	464	309	280
Future Volume (vph)	748	105	96	464	309	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	0.97	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3474		1770	3539	3433	1583
Flt Permitted	1.00		0.25	1.00	0.95	1.00
Satd. Flow (perm)	3474		458	3539	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	813	114	104	504	336	304
RTOR Reduction (vph)	12	0	0	0	0	108
Lane Group Flow (vph)	915	0	104	504	336	196
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Actuated Green, G (s)	50.5		50.5	50.5	30.5	30.5
Effective Green, g (s)	50.5		50.5	50.5	30.5	30.5
Actuated g/C Ratio	0.56		0.56	0.56	0.34	0.34
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	1949		256	1985	1163	536
v/s Ratio Prot	c0.26			0.14	0.10	
v/s Ratio Perm			0.23			c0.12
v/c Ratio	0.47		0.41	0.25	0.29	0.37
Uniform Delay, d1	11.8		11.2	10.1	21.8	22.5
Progression Factor	0.27		0.84	0.81	0.62	0.34
Incremental Delay, d2	0.6		4.5	0.3	0.5	1.5
Delay (s)	3.8		13.9	8.5	13.9	9.1
Level of Service	A		B	A	B	A
Approach Delay (s)	3.8			9.5	11.6	
Approach LOS	A			A	B	

Intersection Summary			
HCM 2000 Control Delay	7.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	49.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	809	129	69	574	81	184	425	140	32	190	64
Future Volume (vph)	86	809	129	69	574	81	184	425	140	32	190	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.98		1.00	0.98			0.97			0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	3466		1770	3474			3398			3401	
Flt Permitted	0.31	1.00		0.18	1.00			0.76			0.82	
Satd. Flow (perm)	582	3466		339	3474			2617			2817	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	93	879	140	75	624	88	200	462	152	35	207	70
RTOR Reduction (vph)	0	14	0	0	12	0	0	22	0	0	30	0
Lane Group Flow (vph)	93	1005	0	75	700	0	0	792	0	0	282	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	43.3	43.3		43.3	43.3			37.7			37.7	
Effective Green, g (s)	43.3	43.3		43.3	43.3			37.7			37.7	
Actuated g/C Ratio	0.48	0.48		0.48	0.48			0.42			0.42	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Grp Cap (vph)	280	1667		163	1671			1096			1180	
v/s Ratio Prot		c0.29			0.20							
v/s Ratio Perm	0.16			0.22				c0.30			0.10	
v/c Ratio	0.33	0.60		0.46	0.42			0.72			0.24	
Uniform Delay, d1	14.4	17.1		15.6	15.2			21.8			16.9	
Progression Factor	0.39	0.36		1.14	1.14			1.00			0.42	
Incremental Delay, d2	2.2	1.1		8.7	0.7			4.1			0.5	
Delay (s)	7.8	7.2		26.3	18.0			25.9			7.5	
Level of Service	A	A		C	B			C			A	
Approach Delay (s)		7.3			18.8			25.9			7.5	
Approach LOS		A			B			C			A	

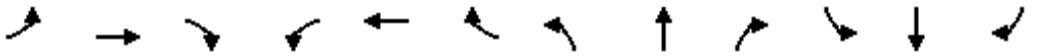
Intersection Summary			
HCM 2000 Control Delay	15.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	75.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	437	653	304	157	610	36	230	561	82	38	557	377
Future Volume (vph)	437	653	304	157	610	36	230	561	82	38	557	377
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.91	0.91		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.96		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1610	3229		1770	3510		1770	3539	1583	1770	3539	1583
Flt Permitted	0.16	0.63		0.24	1.00		0.27	1.00	1.00	0.29	1.00	1.00
Satd. Flow (perm)	276	2028		444	3510		498	3539	1583	538	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	475	710	330	171	663	39	250	610	89	41	605	410
RTOR Reduction (vph)	0	46	0	0	5	0	0	0	53	0	0	39
Lane Group Flow (vph)	380	1089	0	171	697	0	250	610	36	41	605	371
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	pm+ov
Protected Phases	7	4		3	8		5	2			6	7
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	44.4	44.4		26.6	20.1		36.6	36.6	36.6	22.6	22.6	42.4
Effective Green, g (s)	44.4	44.4		26.6	20.1		36.6	36.6	36.6	22.6	22.6	42.4
Actuated g/C Ratio	0.49	0.49		0.30	0.22		0.41	0.41	0.41	0.25	0.25	0.47
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	429	1264		226	783		336	1439	643	135	888	745
v/s Ratio Prot	c0.19	c0.19		0.05	0.20		c0.08	0.17			0.17	0.11
v/s Ratio Perm	c0.24	0.24		0.17			c0.22		0.02	0.08		0.12
v/c Ratio	0.89	0.86		0.76	0.89		0.74	0.42	0.06	0.30	0.68	0.50
Uniform Delay, d1	22.4	20.1		24.7	33.9		29.1	19.1	16.2	27.3	30.4	16.4
Progression Factor	1.04	0.47		1.00	1.00		0.73	0.65	0.45	1.00	1.00	1.00
Incremental Delay, d2	13.8	4.3		13.5	12.3		4.7	0.5	0.1	5.7	4.2	0.5
Delay (s)	37.1	13.8		38.2	46.2		26.0	12.9	7.4	33.0	34.7	17.0
Level of Service	D	B		D	D		C	B	A	C	C	B
Approach Delay (s)		19.6			44.6			15.8			27.7	
Approach LOS		B			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	25.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	88.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



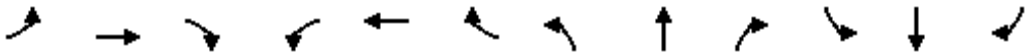
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	483	408	10	6	245	164	17	313	4	95	132	208
Future Volume (vph)	483	408	10	6	245	164	17	313	4	95	132	208
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.94		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1856		1770	1751		1770	1859		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.62	1.00		0.25	1.00	1.00
Satd. Flow (perm)	1770	1856		1770	1751		1157	1859		464	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	525	443	11	7	266	178	18	340	4	103	143	226
RTOR Reduction (vph)	0	1	0	0	27	0	0	1	0	0	0	173
Lane Group Flow (vph)	525	453	0	7	417	0	18	343	0	103	143	53
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		6
Actuated Green, G (s)	32.2	54.2		1.0	23.0		21.3	21.3		21.3	21.3	21.3
Effective Green, g (s)	32.2	54.2		1.0	23.0		21.3	21.3		21.3	21.3	21.3
Actuated g/C Ratio	0.36	0.60		0.01	0.26		0.24	0.24		0.24	0.24	0.24
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	633	1117		19	447		273	439		109	440	374
v/s Ratio Prot	c0.30	0.24		0.00	c0.24			0.18			0.08	
v/s Ratio Perm							0.02			c0.22		0.03
v/c Ratio	0.83	0.41		0.37	0.93		0.07	0.78		0.94	0.33	0.14
Uniform Delay, d1	26.4	9.4		44.2	32.8		26.6	32.2		33.8	28.4	27.1
Progression Factor	0.76	0.29		1.00	1.00		1.00	1.00		0.71	0.75	0.80
Incremental Delay, d2	7.5	0.2		11.7	26.6		0.5	13.0		56.4	1.3	0.5
Delay (s)	27.6	2.9		55.9	59.3		27.1	45.2		80.3	22.5	22.3
Level of Service	C	A		E	E		C	D		F	C	C
Approach Delay (s)		16.1			59.3			44.3			35.0	
Approach LOS		B			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	33.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	86.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	725	210	106	472	255	274
Future Volume (vph)	725	210	106	472	255	274
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.97		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3420		1770	3539	1770	1583
Flt Permitted	1.00		0.23	1.00	0.95	1.00
Satd. Flow (perm)	3420		430	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	788	228	115	513	277	298
RTOR Reduction (vph)	30	0	0	0	0	147
Lane Group Flow (vph)	986	0	115	513	277	151
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases			6			8
Actuated Green, G (s)	55.5		55.5	55.5	25.5	25.5
Effective Green, g (s)	55.5		55.5	55.5	25.5	25.5
Actuated g/C Ratio	0.62		0.62	0.62	0.28	0.28
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	2109		265	2182	501	448
v/s Ratio Prot	c0.29			0.14	c0.16	
v/s Ratio Perm			0.27			0.10
v/c Ratio	0.47		0.43	0.24	0.55	0.34
Uniform Delay, d1	9.3		9.0	7.7	27.4	25.6
Progression Factor	0.31		1.37	0.62	1.00	1.00
Incremental Delay, d2	0.6		5.0	0.2	4.3	2.0
Delay (s)	3.5		17.3	5.0	31.8	27.6
Level of Service	A		B	A	C	C
Approach Delay (s)	3.5			7.3	29.6	
Approach LOS	A			A	C	

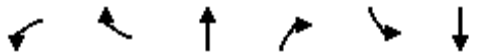
Intersection Summary			
HCM 2000 Control Delay	11.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	58.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	5	19	210	14	104	25	898	60	20	374	12
Future Volume (vph)	14	5	19	210	14	104	25	898	60	20	374	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frt		0.93		1.00	0.87		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1703		1770	1616		1770	3539	1583	1770	3523	
Flt Permitted		0.90		0.73	1.00		0.51	1.00	1.00	0.26	1.00	
Satd. Flow (perm)		1556		1360	1616		943	3539	1583	480	3523	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	15	5	21	228	15	113	27	976	65	22	407	13
RTOR Reduction (vph)	0	16	0	0	69	0	0	0	21	0	2	0
Lane Group Flow (vph)	0	25	0	228	59	0	27	976	44	22	418	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		20.6		20.6	20.6		60.4	60.4	60.4	60.4	60.4	
Effective Green, g (s)		20.6		20.6	20.6		60.4	60.4	60.4	60.4	60.4	
Actuated g/C Ratio		0.23		0.23	0.23		0.67	0.67	0.67	0.67	0.67	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		356		311	369		632	2375	1062	322	2364	
v/s Ratio Prot					0.04			c0.28			0.12	
v/s Ratio Perm		0.02		c0.17			0.03		0.03	0.05		
v/c Ratio		0.07		0.73	0.16		0.04	0.41	0.04	0.07	0.18	
Uniform Delay, d1		27.2		32.2	27.8		5.0	6.7	5.0	5.1	5.5	
Progression Factor		1.00		1.00	1.00		2.54	2.90	5.63	1.00	1.00	
Incremental Delay, d2		0.1		8.6	0.2		0.1	0.4	0.1	0.4	0.2	
Delay (s)		27.3		40.8	28.0		12.8	19.8	28.2	5.5	5.7	
Level of Service		C		D	C		B	B	C	A	A	
Approach Delay (s)		27.3			36.2			20.2			5.7	
Approach LOS		C			D			C			A	

Intersection Summary			
HCM 2000 Control Delay	20.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	50.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	20	17	821	209	12	526
Future Volume (Veh/h)	20	17	821	209	12	526
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	18	892	227	13	572
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						576
pX, platoon unblocked						
vC, conflicting volume	1318	560			1119	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1318	560			1119	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	85	96			98	
cM capacity (veh/h)	146	472			620	

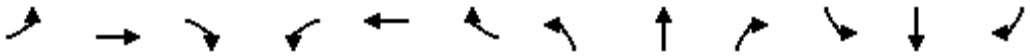
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	22	18	595	524	13	286	286
Volume Left	22	0	0	0	13	0	0
Volume Right	0	18	0	227	0	0	0
cSH	146	472	1700	1700	620	1700	1700
Volume to Capacity	0.15	0.04	0.35	0.31	0.02	0.17	0.17
Queue Length 95th (ft)	13	3	0	0	2	0	0
Control Delay (s)	34.0	12.9	0.0	0.0	10.9	0.0	0.0
Lane LOS	D	B			B		
Approach Delay (s)	24.5		0.0		0.2		
Approach LOS	C						

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	39.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1110	67	67	1038	122	109
Future Volume (vph)	1110	67	67	1038	122	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3509		1770	3539	1770	1583
Flt Permitted	1.00		0.14	1.00	0.95	1.00
Satd. Flow (perm)	3509		260	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1207	73	73	1128	133	118
RTOR Reduction (vph)	8	0	0	0	0	35
Lane Group Flow (vph)	1272	0	73	1128	133	83
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Actuated Green, G (s)	28.7		28.7	28.7	22.3	22.3
Effective Green, g (s)	28.7		28.7	28.7	22.3	22.3
Actuated g/C Ratio	0.48		0.48	0.48	0.37	0.37
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1678		124	1692	657	588
v/s Ratio Prot	c0.36			0.32	c0.08	
v/s Ratio Perm			0.28			0.05
v/c Ratio	0.76		0.59	0.67	0.20	0.14
Uniform Delay, d1	12.8		11.4	12.0	12.8	12.5
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	2.0		7.0	1.0	0.7	0.5
Delay (s)	14.8		18.3	13.0	13.5	13.0
Level of Service	B		B	B	B	B
Approach Delay (s)	14.8			13.3	13.3	
Approach LOS	B			B	B	

Intersection Summary			
HCM 2000 Control Delay	14.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	55.0%	ICU Level of Service	A
Analysis Period (min)	15		

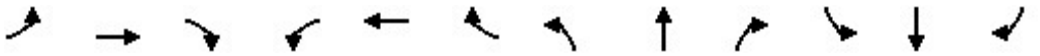
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	180	55	68	0	854	0	0	853	112
Future Volume (vph)	0	0	0	180	55	68	0	854	0	0	853	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5	4.5	4.5		4.5			4.5	
Lane Util. Factor				1.00	1.00	1.00		0.91			0.86	
Frt				1.00	1.00	0.85		1.00			0.98	
Flt Protected				0.95	1.00	1.00		1.00			1.00	
Satd. Flow (prot)				1770	1863	1583		5085			6296	
Flt Permitted				0.95	1.00	1.00		1.00			1.00	
Satd. Flow (perm)				1770	1863	1583		5085			6296	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	196	60	74	0	928	0	0	927	122
RTOR Reduction (vph)	0	0	0	0	0	61	0	0	0	0	15	0
Lane Group Flow (vph)	0	0	0	196	60	13	0	928	0	0	1034	0
Turn Type				Prot	NA	Perm		NA			NA	
Protected Phases				3	8			2			6	
Permitted Phases						8						
Actuated Green, G (s)				15.4	15.4	15.4		65.6			65.6	
Effective Green, g (s)				15.4	15.4	15.4		65.6			65.6	
Actuated g/C Ratio				0.17	0.17	0.17		0.73			0.73	
Clearance Time (s)				4.5	4.5	4.5		4.5			4.5	
Vehicle Extension (s)				3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)				302	318	270		3706			4589	
v/s Ratio Prot				c0.11	0.03			c0.18			0.16	
v/s Ratio Perm						0.01						
v/c Ratio				0.65	0.19	0.05		0.25			0.23	
Uniform Delay, d1				34.8	31.9	31.2		4.0			4.0	
Progression Factor				1.00	1.00	1.00		0.53			0.46	
Incremental Delay, d2				4.8	0.3	0.1		0.2			0.1	
Delay (s)				39.5	32.2	31.2		2.3			1.9	
Level of Service				D	C	C		A			A	
Approach Delay (s)		0.0			36.3			2.3			1.9	
Approach LOS		A			D			A			A	

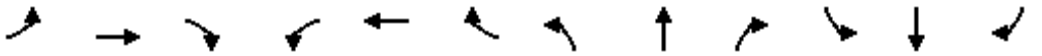
Intersection Summary			
HCM 2000 Control Delay	7.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	154	33	120	157	0	210	0	703	157	134	1229	0
Future Volume (vph)	154	33	120	157	0	210	0	703	157	134	1229	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5	4.5	
Lane Util. Factor	0.97	1.00	1.00	1.00		1.00		0.95	1.00	1.00	0.91	
Frt	1.00	1.00	0.85	1.00		0.85		1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1863	1583	1770		1583		3539	1583	1770	5085	
Flt Permitted	0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1863	1583	1770		1583		3539	1583	1770	5085	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	167	36	130	171	0	228	0	764	171	146	1336	0
RTOR Reduction (vph)	0	0	116	0	0	0	0	0	105	0	0	0
Lane Group Flow (vph)	167	36	14	171	0	228	0	764	66	146	1336	0
Turn Type	Split	NA	Perm	Prot		Prot		NA	Perm	Prot	NA	
Protected Phases	3	3		4		4		6		5	2	
Permitted Phases			3						6			
Actuated Green, G (s)	9.5	9.5	9.5	20.5		20.5		28.5	28.5	13.5	46.5	
Effective Green, g (s)	9.5	9.5	9.5	20.5		20.5		28.5	28.5	13.5	46.5	
Actuated g/C Ratio	0.11	0.11	0.11	0.23		0.23		0.32	0.32	0.15	0.52	
Clearance Time (s)	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5	4.5	
Lane Grp Cap (vph)	362	196	167	403		360		1120	501	265	2627	
v/s Ratio Prot	c0.05	0.02		0.10		c0.14		c0.22		0.08	c0.26	
v/s Ratio Perm			0.01						0.04			
v/c Ratio	0.46	0.18	0.08	0.42		0.63		0.68	0.13	0.55	0.51	
Uniform Delay, d1	37.8	36.7	36.3	29.7		31.4		26.8	21.9	35.4	14.3	
Progression Factor	0.81	0.80	0.97	0.89		0.90		1.60	3.73	0.92	0.99	
Incremental Delay, d2	4.1	2.0	0.9	3.2		8.1		3.1	0.5	5.9	0.5	
Delay (s)	34.6	31.3	36.1	29.7		36.3		46.0	82.3	38.7	14.6	
Level of Service	C	C	D	C		D		D	F	D	B	
Approach Delay (s)		34.8			33.5			52.7			17.0	
Approach LOS		C			C			D			B	

Intersection Summary			
HCM 2000 Control Delay	31.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	53.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	247	62	15	11	157	100	14	39	7	189	69	196
Future Volume (vph)	247	62	15	11	157	100	14	39	7	189	69	196
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	4.5
Lane Util. Factor	0.97	1.00		1.00	0.95			0.95			1.00	1.00
Frt	1.00	0.97		1.00	0.94			0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	1.00
Satd. Flow (prot)	3433	1809		1770	3333			3434			1797	1583
Flt Permitted	0.95	1.00		0.70	1.00			0.99			0.96	1.00
Satd. Flow (perm)	3433	1809		1310	3333			3434			1797	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	268	67	16	12	171	109	15	42	8	205	75	213
RTOR Reduction (vph)	0	7	0	0	68	0	0	7	0	0	0	138
Lane Group Flow (vph)	268	76	0	12	212	0	0	58	0	0	280	75
Turn Type	Prot	NA		Perm	NA		Split	NA		Split	NA	custom
Protected Phases	5	2			6		3	3		4	4	4
Permitted Phases				6								5
Actuated Green, G (s)	12.3	50.6		33.8	33.8			6.5			19.4	31.7
Effective Green, g (s)	12.3	50.6		33.8	33.8			6.5			19.4	31.7
Actuated g/C Ratio	0.14	0.56		0.38	0.38			0.07			0.22	0.35
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	469	1017		491	1251			248			387	636
v/s Ratio Prot	c0.08	0.04			c0.06			c0.02			c0.16	0.03
v/s Ratio Perm				0.01								0.02
v/c Ratio	0.57	0.07		0.02	0.17			0.23			0.72	0.12
Uniform Delay, d1	36.4	9.0		17.7	18.7			39.4			32.8	19.7
Progression Factor	1.38	0.34		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	1.6	0.1		0.0	0.1			2.2			6.6	0.1
Delay (s)	51.8	3.2		17.7	18.8			41.6			39.4	19.8
Level of Service	D	A		B	B			D			D	B
Approach Delay (s)		40.3			18.8			41.6			30.9	
Approach LOS		D			B			D			C	

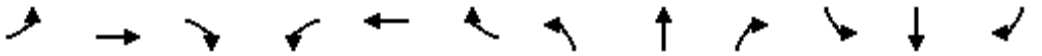
Intersection Summary			
HCM 2000 Control Delay	31.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	46.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	235	23	95	209	59	58
Future Volume (vph)	235	23	95	209	59	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	255	25	103	227	64	63

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2
Volume Total (vph)	280	103	227	64	63
Volume Left (vph)	0	103	0	64	0
Volume Right (vph)	25	0	0	0	63
Hadj (s)	-0.02	0.53	0.03	0.53	-0.67
Departure Headway (s)	5.0	5.7	5.2	6.5	5.3
Degree Utilization, x	0.39	0.16	0.33	0.12	0.09
Capacity (veh/h)	687	612	674	512	620
Control Delay (s)	11.3	8.6	9.5	9.2	7.6
Approach Delay (s)	11.3	9.2		8.4	
Approach LOS	B	A		A	

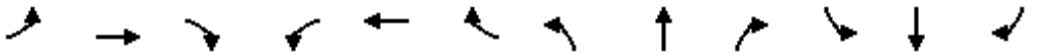
Intersection Summary			
Delay	9.8		
Level of Service	A		
Intersection Capacity Utilization	32.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	203	4	86	3	4	7	74	370	7	9	374	226
Future Volume (vph)	203	4	86	3	4	7	74	370	7	9	374	226
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	221	4	93	3	4	8	80	402	8	10	407	246

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total (vph)	318	15	80	402	8	10	407	246
Volume Left (vph)	221	3	80	0	0	10	0	0
Volume Right (vph)	93	8	0	0	8	0	0	246
Hadj (s)	0.00	-0.25	0.53	0.03	-0.67	0.53	0.03	-0.67
Departure Headway (s)	6.4	7.2	6.9	6.4	3.2	7.0	6.5	3.2
Degree Utilization, x	0.56	0.03	0.15	0.71	0.01	0.02	0.73	0.22
Capacity (veh/h)	530	406	502	544	1121	495	537	1122
Control Delay (s)	17.2	10.4	10.0	22.6	5.0	8.9	23.9	5.9
Approach Delay (s)	17.2	10.4	20.2			17.0		
Approach LOS	C	B	C			C		

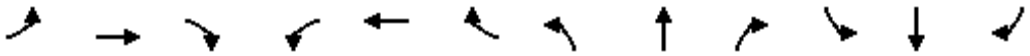
Intersection Summary				
Delay	18.0			
Level of Service	C			
Intersection Capacity Utilization	57.2%	ICU Level of Service	B	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	169	155	25	362	42	264	710	0	30	876	450
Future Volume (vph)	108	169	155	25	362	42	264	710	0	30	876	450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.93		1.00	0.98		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3286		1770	3484		1770	3539		1770	3539	1583
Flt Permitted	0.23	1.00		0.54	1.00		0.22	1.00		0.95	1.00	1.00
Satd. Flow (perm)	431	3286		1008	3484		414	3539		1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	117	184	168	27	393	46	287	772	0	33	952	489
RTOR Reduction (vph)	0	122	0	0	0	0	0	0	0	0	0	169
Lane Group Flow (vph)	117	230	0	27	439	0	287	772	0	33	952	320
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4			6					2
Actuated Green, G (s)	24.8	24.8		15.9	15.9		47.9	47.9		3.8	35.4	35.4
Effective Green, g (s)	24.8	24.8		15.9	15.9		47.9	47.9		3.8	35.4	35.4
Actuated g/C Ratio	0.28	0.28		0.18	0.18		0.53	0.53		0.04	0.39	0.39
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	184	905		178	615		465	1883		74	1392	622
v/s Ratio Prot	c0.03	0.07			0.13		c0.11	0.22		0.02	c0.27	
v/s Ratio Perm	c0.14			0.03			0.22					0.20
v/c Ratio	0.64	0.25		0.15	0.71		0.62	0.41		0.45	0.68	0.51
Uniform Delay, d1	26.5	25.4		31.3	34.9		21.6	12.6		42.1	22.7	20.8
Progression Factor	0.84	0.72		1.00	1.00		0.49	0.26		1.42	0.61	0.31
Incremental Delay, d2	6.9	0.1		0.4	3.9		2.1	0.6		3.7	2.4	2.7
Delay (s)	29.1	18.3		31.7	38.8		12.8	3.8		63.6	16.3	9.1
Level of Service	C	B		C	D		B	A		E	B	A
Approach Delay (s)		21.0			38.4			6.3			15.0	
Approach LOS		C			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	16.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		

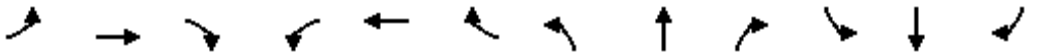
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	50	25	65	7	106	3	370	94	12	6	48	63
Future Volume (vph)	50	25	65	7	106	3	370	94	12	6	48	63
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	27	71	8	115	3	402	102	13	7	52	68

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total (vph)	81	71	126	517	127
Volume Left (vph)	54	0	8	402	7
Volume Right (vph)	0	71	3	13	68
Hadj (s)	0.37	-0.67	0.03	0.17	-0.28
Departure Headway (s)	6.8	5.8	6.1	5.1	5.2
Degree Utilization, x	0.15	0.11	0.21	0.73	0.19
Capacity (veh/h)	477	556	527	686	626
Control Delay (s)	9.9	8.3	10.7	20.8	9.4
Approach Delay (s)	9.1		10.7	20.8	9.4
Approach LOS	A		B	C	A

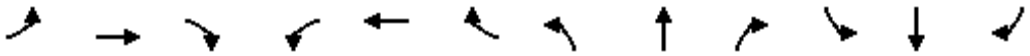
Intersection Summary				
Delay	15.9			
Level of Service	C			
Intersection Capacity Utilization	51.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	537	27	2	947	52	14	872	170
Future Volume (vph)	0	0	0	0	537	27	2	947	52	14	872	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor					0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt					1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected					1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)					3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted					1.00	1.00	0.23	1.00	1.00	0.20	1.00	1.00
Satd. Flow (perm)					3539	1583	433	3539	1583	380	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	584	29	2	1029	57	15	948	185
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	26	0	0	27
Lane Group Flow (vph)	0	0	0	0	584	29	2	1029	31	15	948	158
Turn Type	pm+pt				NA	Perm	Perm	NA	Perm	Perm	NA	pm+ov
Protected Phases	7	4			8			2			6	7
Permitted Phases	4					8	2		2	6		6
Actuated Green, G (s)					21.7	21.7	49.0	49.0	49.0	49.0	49.0	54.8
Effective Green, g (s)					21.7	21.7	49.0	49.0	49.0	49.0	49.0	54.8
Actuated g/C Ratio					0.24	0.24	0.54	0.54	0.54	0.54	0.54	0.61
Clearance Time (s)					4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)					3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)					853	381	235	1926	861	206	1926	1043
v/s Ratio Prot					c0.17			c0.29			0.27	c0.01
v/s Ratio Perm						0.02	0.00		0.02	0.04		0.09
v/c Ratio					0.68	0.08	0.01	0.53	0.04	0.07	0.49	0.15
Uniform Delay, d1					31.0	26.4	9.4	13.2	9.5	9.7	12.8	7.6
Progression Factor					1.65	1.74	1.00	1.00	1.00	0.44	0.37	0.12
Incremental Delay, d2					1.4	0.1	0.1	1.1	0.1	0.6	0.7	0.1
Delay (s)					52.6	45.9	9.4	14.2	9.6	4.8	5.5	1.0
Level of Service					D	D	A	B	A	A	A	A
Approach Delay (s)		0.0			52.2			14.0			4.8	
Approach LOS		A			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	18.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	48.5%	ICU Level of Service	A
Analysis Period (min)	15		

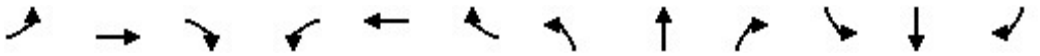
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	119	11	187	540	413	4	19	27	27	34	20
Future Volume (vph)	32	119	11	187	540	413	4	19	27	27	34	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5			4.5			4.5	
Lane Util. Factor		0.95	1.00		0.95			1.00			1.00	
Frt		1.00	0.85		0.95			0.93			0.97	
Flt Protected		0.99	1.00		0.99			1.00			0.98	
Satd. Flow (prot)		3502	1583		3320			1721			1771	
Flt Permitted		0.99	1.00		0.99			0.98			0.90	
Satd. Flow (perm)		3502	1583		3320			1701			1622	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	129	12	203	587	449	4	21	29	29	37	22
RTOR Reduction (vph)	0	0	9	0	95	0	0	23	0	0	14	0
Lane Group Flow (vph)	0	164	3	0	1144	0	0	31	0	0	74	0
Turn Type	Split	NA	Perm	Split	NA		Perm	NA		Perm	NA	
Protected Phases	2	2		1	1			8			4	
Permitted Phases			2				8			4		
Actuated Green, G (s)		22.3	22.3		36.1			18.1			18.1	
Effective Green, g (s)		22.3	22.3		36.1			18.1			18.1	
Actuated g/C Ratio		0.25	0.25		0.40			0.20			0.20	
Clearance Time (s)		4.5	4.5		4.5			4.5			4.5	
Vehicle Extension (s)		3.0	3.0		3.0			3.0			3.0	
Lane Grp Cap (vph)		867	392		1331			342			326	
v/s Ratio Prot		c0.05			c0.34							
v/s Ratio Perm			0.00					0.02			c0.05	
v/c Ratio		0.19	0.01		0.86			0.09			0.23	
Uniform Delay, d1		26.7	25.5		24.6			29.3			30.1	
Progression Factor		1.05	1.00		0.64			1.00			1.00	
Incremental Delay, d2		0.5	0.0		3.1			0.5			1.6	
Delay (s)		28.5	25.5		18.9			29.8			31.7	
Level of Service		C	C		B			C			C	
Approach Delay (s)		28.3			18.9			29.8			31.7	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	21.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	55.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



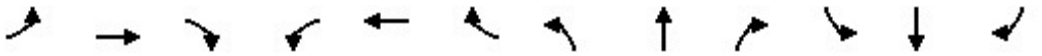
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	489	1787	233	117	950	0	0	874	56
Future Volume (vph)	0	0	0	489	1787	233	117	950	0	0	874	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5	4.5		4.5	4.5			4.5	
Lane Util. Factor				0.86	0.86		1.00	0.91			0.95	
Frt				1.00	0.98		1.00	1.00			0.99	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1522	4719		1770	5085			3507	
Flt Permitted				0.95	1.00		0.21	1.00			1.00	
Satd. Flow (perm)				1522	4719		387	5085			3507	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	532	1942	253	127	1033	0	0	950	61
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	479	2248	0	127	1033	0	0	1011	0
Turn Type				Prot	NA		Perm	NA			NA	
Protected Phases				3	8			2			6	
Permitted Phases							2					
Actuated Green, G (s)				32.5	32.5		48.5	48.5			48.5	
Effective Green, g (s)				32.5	32.5		48.5	48.5			48.5	
Actuated g/C Ratio				0.36	0.36		0.54	0.54			0.54	
Clearance Time (s)				4.5	4.5		4.5	4.5			4.5	
Lane Grp Cap (vph)				549	1704		208	2740			1889	
v/s Ratio Prot				0.31	c0.48			0.20			0.29	
v/s Ratio Perm							c0.33					
v/c Ratio				0.87	1.32		0.61	0.38			0.53	
Uniform Delay, d1				26.8	28.8		14.3	12.0			13.4	
Progression Factor				1.00	1.00		0.87	0.69			0.88	
Incremental Delay, d2				17.2	147.9		9.8	0.3			0.5	
Delay (s)				44.1	176.7		22.3	8.6			12.4	
Level of Service				D	F		C	A			B	
Approach Delay (s)		0.0			153.4			10.1			12.4	
Approach LOS		A			F			B			B	

Intersection Summary			
HCM 2000 Control Delay	90.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	80.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	54	18	107	62	38	0	638	108	62	1015	336
Future Volume (vph)	0	54	18	107	62	38	0	638	108	62	1015	336
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00		0.95	1.00	1.00	0.95	
Frt		1.00	0.85	1.00	1.00	0.85		1.00	0.85	1.00	0.96	
Flt Protected		1.00	1.00	0.95	1.00	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1863	1583	1770	1863	1583		3539	1583	1770	3407	
Flt Permitted		1.00	1.00	0.95	1.00	1.00		1.00	1.00	0.22	1.00	
Satd. Flow (perm)		1863	1583	1770	1863	1583		3539	1583	406	3407	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	59	20	116	67	41	0	693	117	67	1103	365
RTOR Reduction (vph)	0	0	16	0	0	33	0	0	78	0	36	0
Lane Group Flow (vph)	0	59	4	116	67	8	0	693	39	67	1432	0
Turn Type		NA	Perm	Split	NA	Perm		NA	Perm	pm+pt	NA	
Protected Phases		4		8	8			2		1	6	
Permitted Phases			4			8			2	6		
Actuated Green, G (s)		18.1	18.1	18.1	18.1	18.1		30.2	30.2	40.3	40.3	
Effective Green, g (s)		18.1	18.1	18.1	18.1	18.1		30.2	30.2	40.3	40.3	
Actuated g/C Ratio		0.20	0.20	0.20	0.20	0.20		0.34	0.34	0.45	0.45	
Clearance Time (s)		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	
Lane Grp Cap (vph)		374	318	355	374	318		1187	531	266	1525	
v/s Ratio Prot		c0.03		c0.07	0.04			0.20		0.02	c0.42	
v/s Ratio Perm			0.00			0.01			0.02	0.10		
v/c Ratio		0.16	0.01	0.33	0.18	0.03		0.58	0.07	0.25	0.94	
Uniform Delay, d1		29.7	28.8	30.7	29.8	28.9		24.7	20.4	15.7	23.7	
Progression Factor		1.00	1.00	1.00	1.00	1.00		0.99	1.38	0.54	0.87	
Incremental Delay, d2		0.9	0.1	2.4	1.0	0.2		1.8	0.2	1.3	8.3	
Delay (s)		30.6	28.9	33.2	30.8	29.0		26.3	28.4	9.8	28.9	
Level of Service		C	C	C	C	C		C	C	A	C	
Approach Delay (s)		30.1			31.7			26.6			28.1	
Approach LOS		C			C			C			C	

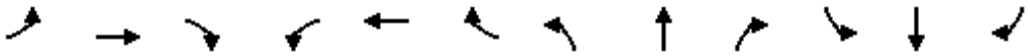
Intersection Summary			
HCM 2000 Control Delay	28.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	508	101	118	1261	47	125	419	132	78	1194	160
Future Volume (vph)	49	508	101	118	1261	47	125	419	132	78	1194	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	5058		1770	3539	1583	1770	3539	1583
Flt Permitted	0.19	1.00	1.00	0.22	1.00		0.10	1.00	1.00	0.45	1.00	1.00
Satd. Flow (perm)	345	3539	1583	411	5058		186	3539	1583	837	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	53	552	110	128	1371	51	136	455	143	85	1298	174
RTOR Reduction (vph)	0	0	50	0	5	0	0	0	79	0	0	73
Lane Group Flow (vph)	53	552	60	128	1417	0	136	455	64	85	1298	101
Turn Type	Perm	NA	pm+ov	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4	5	3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		6
Actuated Green, G (s)	21.6	21.6	28.3	31.2	31.2		46.7	40.0	40.0	43.9	38.6	38.6
Effective Green, g (s)	21.6	21.6	28.3	31.2	31.2		46.7	40.0	40.0	43.9	38.6	38.6
Actuated g/C Ratio	0.24	0.24	0.31	0.35	0.35		0.52	0.44	0.44	0.49	0.43	0.43
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	82	849	497	219	1753		214	1572	703	463	1517	678
v/s Ratio Prot		0.16	0.01	0.03	c0.28		c0.05	0.13		0.01	c0.37	
v/s Ratio Perm	0.15		0.03	0.17			0.28		0.04	0.08		0.06
v/c Ratio	0.65	0.65	0.12	0.58	0.81		0.64	0.29	0.09	0.18	0.86	0.15
Uniform Delay, d1	30.8	30.8	22.0	21.8	26.7		33.0	15.9	14.5	14.9	23.2	15.7
Progression Factor	0.86	0.86	0.82	1.00	1.00		1.97	1.73	6.15	0.41	0.66	0.36
Incremental Delay, d2	32.6	3.8	0.5	10.9	4.1		11.5	0.4	0.2	0.8	6.0	0.4
Delay (s)	59.2	30.1	18.5	32.8	30.8		76.3	28.0	89.3	6.9	21.4	6.1
Level of Service	E	C	B	C	C		E	C	F	A	C	A
Approach Delay (s)		30.5			31.0			48.9			18.9	
Approach LOS		C			C			D			B	

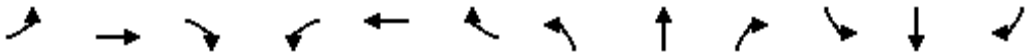
Intersection Summary			
HCM 2000 Control Delay	29.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	84.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	118	64	50	768	149	59	268	13	147	985	248
Future Volume (vph)	57	118	64	50	768	149	59	268	13	147	985	248
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3352		1770	3539	1583	1770	3539	1583	1770	4932	
Flt Permitted	0.18	1.00		0.63	1.00	1.00	0.15	1.00	1.00	0.57	1.00	
Satd. Flow (perm)	327	3352		1169	3539	1583	280	3539	1583	1069	4932	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	62	128	70	54	835	162	64	291	14	160	1071	270
RTOR Reduction (vph)	0	52	0	0	0	69	0	0	6	0	35	0
Lane Group Flow (vph)	62	146	0	54	835	93	64	291	8	160	1306	0
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8		8	2		2	6		
Actuated Green, G (s)	22.8	22.8		31.6	31.6	31.6	49.4	49.4	49.4	49.4	49.4	
Effective Green, g (s)	22.8	22.8		31.6	31.6	31.6	49.4	49.4	49.4	49.4	49.4	
Actuated g/C Ratio	0.25	0.25		0.35	0.35	0.35	0.55	0.55	0.55	0.55	0.55	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	82	849		439	1242	555	153	1942	868	586	2707	
v/s Ratio Prot		0.04		0.01	c0.24			0.08			c0.26	
v/s Ratio Perm	c0.19			0.04		0.06	0.23		0.00	0.15		
v/c Ratio	0.76	0.17		0.12	0.67	0.17	0.42	0.15	0.01	0.27	0.48	
Uniform Delay, d1	31.0	26.2		19.9	24.8	20.1	11.9	10.0	9.2	10.8	12.5	
Progression Factor	1.00	1.00		0.69	0.77	0.72	1.11	0.99	1.00	0.34	0.30	
Incremental Delay, d2	32.1	0.1		0.1	1.1	0.1	8.1	0.2	0.0	1.0	0.6	
Delay (s)	63.1	26.3		13.9	20.1	14.5	21.3	10.0	9.2	4.7	4.2	
Level of Service	E	C		B	C	B	C	B	A	A	A	
Approach Delay (s)		35.1			18.9			11.9			4.3	
Approach LOS		D			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	12.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		

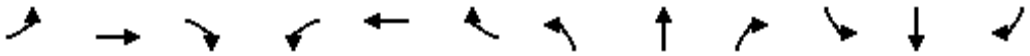
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	452	203	258	1278	351	162	381	60	152	368	30
Future Volume (vph)	53	452	203	258	1278	351	162	381	60	152	368	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3499	
Flt Permitted	0.11	1.00	1.00	0.36	1.00	1.00	0.56	1.00	1.00	0.56	1.00	
Satd. Flow (perm)	213	3539	1583	675	3539	1583	1035	3539	1583	1035	3499	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	58	491	221	280	1389	382	176	414	65	165	400	33
RTOR Reduction (vph)	0	0	135	0	0	178	0	0	53	0	7	0
Lane Group Flow (vph)	58	491	86	280	1389	204	176	414	12	165	426	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		
Actuated Green, G (s)	39.3	35.0	35.0	51.9	43.1	43.1	16.1	16.1	16.1	15.7	15.7	
Effective Green, g (s)	39.3	35.0	35.0	51.9	43.1	43.1	16.1	16.1	16.1	15.7	15.7	
Actuated g/C Ratio	0.44	0.39	0.39	0.58	0.48	0.48	0.18	0.18	0.18	0.17	0.17	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	167	1376	615	540	1694	758	257	633	283	249	610	
v/s Ratio Prot	0.02	0.14		c0.07	c0.39		0.07	c0.12		0.06	c0.12	
v/s Ratio Perm	0.13		0.05	0.23		0.13	0.05		0.01	0.05		
v/c Ratio	0.35	0.36	0.14	0.52	0.82	0.27	0.68	0.65	0.04	0.66	0.70	
Uniform Delay, d1	17.2	19.5	17.8	10.3	20.1	14.0	34.3	34.4	30.6	33.9	34.9	
Progression Factor	1.98	0.55	1.74	0.71	0.61	0.15	0.92	0.92	1.00	0.64	0.64	
Incremental Delay, d2	1.1	0.6	0.4	0.1	0.4	0.1	7.0	2.3	0.1	6.4	3.4	
Delay (s)	35.1	11.3	31.3	7.3	12.7	2.2	38.6	34.0	30.6	28.2	25.9	
Level of Service	D	B	C	A	B	A	D	C	C	C	C	
Approach Delay (s)		18.8			10.0			34.9			26.5	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	74.6%	ICU Level of Service	D
Analysis Period (min)	15		

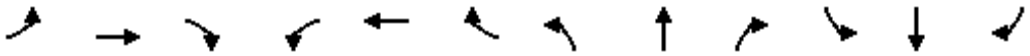
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	69	71	108	130	342	36	182	103	437	152	240
Future Volume (vph)	117	69	71	108	130	342	36	182	103	437	152	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	0.91	0.91		1.00	1.00	1.00	0.97	0.95	1.00	0.97	0.95	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	0.99		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1610	3154		1770	1863	1583	3433	3539	1583	3433	3214	
Flt Permitted	0.67	0.86		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1131	2734		1770	1863	1583	3433	3539	1583	3433	3214	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	127	75	77	117	141	372	39	198	112	475	165	261
RTOR Reduction (vph)	0	66	0	0	0	265	0	0	74	0	123	0
Lane Group Flow (vph)	86	127	0	117	141	107	39	198	38	475	303	0
Turn Type	Perm	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4					8			2			
Actuated Green, G (s)	12.4	12.4		9.1	26.0	26.0	3.0	30.6	30.6	19.9	47.5	
Effective Green, g (s)	12.4	12.4		9.1	26.0	26.0	3.0	30.6	30.6	19.9	47.5	
Actuated g/C Ratio	0.14	0.14		0.10	0.29	0.29	0.03	0.34	0.34	0.22	0.53	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	155	376		178	538	457	114	1203	538	759	1696	
v/s Ratio Prot				c0.07	0.08		0.01	0.06		c0.14	c0.09	
v/s Ratio Perm	c0.08	0.05				0.07			0.02			
v/c Ratio	0.55	0.34		0.66	0.26	0.24	0.34	0.16	0.07	0.63	0.18	
Uniform Delay, d1	36.2	35.1		38.9	24.6	24.4	42.5	20.8	20.1	31.7	11.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.70	0.47	
Incremental Delay, d2	4.3	0.5		8.5	0.3	0.3	1.8	0.3	0.3	1.4	0.2	
Delay (s)	40.5	35.6		47.4	24.9	24.7	44.3	21.1	20.3	23.5	5.4	
Level of Service	D	D		D	C	C	D	C	C	C	A	
Approach Delay (s)		37.1			28.9			23.4			14.9	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	23.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	44.4%	ICU Level of Service	A
Analysis Period (min)	15		

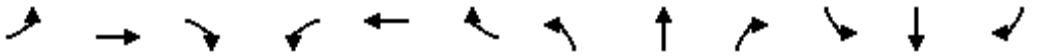
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	211	5	0	410	186	1	175	43	230	504	556
Future Volume (vph)	62	211	5	0	410	186	1	175	43	230	504	556
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95			0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00			0.95		1.00	0.97		1.00	0.92	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3528			3374		1770	3434		1770	3261	
Flt Permitted	0.95	1.00			1.00		0.17	1.00		0.60	1.00	
Satd. Flow (perm)	1770	3528			3374		307	3434		1126	3261	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	67	229	5	0	446	202	1	190	47	250	548	604
RTOR Reduction (vph)	0	2	0	0	59	0	0	19	0	0	170	0
Lane Group Flow (vph)	67	232	0	0	589	0	1	218	0	250	982	0
Turn Type	Prot	NA			NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	7.7	31.8			19.6		49.2	49.2		49.2	49.2	
Effective Green, g (s)	7.7	31.8			19.6		49.2	49.2		49.2	49.2	
Actuated g/C Ratio	0.09	0.35			0.22		0.55	0.55		0.55	0.55	
Clearance Time (s)	4.5	4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	151	1246			734		167	1877		615	1782	
v/s Ratio Prot	c0.04	0.07			c0.17			0.06			c0.30	
v/s Ratio Perm							0.00			0.22		
v/c Ratio	0.44	0.19			0.80		0.01	0.12		0.41	0.55	
Uniform Delay, d1	39.1	20.1			33.4		9.3	9.9		11.9	13.2	
Progression Factor	1.23	1.27			0.61		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.0	0.1			5.6		0.1	0.1		2.0	1.2	
Delay (s)	50.1	25.6			25.9		9.3	10.0		13.9	14.5	
Level of Service	D	C			C		A	B		B	B	
Approach Delay (s)		31.1			25.9			10.0			14.4	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	18.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	72.4%	ICU Level of Service	C
Analysis Period (min)	15		

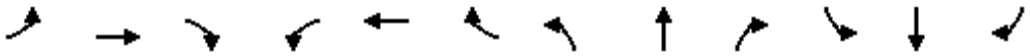
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	70	170	29	156	11	193	268	13	12	1181	157
Future Volume (vph)	82	70	170	29	156	11	193	268	13	12	1181	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1844		1770	3515		1770	4996	
Flt Permitted	0.46	1.00	1.00	0.71	1.00		0.12	1.00		0.57	1.00	
Satd. Flow (perm)	851	1863	1583	1318	1844		226	3515		1054	4996	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	89	76	185	32	170	12	210	291	14	13	1284	171
RTOR Reduction (vph)	0	0	156	0	3	0	0	3	0	0	14	0
Lane Group Flow (vph)	89	76	29	32	179	0	210	302	0	13	1441	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	14.0	14.0	14.0	14.0	14.0		67.0	67.0		51.7	51.7	
Effective Green, g (s)	14.0	14.0	14.0	14.0	14.0		67.0	67.0		51.7	51.7	
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.16		0.74	0.74		0.57	0.57	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	132	289	246	205	286		353	2616		605	2869	
v/s Ratio Prot		0.04			0.10		c0.07	0.09			0.29	
v/s Ratio Perm	c0.10		0.02	0.02			c0.37			0.01		
v/c Ratio	0.67	0.26	0.12	0.16	0.62		0.59	0.12		0.02	0.50	
Uniform Delay, d1	35.8	33.5	32.7	32.9	35.5		7.6	3.2		8.3	11.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.73	0.38		1.00	1.00	
Incremental Delay, d2	12.8	0.5	0.2	0.4	4.2		2.6	0.1		0.1	0.6	
Delay (s)	48.6	33.9	32.9	33.2	39.8		15.8	1.3		8.3	12.1	
Level of Service	D	C	C	C	D		B	A		A	B	
Approach Delay (s)		37.1			38.8			7.2			12.1	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	16.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	65.4%	ICU Level of Service	C
Analysis Period (min)	15		

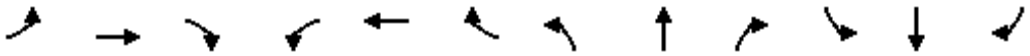
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	65	0	0	0	58	375	240	0	1369	233
Future Volume (Veh/h)	0	0	65	0	0	0	58	375	240	0	1369	233
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	71	0	0	0	63	408	261	0	1488	253
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								206			797	
pX, platoon unblocked	0.90	0.90	0.90	0.90	0.90	0.99	0.90			0.99		
vC, conflicting volume	1944	2148	622	1101	2275	204	1741			408		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1599	1826	170	663	1966	173	1419			379		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	91	100	100	100	85			100		
cM capacity (veh/h)	57	58	756	251	48	832	426			1163		

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	71	63	204	204	261	595	595	551
Volume Left	0	63	0	0	0	0	0	0
Volume Right	71	0	0	0	261	0	0	253
cSH	756	426	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.09	0.15	0.12	0.12	0.15	0.35	0.35	0.32
Queue Length 95th (ft)	8	13	0	0	0	0	0	0
Control Delay (s)	10.3	14.9	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	B						
Approach Delay (s)	10.3	1.3				0.0		
Approach LOS	B							

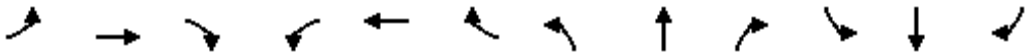
Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	42.3%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	194	38	16	20	0	12	0	467	48	38	1396	0
Future Volume (vph)	194	38	16	20	0	12	0	467	48	38	1396	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5		4.5		4.5		4.5	4.5	
Lane Util. Factor	0.97	1.00		1.00		1.00		0.91		1.00	0.91	
Frt	1.00	0.96		1.00		0.85		0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)	3433	1781		1770		1583		5014		1770	5085	
Flt Permitted	0.95	1.00		0.95		1.00		1.00		0.43	1.00	
Satd. Flow (perm)	3433	1781		1770		1583		5014		804	5085	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	211	41	17	22	0	13	0	508	52	41	1517	0
RTOR Reduction (vph)	0	15	0	0	0	13	0	9	0	0	0	0
Lane Group Flow (vph)	211	43	0	22	0	0	0	551	0	41	1517	0
Turn Type	pm+pt	NA		Prot		Perm		NA		Perm	NA	
Protected Phases	7	4		3				2			6	
Permitted Phases	4					8				6		
Actuated Green, G (s)	18.1	9.5		4.1		1.1		62.9		62.9	62.9	
Effective Green, g (s)	18.1	9.5		4.1		1.1		62.9		62.9	62.9	
Actuated g/C Ratio	0.20	0.11		0.05		0.01		0.70		0.70	0.70	
Clearance Time (s)	4.5	4.5		4.5		4.5		4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	690	187		80		19		3504		561	3553	
v/s Ratio Prot	c0.04	0.02		0.01				0.11			c0.30	
v/s Ratio Perm	0.02					0.00				0.05		
v/c Ratio	0.31	0.23		0.28		0.01		0.16		0.07	0.43	
Uniform Delay, d1	30.6	36.9		41.5		43.9		4.6		4.3	5.8	
Progression Factor	0.82	0.64		1.00		1.00		0.16		0.49	0.40	
Incremental Delay, d2	0.2	0.6		1.9		0.2		0.1		0.2	0.4	
Delay (s)	25.4	24.3		43.4		44.1		0.8		2.4	2.7	
Level of Service	C	C		D		D		A		A	A	
Approach Delay (s)		25.2			43.6			0.8			2.7	
Approach LOS		C			D			A			A	

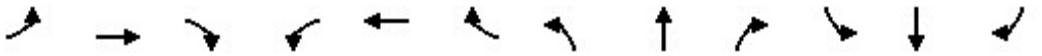
Intersection Summary			
HCM 2000 Control Delay	5.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	46.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



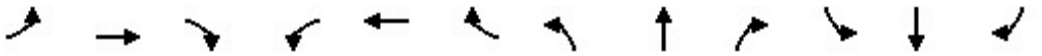
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	561	0	0	1526	20	122	164	97	0	0	0
Future Volume (vph)	64	561	0	0	1526	20	122	164	97	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5		4.5	4.5				
Lane Util. Factor	1.00	0.95			0.91		0.86	0.86				
Frt	1.00	1.00			1.00		1.00	0.95				
Flt Protected	0.95	1.00			1.00		0.95	1.00				
Satd. Flow (prot)	1770	3539			5075		1522	4542				
Flt Permitted	0.11	1.00			1.00		0.95	1.00				
Satd. Flow (perm)	207	3539			5075		1522	4542				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	70	610	0	0	1659	22	133	178	105	0	0	0
RTOR Reduction (vph)	0	0	0	0	2	0	0	82	0	0	0	0
Lane Group Flow (vph)	70	610	0	0	1679	0	105	229	0	0	0	0
Turn Type	Perm	NA			NA		pm+pt	NA				
Protected Phases		4			8		6	2				
Permitted Phases	4						2					
Actuated Green, G (s)	61.5	61.5			61.5		19.5	19.5				
Effective Green, g (s)	61.5	61.5			61.5		19.5	19.5				
Actuated g/C Ratio	0.68	0.68			0.68		0.22	0.22				
Clearance Time (s)	4.5	4.5			4.5		4.5	4.5				
Lane Grp Cap (vph)	141	2418			3467		329	984				
v/s Ratio Prot		0.17			0.33		c0.07	0.05				
v/s Ratio Perm	c0.34											
v/c Ratio	0.50	0.25			0.48		0.32	0.23				
Uniform Delay, d1	6.8	5.5			6.7		29.7	29.1				
Progression Factor	1.00	1.00			0.16		1.00	1.00				
Incremental Delay, d2	12.0	0.3			0.3		2.5	0.6				
Delay (s)	18.8	5.7			1.4		32.2	29.6				
Level of Service	B	A			A		C	C				
Approach Delay (s)		7.1			1.4			30.3			0.0	
Approach LOS		A			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	7.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



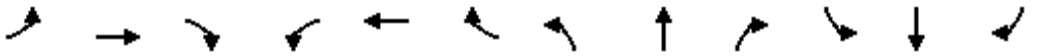
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	306	1593	61	88	160	0	0	344	42
Future Volume (vph)	0	0	0	306	1593	61	88	160	0	0	344	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.5		4.5	4.5			4.5	
Lane Util. Factor					0.91		1.00	0.95			0.95	
Frt					1.00		1.00	1.00			0.98	
Flt Protected					0.99		0.95	1.00			1.00	
Satd. Flow (prot)					5022		1770	3539			3481	
Flt Permitted					0.99		0.38	1.00			1.00	
Satd. Flow (perm)					5022		703	3539			3481	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	333	1732	66	96	174	0	0	374	46
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	0	0	11	0
Lane Group Flow (vph)	0	0	0	0	2127	0	96	174	0	0	409	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8			2					
Actuated Green, G (s)					60.5		20.5	20.5			20.5	
Effective Green, g (s)					60.5		20.5	20.5			20.5	
Actuated g/C Ratio					0.67		0.23	0.23			0.23	
Clearance Time (s)					4.5		4.5	4.5			4.5	
Lane Grp Cap (vph)					3375		160	806			792	
v/s Ratio Prot								0.05			0.12	
v/s Ratio Perm					0.42		c0.14					
v/c Ratio					0.63		0.60	0.22			0.52	
Uniform Delay, d1					8.4		31.1	28.2			30.4	
Progression Factor					0.25		0.66	0.64			1.00	
Incremental Delay, d2					0.1		15.3	0.6			2.4	
Delay (s)					2.2		35.8	18.8			32.8	
Level of Service					A		D	B			C	
Approach Delay (s)		0.0			2.2			24.9			32.8	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	8.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	76.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



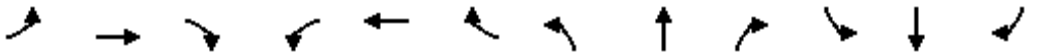
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	136	155	0	0	0	0	216	171	0	650	0
Future Volume (vph)	32	136	155	0	0	0	0	216	171	0	650	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5						4.5			4.5	
Lane Util. Factor		0.95						0.95			0.95	
Frt		0.93						0.93			1.00	
Flt Protected		1.00						1.00			1.00	
Satd. Flow (prot)		3269						3305			3539	
Flt Permitted		1.00						1.00			1.00	
Satd. Flow (perm)		3269						3305			3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	148	168	0	0	0	0	235	186	0	707	0
RTOR Reduction (vph)	0	111	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	240	0	0	0	0	0	421	0	0	707	0
Turn Type	Perm	NA						NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4											
Actuated Green, G (s)		30.5						50.5			50.5	
Effective Green, g (s)		30.5						50.5			50.5	
Actuated g/C Ratio		0.34						0.56			0.56	
Clearance Time (s)		4.5						4.5			4.5	
Lane Grp Cap (vph)		1107						1854			1985	
v/s Ratio Prot								0.13			c0.20	
v/s Ratio Perm		0.07										
v/c Ratio		0.22						0.23			0.36	
Uniform Delay, d1		21.2						9.9			10.8	
Progression Factor		1.00						0.67			0.54	
Incremental Delay, d2		0.4						0.3			0.4	
Delay (s)		21.7						7.0			6.3	
Level of Service		C						A			A	
Approach Delay (s)		21.7			0.0			7.0			6.3	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	76.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	392	176	102	757	124	71	333	53	172	933	96
Future Volume (vph)	34	392	176	102	757	124	71	333	53	172	933	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.95		1.00	0.98		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3375		1770	3464		1770	3466		1770	3539	1583
Flt Permitted	0.15	1.00		0.32	1.00		0.20	1.00		0.49	1.00	1.00
Satd. Flow (perm)	281	3375		605	3464		370	3466		911	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	37	426	191	111	823	135	77	362	58	187	1014	104
RTOR Reduction (vph)	0	49	0	0	15	0	0	14	0	0	0	30
Lane Group Flow (vph)	37	568	0	111	943	0	77	406	0	187	1014	74
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	34.5	34.5		34.5	34.5		46.5	46.5		46.5	46.5	46.5
Effective Green, g (s)	34.5	34.5		34.5	34.5		46.5	46.5		46.5	46.5	46.5
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.52	0.52		0.52	0.52	0.52
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Grp Cap (vph)	107	1293		231	1327		191	1790		470	1828	817
v/s Ratio Prot		0.17			c0.27			0.12			c0.29	
v/s Ratio Perm	0.13			0.18			0.21			0.21		0.05
v/c Ratio	0.35	0.44		0.48	0.71		0.40	0.23		0.40	0.55	0.09
Uniform Delay, d1	19.7	20.6		21.0	23.5		13.3	11.9		13.2	14.7	11.0
Progression Factor	1.00	1.00		0.77	0.75		0.73	0.71		0.53	0.55	0.28
Incremental Delay, d2	8.6	1.1		6.7	3.1		6.2	0.3		2.5	1.2	0.2
Delay (s)	28.4	21.7		22.8	20.8		15.8	8.7		9.5	9.3	3.3
Level of Service	C	C		C	C		B	A		A	A	A
Approach Delay (s)		22.0			21.0			9.8			8.9	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	15.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

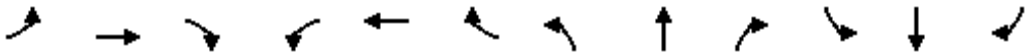


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	398	122	49	658	84	109	364	42	117	837	140
Future Volume (vph)	29	398	122	49	658	84	109	364	42	117	837	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	1.00	0.85	1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3414		1770	3539	1583	1770	3484		1770	3463	
Flt Permitted	0.20	1.00		0.30	1.00	1.00	0.21	1.00		0.49	1.00	
Satd. Flow (perm)	368	3414		559	3539	1583	400	3484		912	3463	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	433	133	53	715	91	118	396	46	127	910	152
RTOR Reduction (vph)	0	32	0	0	0	65	0	10	0	0	15	0
Lane Group Flow (vph)	32	534	0	53	715	26	118	432	0	127	1047	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	25.9	25.9		25.9	25.9	25.9	55.1	55.1		55.1	55.1	
Effective Green, g (s)	25.9	25.9		25.9	25.9	25.9	55.1	55.1		55.1	55.1	
Actuated g/C Ratio	0.29	0.29		0.29	0.29	0.29	0.61	0.61		0.61	0.61	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)	105	982		160	1018	455	244	2132		558	2120	
v/s Ratio Prot		0.16			c0.20			0.12			c0.30	
v/s Ratio Perm	0.09			0.09		0.02	0.30			0.14		
v/c Ratio	0.30	0.54		0.33	0.70	0.06	0.48	0.20		0.23	0.49	
Uniform Delay, d1	25.0	27.1		25.2	28.6	23.2	9.6	7.7		7.9	9.7	
Progression Factor	1.00	1.00		0.53	0.52	0.45	1.00	1.00		0.61	0.53	
Incremental Delay, d2	7.3	2.2		5.0	3.7	0.2	6.7	0.2		0.8	0.7	
Delay (s)	32.4	29.2		18.5	18.5	10.7	16.3	7.9		5.6	5.9	
Level of Service	C	C		B	B	B	B	A		A	A	
Approach Delay (s)		29.4			17.7			9.7			5.9	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

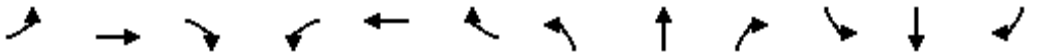
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	352	226	208	823	189	108
Future Volume (vph)	352	226	208	823	189	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	0.97	1.00
Frt	0.94		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3332		1770	3539	3433	1583
Flt Permitted	1.00		0.39	1.00	0.95	1.00
Satd. Flow (perm)	3332		736	3539	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	383	246	226	895	205	117
RTOR Reduction (vph)	86	0	0	0	0	88
Lane Group Flow (vph)	543	0	226	895	205	29
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Actuated Green, G (s)	58.5		58.5	58.5	22.5	22.5
Effective Green, g (s)	58.5		58.5	58.5	22.5	22.5
Actuated g/C Ratio	0.65		0.65	0.65	0.25	0.25
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	2165		478	2300	858	395
v/s Ratio Prot	0.16			0.25	c0.06	
v/s Ratio Perm			c0.31			0.02
v/c Ratio	0.25		0.47	0.39	0.24	0.07
Uniform Delay, d1	6.6		8.0	7.4	26.9	25.8
Progression Factor	0.40		0.76	0.80	0.82	0.71
Incremental Delay, d2	0.3		2.6	0.4	0.6	0.3
Delay (s)	2.9		8.7	6.3	22.7	18.7
Level of Service	A		A	A	C	B
Approach Delay (s)	2.9			6.8	21.2	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	7.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	45.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	307	170	107	596	66	160	229	49	25	315	35
Future Volume (vph)	80	307	170	107	596	66	160	229	49	25	315	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.95		1.00	0.98			0.98			0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.98			1.00	
Satd. Flow (prot)	1770	3350		1770	3486			3418			3478	
Flt Permitted	0.30	1.00		0.41	1.00			0.67			0.91	
Satd. Flow (perm)	561	3350		771	3486			2335			3159	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	334	185	116	648	72	174	249	53	27	342	38
RTOR Reduction (vph)	0	84	0	0	9	0	0	11	0	0	8	0
Lane Group Flow (vph)	87	435	0	116	711	0	0	465	0	0	399	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	41.5	41.5		41.5	41.5			39.5			39.5	
Effective Green, g (s)	41.5	41.5		41.5	41.5			39.5			39.5	
Actuated g/C Ratio	0.46	0.46		0.46	0.46			0.44			0.44	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Grp Cap (vph)	258	1544		355	1607			1024			1386	
v/s Ratio Prot		0.13			c0.20							
v/s Ratio Perm	0.16			0.15				c0.20			0.13	
v/c Ratio	0.34	0.28		0.33	0.44			0.45			0.29	
Uniform Delay, d1	15.5	15.0		15.4	16.4			17.7			16.2	
Progression Factor	0.47	0.32		1.42	1.47			1.00			0.57	
Incremental Delay, d2	3.2	0.4		2.3	0.8			1.5			0.5	
Delay (s)	10.4	5.2		24.2	24.9			19.2			9.7	
Level of Service	B	A		C	C			B			A	
Approach Delay (s)		5.9			24.8			19.2			9.7	
Approach LOS		A			C			B			A	

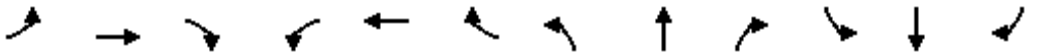
Intersection Summary			
HCM 2000 Control Delay	16.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	61.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	296	234	134	299	915	8	218	512	93	26	1044	754
Future Volume (vph)	296	234	134	299	915	8	218	512	93	26	1044	754
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.91	0.91		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.96		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1610	3211		1770	3534		1770	3539	1583	1770	3539	1583
Flt Permitted	0.19	0.57		0.32	1.00		0.12	1.00	1.00	0.44	1.00	1.00
Satd. Flow (perm)	321	1866		600	3534		219	3539	1583	826	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	322	254	146	325	995	9	237	557	101	28	1135	820
RTOR Reduction (vph)	0	42	0	0	1	0	0	0	57	0	0	37
Lane Group Flow (vph)	187	493	0	325	1003	0	237	557	44	28	1135	783
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	pm+ov
Protected Phases	7	4		3	8		5	2			6	7
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	35.6	35.6		38.4	22.5		39.5	39.5	39.5	29.5	29.5	44.0
Effective Green, g (s)	35.6	35.6		38.4	22.5		39.5	39.5	39.5	29.5	29.5	44.0
Actuated g/C Ratio	0.40	0.40		0.43	0.25		0.44	0.44	0.44	0.33	0.33	0.49
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	334	954		462	883		190	1553	694	270	1160	773
v/s Ratio Prot	0.09	0.08		0.12	c0.28		c0.08	0.16			0.32	c0.16
v/s Ratio Perm	0.13	0.12		0.18			c0.47		0.03	0.03		0.33
v/c Ratio	0.56	0.52		0.70	1.14		1.25	0.36	0.06	0.10	0.98	1.01
Uniform Delay, d1	31.1	20.7		25.2	33.8		23.2	16.8	14.6	21.1	29.9	23.0
Progression Factor	0.78	0.74		1.00	1.00		1.32	1.08	1.51	1.00	1.00	1.00
Incremental Delay, d2	1.9	0.4		4.8	75.2		146.2	0.6	0.2	0.8	21.7	35.5
Delay (s)	26.1	15.7		30.0	108.9		177.0	18.8	22.2	21.8	51.7	58.5
Level of Service	C	B		C	F		F	B	C	C	D	E
Approach Delay (s)		18.4			89.6			61.1			54.1	
Approach LOS		B			F			E			D	

Intersection Summary			
HCM 2000 Control Delay	59.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	95.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	91	73	9	13	581	159	40	170	2	110	172	519
Future Volume (vph)	91	73	9	13	581	159	40	170	2	110	172	519
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.97		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1831		1770	1803		1770	1860		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.56	1.00		0.56	1.00	1.00
Satd. Flow (perm)	1770	1831		1770	1803		1043	1860		1043	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	99	79	10	14	632	173	43	185	2	120	187	564
RTOR Reduction (vph)	0	4	0	0	11	0	0	1	0	0	0	233
Lane Group Flow (vph)	99	85	0	14	794	0	43	186	0	120	187	331
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		6
Actuated Green, G (s)	10.3	50.8		1.0	41.5		24.7	24.7		24.7	24.7	24.7
Effective Green, g (s)	10.3	50.8		1.0	41.5		24.7	24.7		24.7	24.7	24.7
Actuated g/C Ratio	0.11	0.56		0.01	0.46		0.27	0.27		0.27	0.27	0.27
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	202	1033		19	831		286	510		286	511	434
v/s Ratio Prot	c0.06	0.05		0.01	c0.44			0.10			0.10	
v/s Ratio Perm							0.04			0.11		c0.21
v/c Ratio	0.49	0.08		0.74	0.96		0.15	0.37		0.42	0.37	0.76
Uniform Delay, d1	37.4	9.0		44.4	23.4		24.7	26.3		26.8	26.3	30.0
Progression Factor	0.71	0.82		1.00	1.00		1.00	1.00		0.49	0.50	0.10
Incremental Delay, d2	1.9	0.0		88.4	20.9		1.1	2.0		2.0	0.9	5.7
Delay (s)	28.2	7.4		132.8	44.2		25.8	28.3		15.3	14.1	8.7
Level of Service	C	A		F	D		C	C		B	B	A
Approach Delay (s)		18.4			45.7			27.9			10.8	
Approach LOS		B			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	26.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	87.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	0	381	146	563	206	0
Future Volume (vph)	0	381	146	563	206	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frt	0.85		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	3008		1770	3539	1770	
Flt Permitted	1.00		0.49	1.00	0.95	
Satd. Flow (perm)	3008		922	3539	1770	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	414	159	612	224	0
RTOR Reduction (vph)	196	0	0	0	0	0
Lane Group Flow (vph)	219	0	159	612	224	0
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases			6			8
Actuated Green, G (s)	47.5		47.5	47.5	33.5	
Effective Green, g (s)	47.5		47.5	47.5	33.5	
Actuated g/C Ratio	0.53		0.53	0.53	0.37	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Lane Grp Cap (vph)	1587		486	1867	658	
v/s Ratio Prot	0.07			c0.17	c0.13	
v/s Ratio Perm			0.17			
v/c Ratio	0.14		0.33	0.33	0.34	
Uniform Delay, d1	10.8		12.1	12.1	20.3	
Progression Factor	1.00		0.31	0.32	1.00	
Incremental Delay, d2	0.2		1.6	0.4	1.4	
Delay (s)	11.0		5.4	4.3	21.7	
Level of Service	B		A	A	C	
Approach Delay (s)	11.0			4.5	21.7	
Approach LOS	B			A	C	

Intersection Summary			
HCM 2000 Control Delay	9.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	43.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	4	6	102	4	24	20	602	172	63	427	13
Future Volume (vph)	4	4	6	102	4	24	20	602	172	63	427	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frt		0.94		1.00	0.87		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1722		1770	1621		1770	3539	1583	1770	3524	
Flt Permitted		0.94		0.75	1.00		0.48	1.00	1.00	0.40	1.00	
Satd. Flow (perm)		1642		1393	1621		892	3539	1583	748	3524	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	4	4	7	111	4	26	22	654	187	68	464	14
RTOR Reduction (vph)	0	6	0	0	23	0	0	0	42	0	1	0
Lane Group Flow (vph)	0	9	0	111	7	0	22	654	145	68	477	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		11.1		11.1	11.1		69.9	69.9	69.9	69.9	69.9	
Effective Green, g (s)		11.1		11.1	11.1		69.9	69.9	69.9	69.9	69.9	
Actuated g/C Ratio		0.12		0.12	0.12		0.78	0.78	0.78	0.78	0.78	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		202		171	199		692	2748	1229	580	2736	
v/s Ratio Prot					0.00			c0.18			0.14	
v/s Ratio Perm		0.01		c0.08			0.02		0.09	0.09		
v/c Ratio		0.04		0.65	0.04		0.03	0.24	0.12	0.12	0.17	
Uniform Delay, d1		34.8		37.6	34.7		2.3	2.8	2.5	2.5	2.6	
Progression Factor		1.00		1.00	1.00		2.64	2.90	9.27	1.47	1.39	
Incremental Delay, d2		0.1		8.2	0.1		0.1	0.2	0.2	0.1	0.0	
Delay (s)		34.9		45.8	34.8		6.1	8.2	23.1	3.7	3.6	
Level of Service		C		D	C		A	A	C	A	A	
Approach Delay (s)		34.9			43.5			11.3			3.7	
Approach LOS		C			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	44.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	55	43	441	139	46	554
Future Volume (Veh/h)	55	43	441	139	46	554
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	60	47	479	151	50	602
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						529
pX, platoon unblocked						
vC, conflicting volume	956	315			630	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	956	315			630	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	75	93			95	
cM capacity (veh/h)	243	681			948	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	60	47	319	311	50	301	301
Volume Left	60	0	0	0	50	0	0
Volume Right	0	47	0	151	0	0	0
cSH	243	681	1700	1700	948	1700	1700
Volume to Capacity	0.25	0.07	0.19	0.18	0.05	0.18	0.18
Queue Length 95th (ft)	24	6	0	0	4	0	0
Control Delay (s)	24.6	10.7	0.0	0.0	9.0	0.0	0.0
Lane LOS	C	B			A		
Approach Delay (s)	18.5		0.0		0.7		
Approach LOS	C						

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	33.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	654	59	83	1338	80	56
Future Volume (vph)	654	59	83	1338	80	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3495		1770	3539	1770	1583
Flt Permitted	1.00		0.31	1.00	0.95	1.00
Satd. Flow (perm)	3495		576	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	711	64	90	1454	87	61
RTOR Reduction (vph)	12	0	0	0	0	40
Lane Group Flow (vph)	763	0	90	1454	87	21
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Actuated Green, G (s)	30.5		30.5	30.5	20.5	20.5
Effective Green, g (s)	30.5		30.5	30.5	20.5	20.5
Actuated g/C Ratio	0.51		0.51	0.51	0.34	0.34
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1776		292	1798	604	540
v/s Ratio Prot	0.22			c0.41	c0.05	
v/s Ratio Perm			0.16			0.01
v/c Ratio	0.43		0.31	0.81	0.14	0.04
Uniform Delay, d1	9.3		8.6	12.3	13.7	13.2
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2		0.6	2.8	0.5	0.1
Delay (s)	9.4		9.2	15.1	14.2	13.3
Level of Service	A		A	B	B	B
Approach Delay (s)	9.4			14.8	13.8	
Approach LOS	A			B	B	

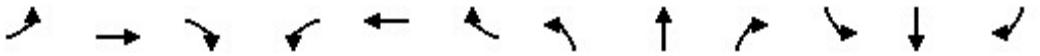
Intersection Summary			
HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	48.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	18	658	0	0	1413
Future Volume (Veh/h)	0	18	658	0	0	1413
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	20	715	0	0	1536
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			306			385
pX, platoon unblocked	0.71	0.89			0.89	
vC, conflicting volume	1483	358			715	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	192	38			439	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			100	
cM capacity (veh/h)	555	915			997	

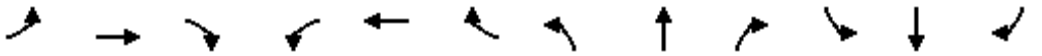
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	20	358	358	768	768
Volume Left	0	0	0	0	0
Volume Right	20	0	0	0	0
cSH	915	1700	1700	1700	1700
Volume to Capacity	0.02	0.21	0.21	0.45	0.45
Queue Length 95th (ft)	2	0	0	0	0
Control Delay (s)	9.0	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	9.0	0.0		0.0	
Approach LOS	A				

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	42.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	615	66	49	93	0	168	0	1258	172	140	757	0
Future Volume (vph)	615	66	49	93	0	168	0	1258	172	140	757	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5	4.5	
Lane Util. Factor	0.97	1.00	1.00	1.00		1.00		0.95	1.00	1.00	0.91	
Frt	1.00	1.00	0.85	1.00		0.85		1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1863	1583	1770		1583		3539	1583	1770	5085	
Flt Permitted	0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1863	1583	1770		1583		3539	1583	1770	5085	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	668	72	53	101	0	183	0	1367	187	152	823	0
RTOR Reduction (vph)	0	0	42	0	0	0	0	0	78	0	0	0
Lane Group Flow (vph)	668	72	11	101	0	183	0	1367	109	152	823	0
Turn Type	Split	NA	Perm	Prot		Prot		NA	Perm	Prot	NA	
Protected Phases	3	3		4		4		6		5	2	
Permitted Phases			3						6			
Actuated Green, G (s)	18.5	18.5	18.5	10.5		10.5		35.0	35.0	8.0	47.5	
Effective Green, g (s)	18.5	18.5	18.5	10.5		10.5		35.0	35.0	8.0	47.5	
Actuated g/C Ratio	0.21	0.21	0.21	0.12		0.12		0.39	0.39	0.09	0.53	
Clearance Time (s)	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5	4.5	
Lane Grp Cap (vph)	705	382	325	206		184		1376	615	157	2683	
v/s Ratio Prot	c0.19	0.04		0.06		c0.12		c0.39		c0.09	0.16	
v/s Ratio Perm			0.01						0.07			
v/c Ratio	0.95	0.19	0.03	0.49		0.99		0.99	0.18	0.97	0.31	
Uniform Delay, d1	35.3	29.5	28.6	37.2		39.7		27.4	18.1	40.9	12.0	
Progression Factor	0.94	0.90	1.00	1.08		1.08		1.30	2.48	1.26	0.80	
Incremental Delay, d2	19.6	0.9	0.1	7.9		63.9		19.7	0.5	61.3	0.3	
Delay (s)	52.8	27.4	28.7	48.1		106.6		55.2	45.3	112.9	9.9	
Level of Service	D	C	C	D		F		E	D	F	A	
Approach Delay (s)		48.9			85.8			54.0			26.0	
Approach LOS		D			F			D			C	

Intersection Summary			
HCM 2000 Control Delay	47.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	357	46	17	1	46	298	20	463	19	116	20	172
Future Volume (vph)	357	46	17	1	46	298	20	463	19	116	20	172
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	4.5
Lane Util. Factor	0.97	1.00		1.00	0.95			0.95			1.00	1.00
Frt	1.00	0.96		1.00	0.87			0.99			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.96	1.00
Satd. Flow (prot)	3433	1789		1770	3079			3512			1787	1583
Flt Permitted	0.95	1.00		0.71	1.00			1.00			0.96	1.00
Satd. Flow (perm)	3433	1789		1328	3079			3512			1787	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	388	50	18	1	50	324	22	503	21	126	22	187
RTOR Reduction (vph)	0	9	0	0	237	0	0	3	0	0	0	131
Lane Group Flow (vph)	388	59	0	1	137	0	0	543	0	0	148	56
Turn Type	Prot	NA		Perm	NA		Split	NA		Split	NA	custom
Protected Phases	5	2			6		3	3		4	4	4
Permitted Phases				6								5
Actuated Green, G (s)	14.8	43.6		24.3	24.3			20.7			12.2	27.0
Effective Green, g (s)	14.8	43.6		24.3	24.3			20.7			12.2	27.0
Actuated g/C Ratio	0.16	0.48		0.27	0.27			0.23			0.14	0.30
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	564	866		358	831			807			242	554
v/s Ratio Prot	c0.11	0.03			c0.04			c0.15			c0.08	0.01
v/s Ratio Perm				0.00								0.02
v/c Ratio	0.69	0.07		0.00	0.17			0.67			0.61	0.10
Uniform Delay, d1	35.4	12.4		24.0	25.1			31.6			36.7	22.7
Progression Factor	1.32	0.44		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	3.2	0.1		0.0	0.1			4.5			4.5	0.1
Delay (s)	50.1	5.6		24.0	25.2			36.0			41.2	22.8
Level of Service	D	A		C	C			D			D	C
Approach Delay (s)		43.5			25.2			36.0			30.9	
Approach LOS		D			C			D			C	

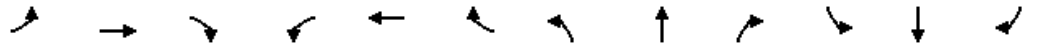
Intersection Summary			
HCM 2000 Control Delay	34.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	162	19	53	245	100	163
Future Volume (vph)	162	19	53	245	100	163
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	176	21	58	266	109	177

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2
Volume Total (vph)	197	58	266	109	177
Volume Left (vph)	0	58	0	109	0
Volume Right (vph)	21	0	0	0	177
Hadj (s)	-0.03	0.53	0.03	0.53	-0.67
Departure Headway (s)	5.5	6.1	5.6	6.4	5.2
Degree Utilization, x	0.30	0.10	0.41	0.19	0.26
Capacity (veh/h)	622	565	622	531	648
Control Delay (s)	10.8	8.5	11.2	9.7	8.8
Approach Delay (s)	10.8	10.7		9.1	
Approach LOS	B	B		A	

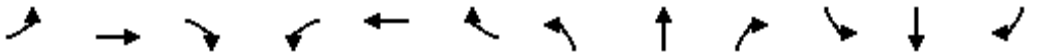
Intersection Summary			
Delay	10.2		
Level of Service	B		
Intersection Capacity Utilization	28.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	256	5	64	6	6	14	52	623	7	7	259	240
Future Volume (vph)	256	5	64	6	6	14	52	623	7	7	259	240
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	278	5	70	7	7	15	57	677	8	8	282	261

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total (vph)	353	29	57	677	8	8	282	261
Volume Left (vph)	278	7	57	0	0	8	0	0
Volume Right (vph)	70	15	0	0	8	0	0	261
Hadj (s)	0.07	-0.23	0.53	0.03	-0.67	0.53	0.03	-0.67
Departure Headway (s)	6.6	7.4	7.0	6.5	3.2	7.4	6.9	3.2
Degree Utilization, x	0.64	0.06	0.11	1.22	0.01	0.02	0.54	0.23
Capacity (veh/h)	532	433	506	563	1121	471	498	1122
Control Delay (s)	20.6	10.8	9.6	133.3	5.0	9.3	16.4	6.0
Approach Delay (s)	20.6	10.8	122.4			11.4		
Approach LOS	C	B	F			B		

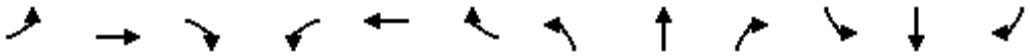
Intersection Summary				
Delay	62.5			
Level of Service	F			
Intersection Capacity Utilization	71.1%	ICU Level of Service		C
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	256	458	200	30	162	96	91	1005	0	77	750	316
Future Volume (vph)	256	458	200	30	162	96	91	1005	0	77	750	316
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.95		1.00	0.94		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3378		1770	3342		1770	3539		1770	3539	1583
Flt Permitted	0.35	1.00		0.38	1.00		0.34	1.00		0.95	1.00	1.00
Satd. Flow (perm)	650	3378		708	3342		641	3539		1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	278	498	217	33	176	104	99	1092	0	84	815	343
RTOR Reduction (vph)	0	60	0	0	0	0	0	0	0	0	0	180
Lane Group Flow (vph)	278	655	0	33	280	0	99	1092	0	84	815	163
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4			6					2
Actuated Green, G (s)	28.8	28.8		12.8	12.8		40.0	40.0		7.7	42.8	42.8
Effective Green, g (s)	28.8	28.8		12.8	12.8		40.0	40.0		7.7	42.8	42.8
Actuated g/C Ratio	0.32	0.32		0.14	0.14		0.44	0.44		0.09	0.48	0.48
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	351	1080		100	475		346	1572		151	1682	752
v/s Ratio Prot	c0.10	0.19			0.08		0.02	c0.31		0.05	c0.23	
v/s Ratio Perm	c0.15			0.05			0.11					0.10
v/c Ratio	0.79	0.61		0.33	0.59		0.29	0.69		0.56	0.48	0.22
Uniform Delay, d1	25.0	25.8		34.7	36.1		16.4	20.1		39.5	16.1	13.8
Progression Factor	0.61	0.48		1.00	1.00		0.66	0.73		1.36	0.61	0.31
Incremental Delay, d2	10.4	0.9		1.9	1.9		0.4	2.2		4.3	1.0	0.6
Delay (s)	25.8	13.3		36.7	38.0		11.2	16.8		58.1	10.7	4.9
Level of Service	C	B		D	D		B	B		E	B	A
Approach Delay (s)		16.8			37.9			16.3			12.3	
Approach LOS		B			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	16.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		

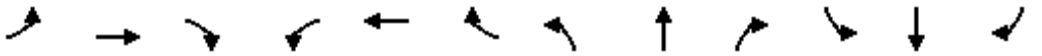
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	66	42	111	14	66	28	97	168	20	13	33	26
Future Volume (vph)	66	42	111	14	66	28	97	168	20	13	33	26
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	72	46	121	15	72	30	105	183	22	14	36	28

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total (vph)	118	121	117	310	78
Volume Left (vph)	72	0	15	105	14
Volume Right (vph)	0	121	30	22	28
Hadj (s)	0.34	-0.67	-0.09	0.06	-0.15
Departure Headway (s)	6.0	5.0	5.3	5.0	5.1
Degree Utilization, x	0.20	0.17	0.17	0.43	0.11
Capacity (veh/h)	560	672	622	690	636
Control Delay (s)	9.3	7.8	9.4	11.7	8.8
Approach Delay (s)	8.5		9.4	11.7	8.8
Approach LOS	A		A	B	A

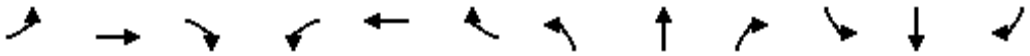
Intersection Summary				
Delay	10.0			
Level of Service	A			
Intersection Capacity Utilization	41.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	328	493	118	0	279	15	69	753	149	42	812	126
Future Volume (vph)	328	493	118	0	279	15	69	753	149	42	812	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.97			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3437			3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.33	1.00			1.00	1.00	0.24	1.00	1.00	0.27	1.00	1.00
Satd. Flow (perm)	614	3437			3539	1583	447	3539	1583	498	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	357	536	128	0	303	16	75	818	162	46	883	137
RTOR Reduction (vph)	0	26	0	0	0	0	0	0	82	0	0	41
Lane Group Flow (vph)	357	638	0	0	303	16	75	818	80	46	883	96
Turn Type	pm+pt	NA			NA	Perm	Perm	NA	Perm	Perm	NA	pm+ov
Protected Phases	7	4			8			2			6	7
Permitted Phases	4					8	2		2	6		6
Actuated Green, G (s)	36.5	36.5			13.3	13.3	44.5	44.5	44.5	44.5	44.5	63.2
Effective Green, g (s)	36.5	36.5			13.3	13.3	44.5	44.5	44.5	44.5	44.5	63.2
Actuated g/C Ratio	0.41	0.41			0.15	0.15	0.49	0.49	0.49	0.49	0.49	0.70
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	489	1393			522	233	221	1749	782	246	1749	1190
v/s Ratio Prot	c0.15	0.19			0.09			0.23			c0.25	0.02
v/s Ratio Perm	c0.14					0.01	0.17		0.05	0.09		0.04
v/c Ratio	0.73	0.46			0.58	0.07	0.34	0.47	0.10	0.19	0.50	0.08
Uniform Delay, d1	20.4	19.5			35.7	33.0	13.8	15.0	12.1	12.7	15.3	4.2
Progression Factor	0.60	0.53			1.40	1.52	1.00	1.00	1.00	0.70	0.66	0.17
Incremental Delay, d2	4.9	0.2			1.2	0.1	4.1	0.9	0.3	1.5	0.9	0.0
Delay (s)	17.1	10.5			51.5	50.4	17.9	15.9	12.4	10.4	11.0	0.8
Level of Service	B	B			D	D	B	B	B	B	B	A
Approach Delay (s)		12.8			51.4			15.5			9.7	
Approach LOS		B			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	16.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	67.5%	ICU Level of Service	C
Analysis Period (min)	15		

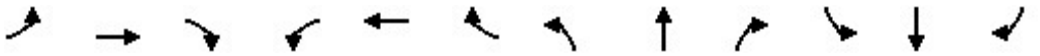
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	599	23	81	317	79	6	80	235	83	28	30
Future Volume (vph)	73	599	23	81	317	79	6	80	235	83	28	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5			4.5			4.5	
Lane Util. Factor		0.95	1.00		0.95			1.00			1.00	
Frt		1.00	0.85		0.98			0.90			0.97	
Flt Protected		0.99	1.00		0.99			1.00			0.97	
Satd. Flow (prot)		3520	1583		3422			1677			1757	
Flt Permitted		0.99	1.00		0.99			0.99			0.52	
Satd. Flow (perm)		3520	1583		3422			1671			948	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	79	651	25	88	345	86	7	87	255	90	30	33
RTOR Reduction (vph)	0	0	16	0	19	0	0	108	0	0	11	0
Lane Group Flow (vph)	0	730	9	0	500	0	0	241	0	0	142	0
Turn Type	Split	NA	Perm	Split	NA		Perm	NA		Perm	NA	
Protected Phases	2	2		1	1			8			4	
Permitted Phases			2				8			4		
Actuated Green, G (s)		31.4	31.4		17.6			27.5			27.5	
Effective Green, g (s)		31.4	31.4		17.6			27.5			27.5	
Actuated g/C Ratio		0.35	0.35		0.20			0.31			0.31	
Clearance Time (s)		4.5	4.5		4.5			4.5			4.5	
Vehicle Extension (s)		3.0	3.0		3.0			3.0			3.0	
Lane Grp Cap (vph)		1228	552		669			510			289	
v/s Ratio Prot		c0.21			c0.15							
v/s Ratio Perm			0.01					0.14			c0.15	
v/c Ratio		0.59	0.02		0.75			0.47			0.49	
Uniform Delay, d1		24.1	19.2		34.1			25.4			25.5	
Progression Factor		0.63	1.00		1.03			1.00			1.00	
Incremental Delay, d2		2.0	0.1		3.4			3.1			5.9	
Delay (s)		17.2	19.2		38.4			28.5			31.4	
Level of Service		B	B		D			C			C	
Approach Delay (s)		17.2			38.4			28.5			31.4	
Approach LOS		B			D			C			C	

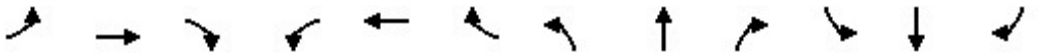
Intersection Summary			
HCM 2000 Control Delay	26.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	74.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



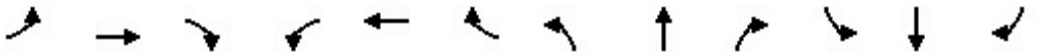
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	274	578	183	20	2021	0	0	623	25
Future Volume (vph)	0	0	0	274	578	183	20	2021	0	0	623	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5	4.5		4.5	4.5			4.5	
Lane Util. Factor				0.86	0.86		1.00	0.91			0.95	
Frt				1.00	0.97		1.00	1.00			0.99	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1522	4630		1770	5085			3519	
Flt Permitted				0.95	1.00		0.35	1.00			1.00	
Satd. Flow (perm)				1522	4630		649	5085			3519	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	298	628	199	22	2197	0	0	677	27
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	0	0	268	857	0	22	2197	0	0	701	0
Turn Type				Prot	NA		Perm	NA			NA	
Protected Phases				3	8			2			6	
Permitted Phases							2					
Actuated Green, G (s)				27.5	27.5		53.5	53.5			53.5	
Effective Green, g (s)				27.5	27.5		53.5	53.5			53.5	
Actuated g/C Ratio				0.31	0.31		0.59	0.59			0.59	
Clearance Time (s)				4.5	4.5		4.5	4.5			4.5	
Lane Grp Cap (vph)				465	1414		385	3022			2091	
v/s Ratio Prot				0.18	c0.19			c0.43			0.20	
v/s Ratio Perm							0.03					
v/c Ratio				0.58	0.61		0.06	0.73			0.34	
Uniform Delay, d1				26.3	26.6		7.7	13.0			9.2	
Progression Factor				1.00	1.00		1.00	0.80			1.00	
Incremental Delay, d2				5.1	1.9		0.1	0.4			0.4	
Delay (s)				31.5	28.6		7.8	10.8			9.7	
Level of Service				C	C		A	B			A	
Approach Delay (s)		0.0			29.3			10.8			9.7	
Approach LOS		A			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	62.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



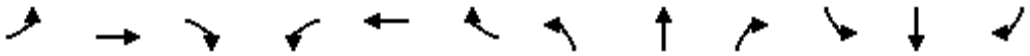
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	58	85	141	56	62	0	869	67	51	811	0
Future Volume (vph)	0	58	85	141	56	62	0	869	67	51	811	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00		0.95	1.00	1.00	0.95	
Frt		1.00	0.85	1.00	1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected		1.00	1.00	0.95	1.00	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1863	1583	1770	1863	1583		3539	1583	1770	3539	
Flt Permitted		1.00	1.00	0.72	1.00	1.00		1.00	1.00	0.17	1.00	
Satd. Flow (perm)		1863	1583	1334	1863	1583		3539	1583	324	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	63	92	153	61	67	0	945	73	55	882	0
RTOR Reduction (vph)	0	0	62	0	0	45	0	0	48	0	0	0
Lane Group Flow (vph)	0	63	30	153	61	22	0	945	25	55	882	0
Turn Type		NA	Perm	Perm	NA	Perm		NA	Perm	pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases			4	8		8			2	6		
Actuated Green, G (s)		18.0	18.0	18.0	18.0	18.0		18.5	18.5	28.0	28.0	
Effective Green, g (s)		18.0	18.0	18.0	18.0	18.0		18.5	18.5	28.0	28.0	
Actuated g/C Ratio		0.33	0.33	0.33	0.33	0.33		0.34	0.34	0.51	0.51	
Clearance Time (s)		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	
Lane Grp Cap (vph)		609	518	436	609	518		1190	532	296	1801	
v/s Ratio Prot		0.03			0.03			c0.27		0.02	c0.25	
v/s Ratio Perm			0.02	c0.11		0.01			0.02	0.08		
v/c Ratio		0.10	0.06	0.35	0.10	0.04		0.79	0.05	0.19	0.49	
Uniform Delay, d1		12.9	12.7	14.1	12.9	12.6		16.5	12.3	8.7	8.8	
Progression Factor		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.3	0.2	2.2	0.3	0.2		5.5	0.2	1.4	1.0	
Delay (s)		13.2	12.9	16.3	13.2	12.8		22.0	12.5	10.1	9.8	
Level of Service		B	B	B	B	B		C	B	B	A	
Approach Delay (s)		13.0			14.8			21.3			9.8	
Approach LOS		B			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	15.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	53.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	985	197	116	953	120	100	709	122	100	663	124
Future Volume (vph)	93	985	197	116	953	120	100	709	122	100	663	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	5000		1770	3539	1583	1770	3539	1583
Flt Permitted	0.23	1.00	1.00	0.10	1.00		0.19	1.00	1.00	0.16	1.00	1.00
Satd. Flow (perm)	430	3539	1583	191	5000		358	3539	1583	298	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	101	1071	214	126	1036	130	109	771	133	109	721	135
RTOR Reduction (vph)	0	0	47	0	17	0	0	0	92	0	0	91
Lane Group Flow (vph)	101	1071	167	126	1149	0	109	771	41	109	721	44
Turn Type	Perm	NA	pm+ov	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4	5	3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		6
Actuated Green, G (s)	34.5	34.5	40.0	45.5	45.5		31.4	25.9	25.9	30.6	25.5	25.5
Effective Green, g (s)	34.5	34.5	40.0	45.5	45.5		31.4	25.9	25.9	30.6	25.5	25.5
Actuated g/C Ratio	0.38	0.38	0.44	0.51	0.51		0.35	0.29	0.29	0.34	0.28	0.28
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	164	1356	703	210	2527		211	1018	455	184	1002	448
v/s Ratio Prot		c0.30	0.01	c0.04	0.23		0.03	c0.22		c0.03	0.20	
v/s Ratio Perm	0.24		0.09	0.26			0.15		0.03	0.17		0.03
v/c Ratio	0.62	0.79	0.24	0.60	0.45		0.52	0.76	0.09	0.59	0.72	0.10
Uniform Delay, d1	22.4	24.5	15.5	16.5	14.3		33.5	29.2	23.4	34.8	29.0	23.8
Progression Factor	0.59	0.58	0.49	1.00	1.00		1.00	1.00	1.00	0.67	0.54	0.34
Incremental Delay, d2	12.8	3.7	0.6	12.1	0.6		8.8	5.3	0.4	12.8	4.3	0.4
Delay (s)	26.1	18.0	8.2	28.5	14.9		42.2	34.5	23.8	36.2	19.9	8.6
Level of Service	C	B	A	C	B		D	C	C	D	B	A
Approach Delay (s)		17.1			16.2			33.9			20.1	
Approach LOS		B			B			C			C	

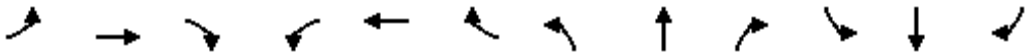
Intersection Summary			
HCM 2000 Control Delay	21.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	73.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	328	71	57	433	363	180	999	50	98	404	58
Future Volume (vph)	105	328	71	57	433	363	180	999	50	98	404	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3445		1770	3539	1583	1770	3539	1583	1770	4990	
Flt Permitted	0.35	1.00		0.38	1.00	1.00	0.46	1.00	1.00	0.20	1.00	
Satd. Flow (perm)	645	3445		703	3539	1583	853	3539	1583	373	4990	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	114	357	77	62	471	395	196	1086	54	107	439	63
RTOR Reduction (vph)	0	21	0	0	0	52	0	0	22	0	19	0
Lane Group Flow (vph)	114	413	0	62	471	343	196	1086	32	107	483	0
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8		8	2		2	6		
Actuated Green, G (s)	19.2	19.2		27.9	27.9	27.9	53.1	53.1	53.1	53.1	53.1	
Effective Green, g (s)	19.2	19.2		27.9	27.9	27.9	53.1	53.1	53.1	53.1	53.1	
Actuated g/C Ratio	0.21	0.21		0.31	0.31	0.31	0.59	0.59	0.59	0.59	0.59	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	137	734		267	1097	490	503	2088	933	220	2944	
v/s Ratio Prot		0.12		0.01	0.13			c0.31			0.10	
v/s Ratio Perm	c0.18			0.06		c0.22	0.23		0.02	0.29		
v/c Ratio	0.83	0.56		0.23	0.43	0.70	0.39	0.52	0.03	0.49	0.16	
Uniform Delay, d1	33.9	31.6		27.4	24.7	27.4	9.8	10.9	7.7	10.6	8.4	
Progression Factor	1.00	1.00		0.36	0.45	0.33	0.90	0.89	1.35	0.90	0.52	
Incremental Delay, d2	33.0	1.0		0.0	0.0	0.4	1.9	0.8	0.1	7.2	0.1	
Delay (s)	66.9	32.6		9.9	11.2	9.3	10.7	10.4	10.5	16.8	4.5	
Level of Service	E	C		A	B	A	B	B	B	B	A	
Approach Delay (s)		39.8			10.3			10.5			6.7	
Approach LOS		D			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	67.2%	ICU Level of Service	C
Analysis Period (min)	15		

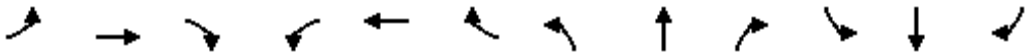
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	969	270	120	885	308	293	712	152	250	317	49
Future Volume (vph)	48	969	270	120	885	308	293	712	152	250	317	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3469	
Flt Permitted	0.14	1.00	1.00	0.14	1.00	1.00	0.38	1.00	1.00	0.19	1.00	
Satd. Flow (perm)	264	3539	1583	264	3539	1583	709	3539	1583	358	3469	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	52	1053	293	130	962	335	318	774	165	272	345	53
RTOR Reduction (vph)	0	0	191	0	0	203	0	0	125	0	14	0
Lane Group Flow (vph)	52	1053	102	130	962	132	318	774	40	272	384	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		
Actuated Green, G (s)	31.2	31.2	31.2	35.5	35.5	35.5	34.7	22.0	22.0	32.3	20.8	
Effective Green, g (s)	31.2	31.2	31.2	35.5	35.5	35.5	34.7	22.0	22.0	32.3	20.8	
Actuated g/C Ratio	0.35	0.35	0.35	0.39	0.39	0.39	0.39	0.24	0.24	0.36	0.23	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	141	1226	548	226	1395	624	423	865	386	308	801	
v/s Ratio Prot	0.01	c0.30		0.05	c0.27		0.11	c0.22		c0.11	0.11	
v/s Ratio Perm	0.11		0.06	0.18		0.08	0.18		0.03	0.20		
v/c Ratio	0.37	0.86	0.19	0.58	0.69	0.21	0.75	0.89	0.10	0.88	0.48	
Uniform Delay, d1	22.4	27.4	20.5	31.9	22.7	18.0	21.0	32.9	26.4	23.3	29.9	
Progression Factor	0.41	0.43	0.02	0.79	0.72	0.30	0.73	0.70	0.38	1.12	0.75	
Incremental Delay, d2	1.2	6.0	0.5	2.5	2.0	0.5	6.6	10.5	0.1	23.0	0.4	
Delay (s)	10.4	17.8	0.9	27.6	18.4	5.9	22.0	33.4	10.3	49.1	22.9	
Level of Service	B	B	A	C	B	A	C	C	B	D	C	
Approach Delay (s)		14.0			16.3			27.5			33.5	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	21.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	82.0%	ICU Level of Service	D
Analysis Period (min)	15		

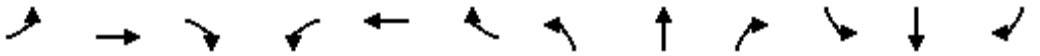
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	158	73	84	160	131	533	45	459	70	308	238	130
Future Volume (vph)	158	73	84	160	131	533	45	459	70	308	238	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	0.91	0.91		1.00	1.00	1.00	0.97	0.95	1.00	0.97	0.95	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	0.99		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1610	3150		1770	1863	1583	3433	3539	1583	3433	3352	
Flt Permitted	0.67	0.83		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1130	2643		1770	1863	1583	3433	3539	1583	3433	3352	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	172	79	91	174	142	579	49	499	76	335	259	141
RTOR Reduction (vph)	0	77	0	0	0	344	0	0	52	0	68	0
Lane Group Flow (vph)	107	158	0	174	142	235	49	499	24	335	332	0
Turn Type	Perm	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4					8			2			
Actuated Green, G (s)	13.4	13.4		13.5	31.4	31.4	3.8	28.8	28.8	16.3	41.3	
Effective Green, g (s)	13.4	13.4		13.5	31.4	31.4	3.8	28.8	28.8	16.3	41.3	
Actuated g/C Ratio	0.15	0.15		0.15	0.35	0.35	0.04	0.32	0.32	0.18	0.46	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	168	393		265	649	552	144	1132	506	621	1538	
v/s Ratio Prot				c0.10	0.08		0.01	c0.14		c0.10	0.10	
v/s Ratio Perm	c0.09	0.06				0.15			0.02			
v/c Ratio	0.64	0.40		0.66	0.22	0.42	0.34	0.44	0.05	0.54	0.22	
Uniform Delay, d1	36.0	34.7		36.1	20.7	22.4	41.9	24.2	21.1	33.4	14.6	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.85	0.82	
Incremental Delay, d2	7.7	0.7		5.8	0.2	0.5	1.4	1.2	0.2	0.8	0.3	
Delay (s)	43.7	35.3		41.8	20.8	22.9	43.3	25.5	21.3	29.2	12.3	
Level of Service	D	D		D	C	C	D	C	C	C	B	
Approach Delay (s)		38.0			26.3			26.4			20.0	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	26.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	63.1%	ICU Level of Service	B
Analysis Period (min)	15		

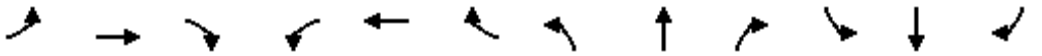
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	233	242	1	0	658	370	5	672	36	192	281	190
Future Volume (vph)	233	242	1	0	658	370	5	672	36	192	281	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95			0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00			0.95		1.00	0.99		1.00	0.94	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3537			3348		1770	3512		1770	3325	
Flt Permitted	0.95	1.00			1.00		0.41	1.00		0.26	1.00	
Satd. Flow (perm)	1770	3537			3348		755	3512		481	3325	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	253	263	1	0	715	402	5	730	39	209	305	207
RTOR Reduction (vph)	0	1	0	0	86	0	0	4	0	0	120	0
Lane Group Flow (vph)	253	263	0	0	1031	0	5	765	0	209	392	0
Turn Type	Prot	NA			NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	16.3	43.3			22.5		37.7	37.7		37.7	37.7	
Effective Green, g (s)	16.3	43.3			22.5		37.7	37.7		37.7	37.7	
Actuated g/C Ratio	0.18	0.48			0.25		0.42	0.42		0.42	0.42	
Clearance Time (s)	4.5	4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	320	1701			837		316	1471		201	1392	
v/s Ratio Prot	c0.14	0.07			c0.31			0.22			0.12	
v/s Ratio Perm							0.01			c0.43		
v/c Ratio	0.79	0.15			1.23		0.02	0.52		1.04	0.28	
Uniform Delay, d1	35.2	13.1			33.8		15.3	19.4		26.1	17.2	
Progression Factor	0.78	0.59			0.37		1.00	1.00		1.00	1.00	
Incremental Delay, d2	11.5	0.0			111.5		0.1	1.3		74.3	0.5	
Delay (s)	39.0	7.8			123.9		15.4	20.7		100.5	17.7	
Level of Service	D	A			F		B	C		F	B	
Approach Delay (s)		23.1			123.9			20.7			41.7	
Approach LOS		C			F			C			D	

Intersection Summary			
HCM 2000 Control Delay	62.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	88.3%	ICU Level of Service	E
Analysis Period (min)	15		

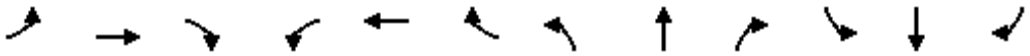
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	97	182	33	200	27	542	897	28	9	345	103
Future Volume (vph)	110	97	182	33	200	27	542	897	28	9	345	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1830		1770	3523		1770	4910	
Flt Permitted	0.37	1.00	1.00	0.69	1.00		0.43	1.00		0.22	1.00	
Satd. Flow (perm)	686	1863	1583	1284	1830		801	3523		403	4910	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	120	105	198	36	217	29	589	975	30	10	375	112
RTOR Reduction (vph)	0	0	159	0	6	0	0	2	0	0	54	0
Lane Group Flow (vph)	120	105	39	36	240	0	589	1003	0	10	433	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	17.7	17.7	17.7	17.7	17.7		63.3	63.3		27.3	27.3	
Effective Green, g (s)	17.7	17.7	17.7	17.7	17.7		63.3	63.3		27.3	27.3	
Actuated g/C Ratio	0.20	0.20	0.20	0.20	0.20		0.70	0.70		0.30	0.30	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	134	366	311	252	359		902	2477		122	1489	
v/s Ratio Prot		0.06			0.13		c0.23	0.28			0.09	
v/s Ratio Perm	c0.17		0.02	0.03			c0.23			0.02		
v/c Ratio	0.90	0.29	0.13	0.14	0.67		0.65	0.40		0.08	0.29	
Uniform Delay, d1	35.2	30.8	29.8	29.9	33.4		10.3	5.5		22.4	24.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.35	0.34		1.00	1.00	
Incremental Delay, d2	47.3	0.4	0.2	0.3	4.7		1.4	0.4		1.3	0.5	
Delay (s)	82.5	31.2	30.0	30.1	38.1		5.1	2.3		23.7	24.4	
Level of Service	F	C	C	C	D		A	A		C	C	
Approach Delay (s)		45.2			37.1			3.3			24.4	
Approach LOS		D			D			A			C	

Intersection Summary			
HCM 2000 Control Delay	16.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	72.3%	ICU Level of Service	C
Analysis Period (min)	15		

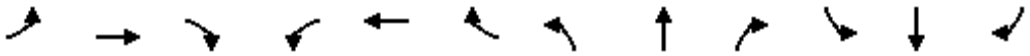
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	82	0	0	0	102	1133	658	0	711	52
Future Volume (Veh/h)	0	0	82	0	0	0	102	1133	658	0	711	52
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	89	0	0	0	111	1232	715	0	773	57
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								206			797	
pX, platoon unblocked	0.77	0.77		0.77	0.77	0.77				0.77		
vC, conflicting volume	1640	2256	286	1801	2284	616	830			1232		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1235	2034	286	1444	2071	0	830			707		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	87	100	100	100	86			100		
cM capacity (veh/h)	91	37	711	56	35	836	798			684		

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	89	111	616	616	715	309	309	212
Volume Left	0	111	0	0	0	0	0	0
Volume Right	89	0	0	0	715	0	0	57
cSH	711	798	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.13	0.14	0.36	0.36	0.42	0.18	0.18	0.12
Queue Length 95th (ft)	11	12	0	0	0	0	0	0
Control Delay (s)	10.8	10.2	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	B						
Approach Delay (s)	10.8	0.6				0.0		
Approach LOS	B							

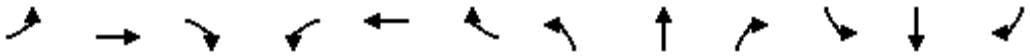
Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	44.1%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	947	22	34	64	0	40	0	906	16	4	789	0
Future Volume (vph)	947	22	34	64	0	40	0	906	16	4	789	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5		4.5		4.5		4.5	4.5	
Lane Util. Factor	0.97	1.00		1.00		1.00		0.91		1.00	0.91	
Frt	1.00	0.91		1.00		0.85		1.00		1.00	1.00	
Flt Protected	0.95	1.00		0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)	3433	1693		1770		1583		5072		1770	5085	
Flt Permitted	0.95	1.00		0.95		1.00		1.00		0.23	1.00	
Satd. Flow (perm)	3433	1693		1770		1583		5072		421	5085	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1029	24	37	70	0	43	0	985	17	4	858	0
RTOR Reduction (vph)	0	32	0	0	0	41	0	2	0	0	0	0
Lane Group Flow (vph)	1029	29	0	70	0	2	0	1000	0	4	858	0
Turn Type	pm+pt	NA		Prot		Perm		NA		Perm	NA	
Protected Phases	7	4		3				2			6	
Permitted Phases	4					8				6		
Actuated Green, G (s)	29.8	11.5		21.9		3.6		43.1		43.1	43.1	
Effective Green, g (s)	29.8	11.5		21.9		3.6		43.1		43.1	43.1	
Actuated g/C Ratio	0.33	0.13		0.24		0.04		0.48		0.48	0.48	
Clearance Time (s)	4.5	4.5		4.5		4.5		4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	1136	216		430		63		2428		201	2435	
v/s Ratio Prot	c0.30	0.02		c0.04				c0.20			0.17	
v/s Ratio Perm						0.00				0.01		
v/c Ratio	0.91	0.13		0.16		0.03		0.41		0.02	0.35	
Uniform Delay, d1	28.8	34.8		26.8		41.5		15.2		12.3	14.7	
Progression Factor	0.41	1.04		1.00		1.00		0.40		0.80	0.81	
Incremental Delay, d2	7.4	0.2		0.2		0.2		0.4		0.2	0.4	
Delay (s)	19.2	36.4		27.0		41.7		6.4		10.1	12.4	
Level of Service	B	D		C		D		A		B	B	
Approach Delay (s)		20.2			32.6			6.4			12.3	
Approach LOS		C			C			A			B	

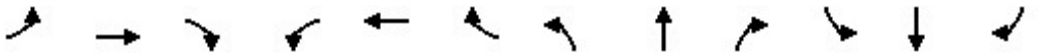
Intersection Summary			
HCM 2000 Control Delay	14.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



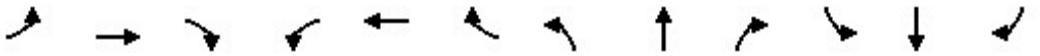
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	1029	0	0	1230	23	423	900	246	0	0	0
Future Volume (vph)	80	1029	0	0	1230	23	423	900	246	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5		4.5	4.5				
Lane Util. Factor	1.00	0.95			0.91		0.86	0.86				
Frt	1.00	1.00			1.00		1.00	0.97				
Flt Protected	0.95	1.00			1.00		0.95	1.00				
Satd. Flow (prot)	1770	3539			5071		1522	4649				
Flt Permitted	0.14	1.00			1.00		0.95	1.00				
Satd. Flow (perm)	263	3539			5071		1522	4649				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	1118	0	0	1337	25	460	978	267	0	0	0
RTOR Reduction (vph)	0	0	0	0	2	0	0	40	0	0	0	0
Lane Group Flow (vph)	87	1118	0	0	1360	0	414	1251	0	0	0	0
Turn Type	Perm	NA			NA		pm+pt	NA				
Protected Phases		4			8		6	2				
Permitted Phases	4						2					
Actuated Green, G (s)	47.5	47.5			47.5		33.5	33.5				
Effective Green, g (s)	47.5	47.5			47.5		33.5	33.5				
Actuated g/C Ratio	0.53	0.53			0.53		0.37	0.37				
Clearance Time (s)	4.5	4.5			4.5		4.5	4.5				
Lane Grp Cap (vph)	138	1867			2676		566	1730				
v/s Ratio Prot		0.32			0.27		c0.27	0.27				
v/s Ratio Perm	c0.33											
v/c Ratio	0.63	0.60			0.51		0.73	0.72				
Uniform Delay, d1	15.0	14.7			13.7		24.4	24.3				
Progression Factor	1.00	1.00			0.72		1.00	1.00				
Incremental Delay, d2	19.9	1.4			0.6		8.1	2.7				
Delay (s)	34.9	16.1			10.5		32.5	26.9				
Level of Service	C	B			B		C	C				
Approach Delay (s)		17.5			10.5			28.3			0.0	
Approach LOS		B			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	19.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	63.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



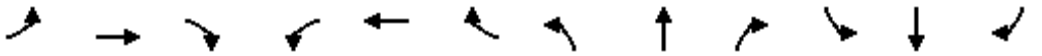
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	98	504	21	193	855	0	0	157	40
Future Volume (vph)	0	0	0	98	504	21	193	855	0	0	157	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.5		4.5	4.5			4.5	
Lane Util. Factor					0.91		1.00	0.95			0.95	
Frt					0.99		1.00	1.00			0.97	
Flt Protected					0.99		0.95	1.00			1.00	
Satd. Flow (prot)					5020		1770	3539			3433	
Flt Permitted					0.99		0.62	1.00			1.00	
Satd. Flow (perm)					5020		1151	3539			3433	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	107	548	23	210	929	0	0	171	43
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	0	0	19	0
Lane Group Flow (vph)	0	0	0	0	674	0	210	929	0	0	195	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8			2					
Actuated Green, G (s)					30.5		50.5	50.5			50.5	
Effective Green, g (s)					30.5		50.5	50.5			50.5	
Actuated g/C Ratio					0.34		0.56	0.56			0.56	
Clearance Time (s)					4.5		4.5	4.5			4.5	
Lane Grp Cap (vph)					1701		645	1985			1926	
v/s Ratio Prot								c0.26			0.06	
v/s Ratio Perm					0.13		0.18					
v/c Ratio					0.40		0.33	0.47			0.10	
Uniform Delay, d1					22.7		10.6	11.8			9.2	
Progression Factor					0.14		0.53	0.51			1.00	
Incremental Delay, d2					0.6		1.0	0.6			0.1	
Delay (s)					3.8		6.7	6.6			9.3	
Level of Service					A		A	A			A	
Approach Delay (s)		0.0			3.8			6.6			9.3	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	59.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



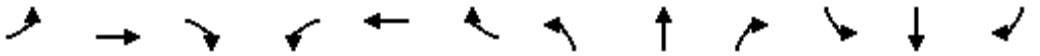
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	294	21	0	0	0	0	965	436	0	256	0
Future Volume (vph)	83	294	21	0	0	0	0	965	436	0	256	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5						4.5			4.5	
Lane Util. Factor		0.95						0.95			0.95	
Frt		0.99						0.95			1.00	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		3475						3374			3539	
Flt Permitted		0.99						1.00			1.00	
Satd. Flow (perm)		3475						3374			3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	90	320	23	0	0	0	0	1049	474	0	278	0
RTOR Reduction (vph)	0	5	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	428	0	0	0	0	0	1523	0	0	278	0
Turn Type	Perm	NA						NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4											
Actuated Green, G (s)		19.5						61.5			61.5	
Effective Green, g (s)		19.5						61.5			61.5	
Actuated g/C Ratio		0.22						0.68			0.68	
Clearance Time (s)		4.5						4.5			4.5	
Lane Grp Cap (vph)		752						2305			2418	
v/s Ratio Prot								c0.45			0.08	
v/s Ratio Perm		0.12										
v/c Ratio		0.57						0.66			0.11	
Uniform Delay, d1		31.5						8.2			4.9	
Progression Factor		1.00						0.65			1.58	
Incremental Delay, d2		3.1						1.1			0.1	
Delay (s)		34.6						6.5			7.8	
Level of Service		C						A			A	
Approach Delay (s)		34.6			0.0			6.5			7.8	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	12.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	59.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	707	116	74	422	249	152	1135	75	88	407	166
Future Volume (vph)	126	707	116	74	422	249	152	1135	75	88	407	166
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.98		1.00	0.94		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3464		1770	3342		1770	3506		1770	3539	1583
Flt Permitted	0.25	1.00		0.16	1.00		0.48	1.00		0.12	1.00	1.00
Satd. Flow (perm)	459	3464		304	3342		892	3506		217	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	137	768	126	80	459	271	165	1234	82	96	442	180
RTOR Reduction (vph)	0	15	0	0	32	0	0	6	0	0	0	83
Lane Group Flow (vph)	137	879	0	80	698	0	165	1310	0	96	442	97
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	32.5	32.5		32.5	32.5		48.5	48.5		48.5	48.5	48.5
Effective Green, g (s)	32.5	32.5		32.5	32.5		48.5	48.5		48.5	48.5	48.5
Actuated g/C Ratio	0.36	0.36		0.36	0.36		0.54	0.54		0.54	0.54	0.54
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Grp Cap (vph)	165	1250		109	1206		480	1889		116	1907	853
v/s Ratio Prot		0.25			0.21			0.37			0.12	
v/s Ratio Perm	c0.30			0.26			0.18			c0.44		0.06
v/c Ratio	0.83	0.70		0.73	0.58		0.34	0.69		0.83	0.23	0.11
Uniform Delay, d1	26.2	24.6		25.0	23.2		11.7	15.3		17.3	10.9	10.2
Progression Factor	1.00	1.00		0.70	0.67		0.50	0.44		1.07	0.71	0.21
Incremental Delay, d2	36.2	3.3		34.5	2.0		1.5	1.6		46.5	0.3	0.3
Delay (s)	62.4	28.0		52.1	17.5		7.4	8.3		65.1	8.1	2.4
Level of Service	E	C		D	B		A	A		E	A	A
Approach Delay (s)		32.5			20.9			8.2			14.3	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	18.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	81.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

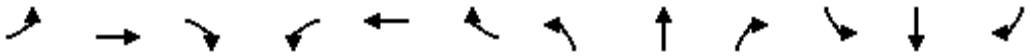


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	114	843	129	96	493	241	140	1055	86	87	470	179
Future Volume (vph)	114	843	129	96	493	241	140	1055	86	87	470	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.99		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3469		1770	3539	1583	1770	3499		1770	3393	
Flt Permitted	0.39	1.00		0.14	1.00	1.00	0.31	1.00		0.11	1.00	
Satd. Flow (perm)	728	3469		255	3539	1583	586	3499		204	3393	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	124	916	140	104	536	262	152	1147	93	95	511	195
RTOR Reduction (vph)	0	13	0	0	0	25	0	7	0	0	44	0
Lane Group Flow (vph)	124	1043	0	104	536	237	152	1233	0	95	662	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	37.9	37.9		37.9	37.9	37.9	43.1	43.1		43.1	43.1	
Effective Green, g (s)	37.9	37.9		37.9	37.9	37.9	43.1	43.1		43.1	43.1	
Actuated g/C Ratio	0.42	0.42		0.42	0.42	0.42	0.48	0.48		0.48	0.48	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)	306	1460		107	1490	666	280	1675		97	1624	
v/s Ratio Prot		0.30			0.15			0.35			0.20	
v/s Ratio Perm	0.17			c0.41		0.15	0.26			c0.47		
v/c Ratio	0.41	0.71		0.97	0.36	0.36	0.54	0.74		0.98	0.41	
Uniform Delay, d1	18.2	21.6		25.5	17.8	17.7	16.5	18.9		23.0	15.2	
Progression Factor	1.00	1.00		0.53	0.42	0.32	1.00	1.00		0.82	0.79	
Incremental Delay, d2	3.9	3.0		74.7	0.6	1.3	7.4	2.9		84.4	0.7	
Delay (s)	22.1	24.6		88.3	8.0	7.0	23.9	21.8		103.2	12.7	
Level of Service	C	C		F	A	A	C	C		F	B	
Approach Delay (s)		24.3			17.0			22.0			23.4	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	21.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	84.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

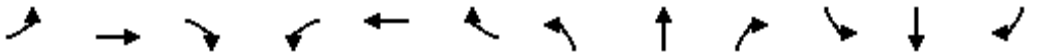
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	761	107	98	472	314	285
Future Volume (vph)	761	107	98	472	314	285
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	0.97	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3474		1770	3539	3433	1583
Flt Permitted	1.00		0.24	1.00	0.95	1.00
Satd. Flow (perm)	3474		454	3539	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	827	116	107	513	341	310
RTOR Reduction (vph)	12	0	0	0	0	110
Lane Group Flow (vph)	931	0	107	513	341	200
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Actuated Green, G (s)	51.5		51.5	51.5	29.5	29.5
Effective Green, g (s)	51.5		51.5	51.5	29.5	29.5
Actuated g/C Ratio	0.57		0.57	0.57	0.33	0.33
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	1987		259	2025	1125	518
v/s Ratio Prot	c0.27			0.14	0.10	
v/s Ratio Perm			0.24			c0.13
v/c Ratio	0.47		0.41	0.25	0.30	0.39
Uniform Delay, d1	11.2		10.8	9.6	22.6	23.3
Progression Factor	0.27		0.98	0.97	0.63	0.37
Incremental Delay, d2	0.5		4.6	0.3	0.5	1.7
Delay (s)	3.5		15.1	9.6	14.8	10.3
Level of Service	A		B	A	B	B
Approach Delay (s)	3.5			10.6	12.7	
Approach LOS	A			B	B	

Intersection Summary			
HCM 2000 Control Delay	8.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	50.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	87	824	131	70	584	82	187	433	143	33	193	65
Future Volume (vph)	87	824	131	70	584	82	187	433	143	33	193	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.98		1.00	0.98			0.97			0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	3467		1770	3474			3398			3401	
Flt Permitted	0.30	1.00		0.17	1.00			0.76			0.82	
Satd. Flow (perm)	565	3467		318	3474			2612			2803	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	95	896	142	76	635	89	203	471	155	36	210	71
RTOR Reduction (vph)	0	14	0	0	12	0	0	22	0	0	30	0
Lane Group Flow (vph)	95	1024	0	76	712	0	0	807	0	0	287	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	42.5	42.5		42.5	42.5			38.5			38.5	
Effective Green, g (s)	42.5	42.5		42.5	42.5			38.5			38.5	
Actuated g/C Ratio	0.47	0.47		0.47	0.47			0.43			0.43	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Grp Cap (vph)	266	1637		150	1640			1117			1199	
v/s Ratio Prot		c0.30			0.20							
v/s Ratio Perm	0.17			0.24				c0.31			0.10	
v/c Ratio	0.36	0.63		0.51	0.43			0.72			0.24	
Uniform Delay, d1	15.1	17.8		16.5	15.8			21.3			16.4	
Progression Factor	0.38	0.35		1.10	1.11			1.00			0.40	
Incremental Delay, d2	2.5	1.2		11.2	0.8			4.1			0.5	
Delay (s)	8.3	7.5		29.3	18.2			25.4			7.0	
Level of Service	A	A		C	B			C			A	
Approach Delay (s)		7.6			19.3			25.4			7.0	
Approach LOS		A			B			C			A	

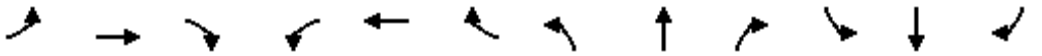
Intersection Summary			
HCM 2000 Control Delay	15.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	76.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	445	662	309	160	619	37	234	571	83	39	567	384
Future Volume (vph)	445	662	309	160	619	37	234	571	83	39	567	384
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.91	0.91		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.96		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1610	3228		1770	3509		1770	3539	1583	1770	3539	1583
Flt Permitted	0.16	0.60		0.23	1.00		0.27	1.00	1.00	0.29	1.00	1.00
Satd. Flow (perm)	273	1960		433	3509		501	3539	1583	536	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	484	720	336	174	673	40	254	621	90	42	616	417
RTOR Reduction (vph)	0	46	0	0	5	0	0	0	53	0	0	38
Lane Group Flow (vph)	382	1112	0	174	708	0	254	621	37	42	616	379
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	pm+ov
Protected Phases	7	4		3	8		5	2			6	7
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	44.3	44.3		25.8	20.3		36.7	36.7	36.7	23.7	23.7	43.2
Effective Green, g (s)	44.3	44.3		25.8	20.3		36.7	36.7	36.7	23.7	23.7	43.2
Actuated g/C Ratio	0.49	0.49		0.29	0.23		0.41	0.41	0.41	0.26	0.26	0.48
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	424	1239		205	791		324	1443	645	141	931	759
v/s Ratio Prot	c0.20	c0.19		0.05	0.20		c0.07	0.18			0.17	0.11
v/s Ratio Perm	c0.25	0.25		0.19			c0.25		0.02	0.08		0.13
v/c Ratio	0.90	0.90		0.85	0.90		0.78	0.43	0.06	0.30	0.66	0.50
Uniform Delay, d1	22.8	20.8		26.0	33.8		29.4	19.1	16.2	26.5	29.6	16.0
Progression Factor	0.93	0.46		1.00	1.00		0.73	0.65	0.50	1.00	1.00	1.00
Incremental Delay, d2	15.6	6.0		26.4	12.7		6.2	0.5	0.1	5.3	3.7	0.5
Delay (s)	36.8	15.7		52.4	46.5		27.6	12.9	8.1	31.8	33.3	16.5
Level of Service	D	B		D	D		C	B	A	C	C	B
Approach Delay (s)		20.9			47.6			16.3			26.7	
Approach LOS		C			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	26.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	89.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	492	414	11	6	249	167	17	319	4	97	135	211
Future Volume (vph)	492	414	11	6	249	167	17	319	4	97	135	211
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.94		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1855		1770	1750		1770	1860		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.61	1.00		0.23	1.00	1.00
Satd. Flow (perm)	1770	1855		1770	1750		1139	1860		425	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	535	450	12	7	271	182	18	347	4	105	147	229
RTOR Reduction (vph)	0	1	0	0	27	0	0	1	0	0	0	176
Lane Group Flow (vph)	535	461	0	7	426	0	18	350	0	105	147	53
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		6
Actuated Green, G (s)	32.4	54.6		1.0	23.2		20.9	20.9		20.9	20.9	20.9
Effective Green, g (s)	32.4	54.6		1.0	23.2		20.9	20.9		20.9	20.9	20.9
Actuated g/C Ratio	0.36	0.61		0.01	0.26		0.23	0.23		0.23	0.23	0.23
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	637	1125		19	451		264	431		98	432	367
v/s Ratio Prot	c0.30	0.25		0.00	c0.24			0.19			0.08	
v/s Ratio Perm							0.02			c0.25		0.03
v/c Ratio	0.84	0.41		0.37	0.95		0.07	0.81		1.07	0.34	0.14
Uniform Delay, d1	26.4	9.3		44.2	32.8		27.0	32.7		34.5	28.8	27.5
Progression Factor	0.73	0.27		1.00	1.00		1.00	1.00		0.82	0.87	1.10
Incremental Delay, d2	8.0	0.2		11.7	28.7		0.5	15.3		92.7	1.4	0.5
Delay (s)	27.3	2.7		55.9	61.5		27.5	48.0		120.9	26.4	30.7
Level of Service	C	A		E	E		C	D		F	C	C
Approach Delay (s)		15.9			61.4			47.0			49.1	
Approach LOS		B			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	36.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	88.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	738	213	108	480	260	279
Future Volume (vph)	738	213	108	480	260	279
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.97		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3420		1770	3539	1770	1583
Flt Permitted	1.00		0.22	1.00	0.95	1.00
Satd. Flow (perm)	3420		419	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	802	232	117	522	283	303
RTOR Reduction (vph)	30	0	0	0	0	143
Lane Group Flow (vph)	1004	0	117	522	283	160
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases			6			8
Actuated Green, G (s)	55.5		55.5	55.5	25.5	25.5
Effective Green, g (s)	55.5		55.5	55.5	25.5	25.5
Actuated g/C Ratio	0.62		0.62	0.62	0.28	0.28
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	2109		258	2182	501	448
v/s Ratio Prot	c0.29			0.15	c0.16	
v/s Ratio Perm			0.28			0.10
v/c Ratio	0.48		0.45	0.24	0.56	0.36
Uniform Delay, d1	9.4		9.2	7.8	27.5	25.7
Progression Factor	0.29		1.28	0.63	1.00	1.00
Incremental Delay, d2	0.6		5.5	0.3	4.6	2.2
Delay (s)	3.3		17.3	5.2	32.1	27.9
Level of Service	A		B	A	C	C
Approach Delay (s)	3.3			7.4	29.9	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	11.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	5	19	213	15	106	25	914	61	20	380	13
Future Volume (vph)	15	5	19	213	15	106	25	914	61	20	380	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frt		0.93		1.00	0.87		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1705		1770	1617		1770	3539	1583	1770	3522	
Flt Permitted		0.89		0.73	1.00		0.50	1.00	1.00	0.25	1.00	
Satd. Flow (perm)		1548		1359	1617		937	3539	1583	469	3522	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	5	21	232	16	115	27	993	66	22	413	14
RTOR Reduction (vph)	0	16	0	0	65	0	0	0	22	0	2	0
Lane Group Flow (vph)	0	26	0	232	66	0	27	993	44	22	425	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		20.8		20.8	20.8		60.2	60.2	60.2	60.2	60.2	
Effective Green, g (s)		20.8		20.8	20.8		60.2	60.2	60.2	60.2	60.2	
Actuated g/C Ratio		0.23		0.23	0.23		0.67	0.67	0.67	0.67	0.67	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		357		314	373		626	2367	1058	313	2355	
v/s Ratio Prot					0.04			c0.28			0.12	
v/s Ratio Perm		0.02		c0.17			0.03		0.03	0.05		
v/c Ratio		0.07		0.74	0.18		0.04	0.42	0.04	0.07	0.18	
Uniform Delay, d1		27.1		32.1	27.7		5.1	6.9	5.1	5.2	5.6	
Progression Factor		1.00		1.00	1.00		2.63	2.98	5.89	1.25	1.30	
Incremental Delay, d2		0.1		8.8	0.2		0.1	0.4	0.1	0.4	0.1	
Delay (s)		27.1		40.9	28.0		13.5	20.8	30.0	6.9	7.4	
Level of Service		C		D	C		B	C	C	A	A	
Approach Delay (s)		27.1			36.2			21.2			7.4	
Approach LOS		C			D			C			A	

Intersection Summary			
HCM 2000 Control Delay	20.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	20	17	835	58	13	486
Future Volume (Veh/h)	20	17	835	58	13	486
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	18	908	63	14	528
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						597
pX, platoon unblocked						
vC, conflicting volume	1232	486			971	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1232	486			971	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	87	97			98	
cM capacity (veh/h)	166	528			706	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	22	18	605	366	14	264	264
Volume Left	22	0	0	0	14	0	0
Volume Right	0	18	0	63	0	0	0
cSH	166	528	1700	1700	706	1700	1700
Volume to Capacity	0.13	0.03	0.36	0.22	0.02	0.16	0.16
Queue Length 95th (ft)	11	3	0	0	2	0	0
Control Delay (s)	30.0	12.1	0.0	0.0	10.2	0.0	0.0
Lane LOS	D	B			B		
Approach Delay (s)	21.9		0.0		0.3		
Approach LOS	C						

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	34.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1137	64	69	1063	119	112
Future Volume (vph)	1137	64	69	1063	119	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3511		1770	3539	1770	1583
Flt Permitted	1.00		0.14	1.00	0.95	1.00
Satd. Flow (perm)	3511		258	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1236	70	75	1155	129	122
RTOR Reduction (vph)	8	0	0	0	0	32
Lane Group Flow (vph)	1298	0	75	1155	129	90
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Actuated Green, G (s)	28.9		28.9	28.9	22.1	22.1
Effective Green, g (s)	28.9		28.9	28.9	22.1	22.1
Actuated g/C Ratio	0.48		0.48	0.48	0.37	0.37
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1691		124	1704	651	583
v/s Ratio Prot	c0.37			0.33	c0.07	
v/s Ratio Perm			0.29			0.06
v/c Ratio	0.77		0.60	0.68	0.20	0.15
Uniform Delay, d1	12.8		11.4	12.0	12.9	12.7
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	2.2		8.1	1.1	0.7	0.6
Delay (s)	14.9		19.4	13.1	13.6	13.3
Level of Service	B		B	B	B	B
Approach Delay (s)	14.9			13.4	13.4	
Approach LOS	B			B	B	

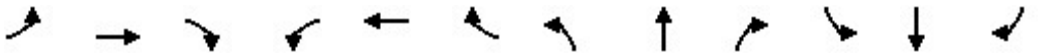
Intersection Summary			
HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	55.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	31	900	0	0	976
Future Volume (Veh/h)	0	31	900	0	0	976
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	34	978	0	0	1061
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			304			386
pX, platoon unblocked	0.91	0.81			0.81	
vC, conflicting volume	1508	489			978	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	448	0			517	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	96			100	
cM capacity (veh/h)	488	883			851	

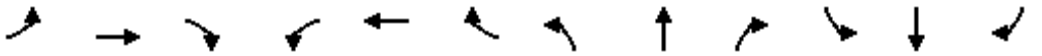
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	34	489	489	530	530
Volume Left	0	0	0	0	0
Volume Right	34	0	0	0	0
cSH	883	1700	1700	1700	1700
Volume to Capacity	0.04	0.29	0.29	0.31	0.31
Queue Length 95th (ft)	3	0	0	0	0
Control Delay (s)	9.2	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	9.2	0.0		0.0	
Approach LOS	A				

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	34.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	154	33	120	157	0	210	0	715	157	134	1235	0
Future Volume (vph)	154	33	120	157	0	210	0	715	157	134	1235	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5	4.5	
Lane Util. Factor	0.97	1.00	1.00	1.00		1.00		0.95	1.00	1.00	0.91	
Frt	1.00	1.00	0.85	1.00		0.85		1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1863	1583	1770		1583		3539	1583	1770	5085	
Flt Permitted	0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1863	1583	1770		1583		3539	1583	1770	5085	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	167	36	130	171	0	228	0	777	171	146	1342	0
RTOR Reduction (vph)	0	0	116	0	0	0	0	0	104	0	0	0
Lane Group Flow (vph)	167	36	14	171	0	228	0	777	67	146	1342	0
Turn Type	Split	NA	Perm	Prot		Prot		NA	Perm	Prot	NA	
Protected Phases	3	3		4		4		6		5	2	
Permitted Phases			3						6			
Actuated Green, G (s)	9.5	9.5	9.5	20.5		20.5		28.5	28.5	13.5	46.5	
Effective Green, g (s)	9.5	9.5	9.5	20.5		20.5		28.5	28.5	13.5	46.5	
Actuated g/C Ratio	0.11	0.11	0.11	0.23		0.23		0.32	0.32	0.15	0.52	
Clearance Time (s)	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5	4.5	
Lane Grp Cap (vph)	362	196	167	403		360		1120	501	265	2627	
v/s Ratio Prot	c0.05	0.02		0.10		c0.14		c0.22		0.08	c0.26	
v/s Ratio Perm			0.01						0.04			
v/c Ratio	0.46	0.18	0.08	0.42		0.63		0.69	0.13	0.55	0.51	
Uniform Delay, d1	37.8	36.7	36.3	29.7		31.4		26.9	21.9	35.4	14.3	
Progression Factor	0.81	0.80	0.97	1.00		1.00		1.60	3.66	0.93	0.98	
Incremental Delay, d2	4.1	2.0	0.9	3.3		8.2		3.3	0.5	5.9	0.5	
Delay (s)	34.6	31.3	36.0	33.0		39.6		46.4	80.9	38.8	14.6	
Level of Service	C	C	D	C		D		D	F	D	B	
Approach Delay (s)		34.8			36.7			52.6			16.9	
Approach LOS		C			D			D			B	

Intersection Summary			
HCM 2000 Control Delay	32.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	53.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	247	62	15	11	157	100	14	39	7	189	69	196
Future Volume (vph)	247	62	15	11	157	100	14	39	7	189	69	196
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	4.5
Lane Util. Factor	0.97	1.00		1.00	0.95			0.95			1.00	1.00
Frt	1.00	0.97		1.00	0.94			0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	1.00
Satd. Flow (prot)	3433	1809		1770	3333			3434			1797	1583
Flt Permitted	0.95	1.00		0.70	1.00			0.99			0.96	1.00
Satd. Flow (perm)	3433	1809		1310	3333			3434			1797	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	268	67	16	12	171	109	15	42	8	205	75	213
RTOR Reduction (vph)	0	7	0	0	68	0	0	7	0	0	0	138
Lane Group Flow (vph)	268	76	0	12	212	0	0	58	0	0	280	75
Turn Type	Prot	NA		Perm	NA		Split	NA		Split	NA	custom
Protected Phases	5	2			6		3	3		4	4	4
Permitted Phases				6								5
Actuated Green, G (s)	12.3	50.6		33.8	33.8			6.5			19.4	31.7
Effective Green, g (s)	12.3	50.6		33.8	33.8			6.5			19.4	31.7
Actuated g/C Ratio	0.14	0.56		0.38	0.38			0.07			0.22	0.35
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	469	1017		491	1251			248			387	636
v/s Ratio Prot	c0.08	0.04			c0.06			c0.02			c0.16	0.03
v/s Ratio Perm				0.01								0.02
v/c Ratio	0.57	0.07		0.02	0.17			0.23			0.72	0.12
Uniform Delay, d1	36.4	9.0		17.7	18.7			39.4			32.8	19.7
Progression Factor	1.38	0.34		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	1.6	0.1		0.0	0.1			2.2			6.6	0.1
Delay (s)	51.9	3.2		17.7	18.8			41.6			39.4	19.8
Level of Service	D	A		B	B			D			D	B
Approach Delay (s)		40.4			18.8			41.6			30.9	
Approach LOS		D			B			D			C	

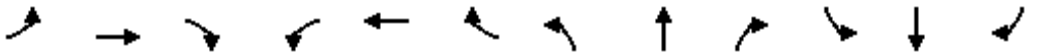
Intersection Summary			
HCM 2000 Control Delay	31.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	46.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	235	23	95	209	59	58
Future Volume (vph)	235	23	95	209	59	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	255	25	103	227	64	63

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2
Volume Total (vph)	280	103	227	64	63
Volume Left (vph)	0	103	0	64	0
Volume Right (vph)	25	0	0	0	63
Hadj (s)	-0.02	0.53	0.03	0.53	-0.67
Departure Headway (s)	5.0	5.7	5.2	6.5	5.3
Degree Utilization, x	0.39	0.16	0.33	0.12	0.09
Capacity (veh/h)	687	612	674	512	620
Control Delay (s)	11.3	8.6	9.5	9.2	7.6
Approach Delay (s)	11.3	9.2		8.4	
Approach LOS	B	A		A	

Intersection Summary			
Delay	9.8		
Level of Service	A		
Intersection Capacity Utilization	32.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	203	4	86	3	4	7	74	377	7	9	383	226
Future Volume (vph)	203	4	86	3	4	7	74	377	7	9	383	226
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	221	4	93	3	4	8	80	410	8	10	416	246

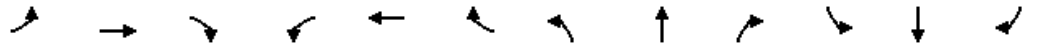
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total (vph)	318	15	80	410	8	10	416	246
Volume Left (vph)	221	3	80	0	0	10	0	0
Volume Right (vph)	93	8	0	0	8	0	0	246
Hadj (s)	0.00	-0.25	0.53	0.03	-0.67	0.53	0.03	-0.67
Departure Headway (s)	6.4	7.2	6.9	6.4	3.2	7.0	6.5	3.2
Degree Utilization, x	0.57	0.03	0.15	0.73	0.01	0.02	0.75	0.22
Capacity (veh/h)	526	406	501	542	1121	493	536	1122
Control Delay (s)	17.4	10.5	10.0	23.7	5.0	8.9	25.3	5.9
Approach Delay (s)	17.4	10.5	21.2			18.0		
Approach LOS	C	B	C			C		

Intersection Summary				
Delay	18.9			
Level of Service	C			
Intersection Capacity Utilization	57.6%	ICU Level of Service	B	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	169	155	25	362	42	264	722	0	30	882	450
Future Volume (vph)	108	169	155	25	362	42	264	722	0	30	882	450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.93		1.00	0.98		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3286		1770	3484		1770	3539		1770	3539	1583
Flt Permitted	0.23	1.00		0.54	1.00		0.22	1.00		0.95	1.00	1.00
Satd. Flow (perm)	431	3286		1008	3484		407	3539		1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	117	184	168	27	393	46	287	785	0	33	959	489
RTOR Reduction (vph)	0	122	0	0	0	0	0	0	0	0	0	169
Lane Group Flow (vph)	117	230	0	27	439	0	287	785	0	33	959	320
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4			6					2
Actuated Green, G (s)	24.8	24.8		15.9	15.9		47.9	47.9		3.8	35.4	35.4
Effective Green, g (s)	24.8	24.8		15.9	15.9		47.9	47.9		3.8	35.4	35.4
Actuated g/C Ratio	0.28	0.28		0.18	0.18		0.53	0.53		0.04	0.39	0.39
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	184	905		178	615		463	1883		74	1392	622
v/s Ratio Prot	c0.03	0.07			0.13		c0.11	0.22		0.02	c0.27	
v/s Ratio Perm	c0.14			0.03			0.22					0.20
v/c Ratio	0.64	0.25		0.15	0.71		0.62	0.42		0.45	0.69	0.52
Uniform Delay, d1	26.5	25.4		31.3	34.9		21.7	12.7		42.1	22.7	20.8
Progression Factor	0.84	0.72		1.00	1.00		0.49	0.26		1.42	0.61	0.31
Incremental Delay, d2	6.9	0.1		0.4	3.9		2.1	0.6		3.7	2.5	2.7
Delay (s)	29.1	18.3		31.7	38.8		12.9	3.9		63.3	16.4	9.2
Level of Service	C	B		C	D		B	A		E	B	A
Approach Delay (s)		21.0			38.4			6.3			15.1	
Approach LOS		C			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	16.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	71.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	50	25	65	7	106	3	370	94	12	6	48	63
Future Volume (vph)	50	25	65	7	106	3	370	94	12	6	48	63
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	27	71	8	115	3	402	102	13	7	52	68

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total (vph)	81	71	126	517	127
Volume Left (vph)	54	0	8	402	7
Volume Right (vph)	0	71	3	13	68
Hadj (s)	0.37	-0.67	0.03	0.17	-0.28
Departure Headway (s)	6.8	5.8	6.1	5.1	5.2
Degree Utilization, x	0.15	0.11	0.21	0.73	0.19
Capacity (veh/h)	477	556	527	686	626
Control Delay (s)	9.9	8.3	10.7	20.8	9.4
Approach Delay (s)	9.1		10.7	20.8	9.4
Approach LOS	A		B	C	A

Intersection Summary				
Delay	15.9			
Level of Service	C			
Intersection Capacity Utilization	51.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	537	27	2	959	52	14	878	170
Future Volume (vph)	0	0	0	0	537	27	2	959	52	14	878	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor					0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt					1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected					1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)					3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted					1.00	1.00	0.23	1.00	1.00	0.20	1.00	1.00
Satd. Flow (perm)					3539	1583	429	3539	1583	371	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	584	29	2	1042	57	15	954	185
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	26	0	0	27
Lane Group Flow (vph)	0	0	0	0	584	29	2	1042	31	15	954	158
Turn Type	pm+pt				NA	Perm	Perm	NA	Perm	Perm	NA	pm+ov
Protected Phases	7	4			8			2			6	7
Permitted Phases	4					8	2		2	6		6
Actuated Green, G (s)					21.7	21.7	49.0	49.0	49.0	49.0	49.0	54.8
Effective Green, g (s)					21.7	21.7	49.0	49.0	49.0	49.0	49.0	54.8
Actuated g/C Ratio					0.24	0.24	0.54	0.54	0.54	0.54	0.54	0.61
Clearance Time (s)					4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)					3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)					853	381	233	1926	861	201	1926	1043
v/s Ratio Prot					c0.17			c0.29			0.27	c0.01
v/s Ratio Perm						0.02	0.00		0.02	0.04		0.09
v/c Ratio					0.68	0.08	0.01	0.54	0.04	0.07	0.50	0.15
Uniform Delay, d1					31.0	26.4	9.4	13.2	9.5	9.7	12.8	7.6
Progression Factor					1.65	1.74	1.00	1.00	1.00	0.45	0.38	0.12
Incremental Delay, d2					1.4	0.1	0.1	1.1	0.1	0.6	0.7	0.1
Delay (s)					52.6	45.9	9.4	14.3	9.6	5.0	5.6	1.0
Level of Service					D	D	A	B	A	A	A	A
Approach Delay (s)		0.0			52.2			14.1			4.8	
Approach LOS		A			D			B			A	

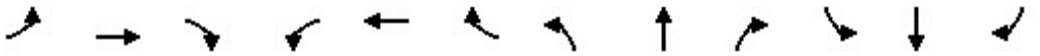
Intersection Summary			
HCM 2000 Control Delay	18.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	48.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	119	11	187	540	413	4	19	27	27	34	20
Future Volume (vph)	32	119	11	187	540	413	4	19	27	27	34	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5			4.5			4.5	
Lane Util. Factor		0.95	1.00		0.95			1.00			1.00	
Frt		1.00	0.85		0.95			0.93			0.97	
Flt Protected		0.99	1.00		0.99			1.00			0.98	
Satd. Flow (prot)		3502	1583		3320			1721			1771	
Flt Permitted		0.99	1.00		0.99			0.98			0.90	
Satd. Flow (perm)		3502	1583		3320			1701			1622	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	129	12	203	587	449	4	21	29	29	37	22
RTOR Reduction (vph)	0	0	9	0	95	0	0	23	0	0	14	0
Lane Group Flow (vph)	0	164	3	0	1144	0	0	31	0	0	74	0
Turn Type	Split	NA	Perm	Split	NA		Perm	NA		Perm	NA	
Protected Phases	2	2		1	1			8			4	
Permitted Phases			2				8			4		
Actuated Green, G (s)		22.3	22.3		36.1			18.1			18.1	
Effective Green, g (s)		22.3	22.3		36.1			18.1			18.1	
Actuated g/C Ratio		0.25	0.25		0.40			0.20			0.20	
Clearance Time (s)		4.5	4.5		4.5			4.5			4.5	
Vehicle Extension (s)		3.0	3.0		3.0			3.0			3.0	
Lane Grp Cap (vph)		867	392		1331			342			326	
v/s Ratio Prot		c0.05			c0.34							
v/s Ratio Perm			0.00					0.02			c0.05	
v/c Ratio		0.19	0.01		0.86			0.09			0.23	
Uniform Delay, d1		26.7	25.5		24.6			29.3			30.1	
Progression Factor		1.05	1.00		0.64			1.00			1.00	
Incremental Delay, d2		0.5	0.0		3.1			0.5			1.6	
Delay (s)		28.6	25.5		18.9			29.8			31.7	
Level of Service		C	C		B			C			C	
Approach Delay (s)		28.4			18.9			29.8			31.7	
Approach LOS		C			B			C			C	

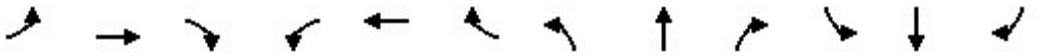
Intersection Summary			
HCM 2000 Control Delay	21.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	55.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



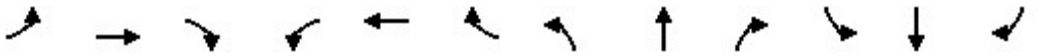
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	489	1787	233	117	962	0	0	880	56
Future Volume (vph)	0	0	0	489	1787	233	117	962	0	0	880	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5	4.5		4.5	4.5			4.5	
Lane Util. Factor				0.86	0.86		1.00	0.91			0.95	
Frt				1.00	0.98		1.00	1.00			0.99	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1522	4719		1770	5085			3507	
Flt Permitted				0.95	1.00		0.21	1.00			1.00	
Satd. Flow (perm)				1522	4719		383	5085			3507	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	532	1942	253	127	1046	0	0	957	61
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	479	2248	0	127	1046	0	0	1018	0
Turn Type				Prot	NA		Perm	NA			NA	
Protected Phases				3	8			2			6	
Permitted Phases							2					
Actuated Green, G (s)				32.5	32.5		48.5	48.5			48.5	
Effective Green, g (s)				32.5	32.5		48.5	48.5			48.5	
Actuated g/C Ratio				0.36	0.36		0.54	0.54			0.54	
Clearance Time (s)				4.5	4.5		4.5	4.5			4.5	
Lane Grp Cap (vph)				549	1704		206	2740			1889	
v/s Ratio Prot				0.31	c0.48			0.21			0.29	
v/s Ratio Perm							c0.33					
v/c Ratio				0.87	1.32		0.62	0.38			0.54	
Uniform Delay, d1				26.8	28.8		14.3	12.0			13.5	
Progression Factor				1.00	1.00		0.87	0.70			0.87	
Incremental Delay, d2				17.2	147.9		10.1	0.3			0.5	
Delay (s)				44.1	176.7		22.5	8.8			12.2	
Level of Service				D	F		C	A			B	
Approach Delay (s)		0.0			153.4			10.2			12.2	
Approach LOS		A			F			B			B	

Intersection Summary			
HCM 2000 Control Delay	90.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	81.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



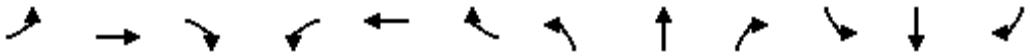
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	58	18	115	62	39	0	638	120	65	1015	336
Future Volume (vph)	0	58	18	115	62	39	0	638	120	65	1015	336
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00		0.95	1.00	1.00	0.95	
Frt		1.00	0.85	1.00	1.00	0.85		1.00	0.85	1.00	0.96	
Flt Protected		1.00	1.00	0.95	1.00	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1863	1583	1770	1863	1583		3539	1583	1770	3407	
Flt Permitted		1.00	1.00	0.95	1.00	1.00		1.00	1.00	0.22	1.00	
Satd. Flow (perm)		1863	1583	1770	1863	1583		3539	1583	405	3407	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	63	20	125	67	42	0	693	130	71	1103	365
RTOR Reduction (vph)	0	0	16	0	0	34	0	0	85	0	36	0
Lane Group Flow (vph)	0	63	4	125	67	8	0	693	45	71	1432	0
Turn Type		NA	Perm	Split	NA	Perm		NA	Perm	pm+pt	NA	
Protected Phases		4		8	8			2		1	6	
Permitted Phases			4			8			2	6		
Actuated Green, G (s)		18.1	18.1	18.1	18.1	18.1		30.1	30.1	40.3	40.3	
Effective Green, g (s)		18.1	18.1	18.1	18.1	18.1		30.1	30.1	40.3	40.3	
Actuated g/C Ratio		0.20	0.20	0.20	0.20	0.20		0.33	0.33	0.45	0.45	
Clearance Time (s)		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	
Lane Grp Cap (vph)		374	318	355	374	318		1183	529	267	1525	
v/s Ratio Prot		c0.03		c0.07	0.04			0.20		0.02	c0.42	
v/s Ratio Perm			0.00			0.01			0.03	0.10		
v/c Ratio		0.17	0.01	0.35	0.18	0.03		0.59	0.09	0.27	0.94	
Uniform Delay, d1		29.7	28.8	30.9	29.8	28.9		24.8	20.5	15.7	23.7	
Progression Factor		1.00	1.00	1.00	1.00	1.00		1.00	1.33	0.54	0.87	
Incremental Delay, d2		1.0	0.1	2.7	1.0	0.2		1.8	0.3	1.4	8.3	
Delay (s)		30.7	28.9	33.6	30.8	29.0		26.7	27.6	9.9	28.9	
Level of Service		C	C	C	C	C		C	C	A	C	
Approach Delay (s)		30.3			32.0			26.8			28.0	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	28.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	508	101	118	1261	48	125	420	132	80	1197	160
Future Volume (vph)	49	508	101	118	1261	48	125	420	132	80	1197	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	5057		1770	3539	1583	1770	3539	1583
Flt Permitted	0.19	1.00	1.00	0.22	1.00		0.10	1.00	1.00	0.45	1.00	1.00
Satd. Flow (perm)	345	3539	1583	411	5057		186	3539	1583	834	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	53	552	110	128	1371	52	136	457	143	87	1301	174
RTOR Reduction (vph)	0	0	50	0	5	0	0	0	79	0	0	73
Lane Group Flow (vph)	53	552	60	128	1418	0	136	457	64	87	1301	101
Turn Type	Perm	NA	pm+ov	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4	5	3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		6
Actuated Green, G (s)	21.6	21.6	28.3	31.2	31.2		46.7	40.0	40.0	43.9	38.6	38.6
Effective Green, g (s)	21.6	21.6	28.3	31.2	31.2		46.7	40.0	40.0	43.9	38.6	38.6
Actuated g/C Ratio	0.24	0.24	0.31	0.35	0.35		0.52	0.44	0.44	0.49	0.43	0.43
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	82	849	497	219	1753		214	1572	703	461	1517	678
v/s Ratio Prot		0.16	0.01	0.03	c0.28		c0.05	0.13		0.01	c0.37	
v/s Ratio Perm	0.15		0.03	0.17			0.28		0.04	0.08		0.06
v/c Ratio	0.65	0.65	0.12	0.58	0.81		0.64	0.29	0.09	0.19	0.86	0.15
Uniform Delay, d1	30.8	30.8	22.0	21.8	26.7		33.0	15.9	14.5	14.9	23.2	15.7
Progression Factor	0.86	0.86	0.82	1.00	1.00		1.97	1.73	6.16	0.41	0.66	0.36
Incremental Delay, d2	32.6	3.8	0.5	10.9	4.2		11.5	0.4	0.2	0.8	6.1	0.4
Delay (s)	59.2	30.1	18.5	32.8	30.8		76.5	28.0	89.3	7.0	21.5	6.1
Level of Service	E	C	B	C	C		E	C	F	A	C	A
Approach Delay (s)		30.5			31.0			48.9			19.0	
Approach LOS		C			C			D			B	

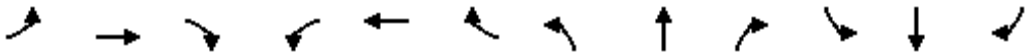
Intersection Summary			
HCM 2000 Control Delay	29.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	84.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	118	64	51	768	149	59	270	13	147	988	248
Future Volume (vph)	57	118	64	51	768	149	59	270	13	147	988	248
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3352		1770	3539	1583	1770	3539	1583	1770	4932	
Flt Permitted	0.18	1.00		0.63	1.00	1.00	0.15	1.00	1.00	0.57	1.00	
Satd. Flow (perm)	327	3352		1169	3539	1583	279	3539	1583	1067	4932	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	62	128	70	55	835	162	64	293	14	160	1074	270
RTOR Reduction (vph)	0	52	0	0	0	69	0	0	6	0	35	0
Lane Group Flow (vph)	62	146	0	55	835	93	64	293	8	160	1309	0
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8		8	2		2	6		
Actuated Green, G (s)	22.8	22.8		31.6	31.6	31.6	49.4	49.4	49.4	49.4	49.4	
Effective Green, g (s)	22.8	22.8		31.6	31.6	31.6	49.4	49.4	49.4	49.4	49.4	
Actuated g/C Ratio	0.25	0.25		0.35	0.35	0.35	0.55	0.55	0.55	0.55	0.55	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	82	849		439	1242	555	153	1942	868	585	2707	
v/s Ratio Prot		0.04		0.01	c0.24			0.08			c0.27	
v/s Ratio Perm	c0.19			0.04		0.06	0.23		0.00	0.15		
v/c Ratio	0.76	0.17		0.13	0.67	0.17	0.42	0.15	0.01	0.27	0.48	
Uniform Delay, d1	31.0	26.2		19.9	24.8	20.1	11.9	10.0	9.2	10.8	12.5	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.28	1.20	1.00	0.34	0.30	
Incremental Delay, d2	32.1	0.1		0.1	1.4	0.1	8.1	0.2	0.0	1.0	0.6	
Delay (s)	63.1	26.3		20.0	26.3	20.3	23.3	12.2	9.2	4.7	4.2	
Level of Service	E	C		C	C	C	C	B	A	A	A	
Approach Delay (s)		35.1			25.0			14.0			4.3	
Approach LOS		D			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	69.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	452	203	258	1278	351	162	381	61	152	368	30
Future Volume (vph)	53	452	203	258	1278	351	162	381	61	152	368	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3499	
Flt Permitted	0.11	1.00	1.00	0.36	1.00	1.00	0.56	1.00	1.00	0.56	1.00	
Satd. Flow (perm)	213	3539	1583	675	3539	1583	1035	3539	1583	1035	3499	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	58	491	221	280	1389	382	176	414	66	165	400	33
RTOR Reduction (vph)	0	0	135	0	0	178	0	0	54	0	7	0
Lane Group Flow (vph)	58	491	86	280	1389	204	176	414	12	165	426	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		
Actuated Green, G (s)	39.3	35.0	35.0	51.9	43.1	43.1	16.1	16.1	16.1	15.7	15.7	
Effective Green, g (s)	39.3	35.0	35.0	51.9	43.1	43.1	16.1	16.1	16.1	15.7	15.7	
Actuated g/C Ratio	0.44	0.39	0.39	0.58	0.48	0.48	0.18	0.18	0.18	0.17	0.17	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	167	1376	615	540	1694	758	257	633	283	249	610	
v/s Ratio Prot	0.02	0.14		c0.07	c0.39		0.07	c0.12		0.06	c0.12	
v/s Ratio Perm	0.13		0.05	0.23		0.13	0.05		0.01	0.05		
v/c Ratio	0.35	0.36	0.14	0.52	0.82	0.27	0.68	0.65	0.04	0.66	0.70	
Uniform Delay, d1	17.2	19.5	17.8	10.3	20.1	14.0	34.3	34.4	30.6	33.9	34.9	
Progression Factor	1.00	1.00	1.00	0.71	0.61	0.15	0.92	0.92	1.00	0.93	0.93	
Incremental Delay, d2	1.3	0.7	0.5	0.1	0.4	0.1	7.0	2.3	0.1	6.4	3.5	
Delay (s)	18.4	20.2	18.2	7.3	12.6	2.2	38.6	33.9	30.6	37.8	36.0	
Level of Service	B	C	B	A	B	A	D	C	C	D	D	
Approach Delay (s)		19.5			10.0			34.8			36.5	
Approach LOS		B			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	19.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	74.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	118	69	73	108	130	342	41	182	103	437	152	241
Future Volume (vph)	118	69	73	108	130	342	41	182	103	437	152	241
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	0.91	0.91		1.00	1.00	1.00	0.97	0.95	1.00	0.97	0.95	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	0.99		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1610	3151		1770	1863	1583	3433	3539	1583	3433	3213	
Flt Permitted	0.67	0.86		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1131	2734		1770	1863	1583	3433	3539	1583	3433	3213	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	128	75	79	117	141	372	45	198	112	475	165	262
RTOR Reduction (vph)	0	68	0	0	0	265	0	0	74	0	124	0
Lane Group Flow (vph)	87	127	0	117	141	107	45	198	38	475	303	0
Turn Type	Perm	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4					8			2			
Actuated Green, G (s)	12.4	12.4		9.1	26.0	26.0	3.0	30.7	30.7	19.8	47.5	
Effective Green, g (s)	12.4	12.4		9.1	26.0	26.0	3.0	30.7	30.7	19.8	47.5	
Actuated g/C Ratio	0.14	0.14		0.10	0.29	0.29	0.03	0.34	0.34	0.22	0.53	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	155	376		178	538	457	114	1207	539	755	1695	
v/s Ratio Prot				c0.07	0.08		0.01	0.06		c0.14	c0.09	
v/s Ratio Perm	c0.08	0.05				0.07			0.02			
v/c Ratio	0.56	0.34		0.66	0.26	0.24	0.39	0.16	0.07	0.63	0.18	
Uniform Delay, d1	36.3	35.1		38.9	24.6	24.4	42.6	20.7	20.0	31.8	11.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.71	0.41	
Incremental Delay, d2	4.6	0.5		8.5	0.3	0.3	2.2	0.3	0.3	1.5	0.2	
Delay (s)	40.8	35.6		47.4	24.9	24.7	44.9	21.0	20.3	23.9	4.7	
Level of Service	D	D		D	C	C	D	C	C	C	A	
Approach Delay (s)		37.2			28.9			23.8			14.8	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	23.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	44.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	211	5	0	410	186	1	175	43	230	504	556
Future Volume (vph)	62	211	5	0	410	186	1	175	43	230	504	556
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95			0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00			0.95		1.00	0.97		1.00	0.92	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3528			3374		1770	3434		1770	3261	
Flt Permitted	0.95	1.00			1.00		0.15	1.00		0.60	1.00	
Satd. Flow (perm)	1770	3528			3374		284	3434		1126	3261	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	67	229	5	0	446	202	1	190	47	250	548	604
RTOR Reduction (vph)	0	3	0	0	78	0	0	22	0	0	202	0
Lane Group Flow (vph)	67	231	0	0	570	0	1	215	0	250	950	0
Turn Type	Prot	NA			NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	5.6	26.1			16.0		34.9	34.9		34.9	34.9	
Effective Green, g (s)	5.6	26.1			16.0		34.9	34.9		34.9	34.9	
Actuated g/C Ratio	0.08	0.37			0.23		0.50	0.50		0.50	0.50	
Clearance Time (s)	4.5	4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	141	1315			771		141	1712		561	1625	
v/s Ratio Prot	c0.04	0.07			c0.17			0.06			c0.29	
v/s Ratio Perm							0.00			0.22		
v/c Ratio	0.48	0.18			0.74		0.01	0.13		0.45	0.58	
Uniform Delay, d1	30.8	14.7			25.1		8.8	9.4		11.3	12.4	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.5	0.1			3.7		0.1	0.2		2.6	1.5	
Delay (s)	33.3	14.8			28.8		8.9	9.5		13.9	14.0	
Level of Service	C	B			C		A	A		B	B	
Approach Delay (s)		18.9			28.8			9.5			13.9	
Approach LOS		B			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	17.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	72.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	70	170	29	156	11	193	270	13	12	1184	157
Future Volume (vph)	82	70	170	29	156	11	193	270	13	12	1184	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1844		1770	3515		1770	4996	
Flt Permitted	0.46	1.00	1.00	0.71	1.00		0.12	1.00		0.56	1.00	
Satd. Flow (perm)	851	1863	1583	1318	1844		225	3515		1052	4996	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	89	76	185	32	170	12	210	293	14	13	1287	171
RTOR Reduction (vph)	0	0	156	0	3	0	0	3	0	0	14	0
Lane Group Flow (vph)	89	76	29	32	179	0	210	304	0	13	1444	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	14.0	14.0	14.0	14.0	14.0		67.0	67.0		51.7	51.7	
Effective Green, g (s)	14.0	14.0	14.0	14.0	14.0		67.0	67.0		51.7	51.7	
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.16		0.74	0.74		0.57	0.57	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	132	289	246	205	286		352	2616		604	2869	
v/s Ratio Prot		0.04			0.10		c0.07	0.09			0.29	
v/s Ratio Perm	c0.10		0.02	0.02			c0.37			0.01		
v/c Ratio	0.67	0.26	0.12	0.16	0.62		0.60	0.12		0.02	0.50	
Uniform Delay, d1	35.8	33.5	32.7	32.9	35.5		7.7	3.2		8.3	11.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.79	0.37		1.00	1.00	
Incremental Delay, d2	12.8	0.5	0.2	0.4	4.2		2.7	0.1		0.1	0.6	
Delay (s)	48.6	33.9	32.9	33.2	39.8		16.4	1.3		8.3	12.1	
Level of Service	D	C	C	C	D		B	A		A	B	
Approach Delay (s)		37.1			38.8			7.4			12.1	
Approach LOS		D			D			A			B	

Intersection Summary				
HCM 2000 Control Delay	16.8	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.63			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5	
Intersection Capacity Utilization	65.5%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	65	0	0	0	58	377	240	0	1374	233
Future Volume (Veh/h)	0	0	65	0	0	0	58	377	240	0	1374	233
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	71	0	0	0	63	410	261	0	1493	253
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								206			797	
pX, platoon unblocked	0.90	0.90	0.89	0.90	0.90	0.99	0.89			0.99		
vC, conflicting volume	1950	2156	624	1105	2282	205	1746			410		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1602	1830	169	663	1970	172	1422			380		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	91	100	100	100	85			100		
cM capacity (veh/h)	56	58	757	251	47	831	425			1162		

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	71	63	205	205	261	597	597	552
Volume Left	0	63	0	0	0	0	0	0
Volume Right	71	0	0	0	261	0	0	253
cSH	757	425	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.09	0.15	0.12	0.12	0.15	0.35	0.35	0.32
Queue Length 95th (ft)	8	13	0	0	0	0	0	0
Control Delay (s)	10.2	15.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	B						
Approach Delay (s)	10.2	1.3				0.0		
Approach LOS	B							

Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	42.4%	ICU Level of Service	A	
Analysis Period (min)	15			

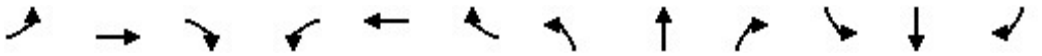
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	194	38	16	20	0	12	0	469	48	38	1401	0
Future Volume (vph)	194	38	16	20	0	12	0	469	48	38	1401	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5		4.5		4.5		4.5	4.5	
Lane Util. Factor	0.97	1.00		1.00		1.00		0.91		1.00	0.91	
Frt	1.00	0.96		1.00		0.85		0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)	3433	1781		1770		1583		5015		1770	5085	
Flt Permitted	0.95	1.00		0.95		1.00		1.00		0.43	1.00	
Satd. Flow (perm)	3433	1781		1770		1583		5015		802	5085	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	211	41	17	22	0	13	0	510	52	41	1523	0
RTOR Reduction (vph)	0	15	0	0	0	13	0	9	0	0	0	0
Lane Group Flow (vph)	211	43	0	22	0	0	0	553	0	41	1523	0
Turn Type	pm+pt	NA		Prot		Perm		NA		Perm	NA	
Protected Phases	7	4		3				2			6	
Permitted Phases	4					8				6		
Actuated Green, G (s)	18.1	9.5		4.1		1.1		62.9		62.9	62.9	
Effective Green, g (s)	18.1	9.5		4.1		1.1		62.9		62.9	62.9	
Actuated g/C Ratio	0.20	0.11		0.05		0.01		0.70		0.70	0.70	
Clearance Time (s)	4.5	4.5		4.5		4.5		4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	690	187		80		19		3504		560	3553	
v/s Ratio Prot	c0.04	0.02		0.01				0.11			c0.30	
v/s Ratio Perm	0.02					0.00				0.05		
v/c Ratio	0.31	0.23		0.28		0.01		0.16		0.07	0.43	
Uniform Delay, d1	30.6	36.9		41.5		43.9		4.6		4.3	5.8	
Progression Factor	0.82	0.64		1.00		1.00		0.16		0.50	0.40	
Incremental Delay, d2	0.2	0.6		1.9		0.2		0.1		0.2	0.4	
Delay (s)	25.4	24.3		43.4		44.1		0.8		2.4	2.7	
Level of Service	C	C		D		D		A		A	A	
Approach Delay (s)		25.2			43.6			0.8			2.7	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	46.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

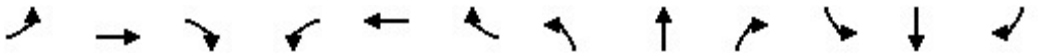
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	561	0	0	1526	20	122	164	97	0	0	0
Future Volume (vph)	64	561	0	0	1526	20	122	164	97	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5		4.5	4.5				
Lane Util. Factor	1.00	0.95			0.91		0.86	0.86				
Frt	1.00	1.00			1.00		1.00	0.95				
Flt Protected	0.95	1.00			1.00		0.95	1.00				
Satd. Flow (prot)	1770	3539			5075		1522	4542				
Flt Permitted	0.11	1.00			1.00		0.95	1.00				
Satd. Flow (perm)	207	3539			5075		1522	4542				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	70	610	0	0	1659	22	133	178	105	0	0	0
RTOR Reduction (vph)	0	0	0	0	2	0	0	82	0	0	0	0
Lane Group Flow (vph)	70	610	0	0	1679	0	105	229	0	0	0	0
Turn Type	Perm	NA			NA		pm+pt	NA				
Protected Phases		4			8		6	2				
Permitted Phases	4						2					
Actuated Green, G (s)	61.5	61.5			61.5		19.5	19.5				
Effective Green, g (s)	61.5	61.5			61.5		19.5	19.5				
Actuated g/C Ratio	0.68	0.68			0.68		0.22	0.22				
Clearance Time (s)	4.5	4.5			4.5		4.5	4.5				
Lane Grp Cap (vph)	141	2418			3467		329	984				
v/s Ratio Prot		0.17			0.33		c0.07	0.05				
v/s Ratio Perm	c0.34											
v/c Ratio	0.50	0.25			0.48		0.32	0.23				
Uniform Delay, d1	6.8	5.5			6.7		29.7	29.1				
Progression Factor	1.00	1.00			0.16		1.00	1.00				
Incremental Delay, d2	12.0	0.3			0.3		2.5	0.6				
Delay (s)	18.8	5.7			1.4		32.2	29.6				
Level of Service	B	A			A		C	C				
Approach Delay (s)		7.1			1.4			30.3			0.0	
Approach LOS		A			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	7.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	306	1593	61	88	164	0	0	344	42
Future Volume (vph)	0	0	0	306	1593	61	88	164	0	0	344	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.5		4.5	4.5			4.5	
Lane Util. Factor					0.91		1.00	0.95			0.95	
Frt					1.00		1.00	1.00			0.98	
Flt Protected					0.99		0.95	1.00			1.00	
Satd. Flow (prot)					5022		1770	3539			3481	
Flt Permitted					0.99		0.38	1.00			1.00	
Satd. Flow (perm)					5022		703	3539			3481	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	333	1732	66	96	178	0	0	374	46
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	0	0	11	0
Lane Group Flow (vph)	0	0	0	0	2127	0	96	178	0	0	409	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8			2					
Actuated Green, G (s)					60.5		20.5	20.5			20.5	
Effective Green, g (s)					60.5		20.5	20.5			20.5	
Actuated g/C Ratio					0.67		0.23	0.23			0.23	
Clearance Time (s)					4.5		4.5	4.5			4.5	
Lane Grp Cap (vph)					3375		160	806			792	
v/s Ratio Prot								0.05			0.12	
v/s Ratio Perm					0.42		c0.14					
v/c Ratio					0.63		0.60	0.22			0.52	
Uniform Delay, d1					8.4		31.1	28.3			30.4	
Progression Factor					0.25		0.68	0.66			1.00	
Incremental Delay, d2					0.1		15.3	0.6			2.4	
Delay (s)					2.2		36.4	19.3			32.8	
Level of Service					A		D	B			C	
Approach Delay (s)		0.0			2.2			25.2			32.8	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	76.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	136	155	0	0	0	0	216	171	0	650	0
Future Volume (vph)	36	136	155	0	0	0	0	216	171	0	650	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5						4.5			4.5	
Lane Util. Factor		0.95						0.95			0.95	
Frt		0.93						0.93			1.00	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		3270						3305			3539	
Flt Permitted		0.99						1.00			1.00	
Satd. Flow (perm)		3270						3305			3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	148	168	0	0	0	0	235	186	0	707	0
RTOR Reduction (vph)	0	111	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	244	0	0	0	0	0	421	0	0	707	0
Turn Type	Perm	NA						NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4											
Actuated Green, G (s)		30.5						50.5			50.5	
Effective Green, g (s)		30.5						50.5			50.5	
Actuated g/C Ratio		0.34						0.56			0.56	
Clearance Time (s)		4.5						4.5			4.5	
Lane Grp Cap (vph)		1108						1854			1985	
v/s Ratio Prot								0.13			c0.20	
v/s Ratio Perm		0.07										
v/c Ratio		0.22						0.23			0.36	
Uniform Delay, d1		21.3						9.9			10.8	
Progression Factor		1.00						0.67			0.54	
Incremental Delay, d2		0.5						0.3			0.4	
Delay (s)		21.7						7.0			6.3	
Level of Service		C						A			A	
Approach Delay (s)		21.7			0.0			7.0			6.3	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	76.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	392	176	102	757	124	71	333	53	172	933	96
Future Volume (vph)	34	392	176	102	757	124	71	333	53	172	933	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.95		1.00	0.98		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3375		1770	3464		1770	3466		1770	3539	1583
Flt Permitted	0.15	1.00		0.32	1.00		0.20	1.00		0.49	1.00	1.00
Satd. Flow (perm)	281	3375		605	3464		370	3466		911	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	37	426	191	111	823	135	77	362	58	187	1014	104
RTOR Reduction (vph)	0	49	0	0	15	0	0	14	0	0	0	30
Lane Group Flow (vph)	37	568	0	111	943	0	77	406	0	187	1014	74
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	34.5	34.5		34.5	34.5		46.5	46.5		46.5	46.5	46.5
Effective Green, g (s)	34.5	34.5		34.5	34.5		46.5	46.5		46.5	46.5	46.5
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.52	0.52		0.52	0.52	0.52
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Grp Cap (vph)	107	1293		231	1327		191	1790		470	1828	817
v/s Ratio Prot		0.17			c0.27			0.12			c0.29	
v/s Ratio Perm	0.13			0.18			0.21			0.21		0.05
v/c Ratio	0.35	0.44		0.48	0.71		0.40	0.23		0.40	0.55	0.09
Uniform Delay, d1	19.7	20.6		21.0	23.5		13.3	11.9		13.2	14.7	11.0
Progression Factor	1.00	1.00		0.77	0.75		0.73	0.71		0.53	0.55	0.28
Incremental Delay, d2	8.6	1.1		6.7	3.1		6.2	0.3		2.5	1.2	0.2
Delay (s)	28.4	21.7		22.9	20.8		15.8	8.7		9.5	9.3	3.3
Level of Service	C	C		C	C		B	A		A	A	A
Approach Delay (s)		22.0			21.1			9.8			8.9	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	15.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	398	122	49	658	84	109	364	42	117	837	140
Future Volume (vph)	29	398	122	49	658	84	109	364	42	117	837	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	1.00	0.85	1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3414		1770	3539	1583	1770	3484		1770	3463	
Flt Permitted	0.20	1.00		0.30	1.00	1.00	0.21	1.00		0.49	1.00	
Satd. Flow (perm)	368	3414		559	3539	1583	400	3484		912	3463	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	433	133	53	715	91	118	396	46	127	910	152
RTOR Reduction (vph)	0	32	0	0	0	65	0	10	0	0	15	0
Lane Group Flow (vph)	32	534	0	53	715	26	118	432	0	127	1047	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	25.9	25.9		25.9	25.9	25.9	55.1	55.1		55.1	55.1	
Effective Green, g (s)	25.9	25.9		25.9	25.9	25.9	55.1	55.1		55.1	55.1	
Actuated g/C Ratio	0.29	0.29		0.29	0.29	0.29	0.61	0.61		0.61	0.61	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)	105	982		160	1018	455	244	2132		558	2120	
v/s Ratio Prot		0.16			c0.20			0.12			c0.30	
v/s Ratio Perm	0.09			0.09		0.02	0.30			0.14		
v/c Ratio	0.30	0.54		0.33	0.70	0.06	0.48	0.20		0.23	0.49	
Uniform Delay, d1	25.0	27.1		25.2	28.6	23.2	9.6	7.7		7.9	9.7	
Progression Factor	1.00	1.00		0.53	0.52	0.45	1.00	1.00		0.61	0.53	
Incremental Delay, d2	7.3	2.2		5.0	3.7	0.2	6.7	0.2		0.8	0.7	
Delay (s)	32.4	29.2		18.5	18.5	10.7	16.3	7.9		5.6	5.9	
Level of Service	C	C		B	B	B	B	A		A	A	
Approach Delay (s)		29.4			17.7			9.7			5.9	
Approach LOS		C			B			A			A	

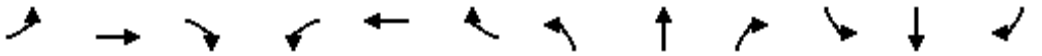
Intersection Summary			
HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	352	226	208	823	189	108
Future Volume (vph)	352	226	208	823	189	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	0.97	1.00
Frt	0.94		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3332		1770	3539	3433	1583
Flt Permitted	1.00		0.39	1.00	0.95	1.00
Satd. Flow (perm)	3332		736	3539	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	383	246	226	895	205	117
RTOR Reduction (vph)	86	0	0	0	0	88
Lane Group Flow (vph)	543	0	226	895	205	29
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Actuated Green, G (s)	58.5		58.5	58.5	22.5	22.5
Effective Green, g (s)	58.5		58.5	58.5	22.5	22.5
Actuated g/C Ratio	0.65		0.65	0.65	0.25	0.25
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	2165		478	2300	858	395
v/s Ratio Prot	0.16			0.25	c0.06	
v/s Ratio Perm			c0.31			0.02
v/c Ratio	0.25		0.47	0.39	0.24	0.07
Uniform Delay, d1	6.6		8.0	7.4	26.9	25.8
Progression Factor	0.40		0.76	0.80	0.82	0.71
Incremental Delay, d2	0.3		2.6	0.4	0.6	0.3
Delay (s)	2.9		8.7	6.3	22.7	18.7
Level of Service	A		A	A	C	B
Approach Delay (s)	2.9			6.8	21.2	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	7.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	45.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	307	170	107	596	66	160	229	49	25	315	35
Future Volume (vph)	80	307	170	107	596	66	160	229	49	25	315	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.95		1.00	0.98			0.98			0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.98			1.00	
Satd. Flow (prot)	1770	3350		1770	3486			3418			3478	
Flt Permitted	0.30	1.00		0.41	1.00			0.67			0.91	
Satd. Flow (perm)	561	3350		771	3486			2335			3159	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	334	185	116	648	72	174	249	53	27	342	38
RTOR Reduction (vph)	0	84	0	0	9	0	0	11	0	0	8	0
Lane Group Flow (vph)	87	435	0	116	711	0	0	465	0	0	399	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	41.5	41.5		41.5	41.5			39.5			39.5	
Effective Green, g (s)	41.5	41.5		41.5	41.5			39.5			39.5	
Actuated g/C Ratio	0.46	0.46		0.46	0.46			0.44			0.44	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Grp Cap (vph)	258	1544		355	1607			1024			1386	
v/s Ratio Prot		0.13			c0.20							
v/s Ratio Perm	0.16			0.15				c0.20			0.13	
v/c Ratio	0.34	0.28		0.33	0.44			0.45			0.29	
Uniform Delay, d1	15.5	15.0		15.4	16.4			17.7			16.2	
Progression Factor	0.47	0.32		1.42	1.47			1.00			0.57	
Incremental Delay, d2	3.2	0.4		2.3	0.8			1.5			0.5	
Delay (s)	10.5	5.2		24.3	24.9			19.2			9.7	
Level of Service	B	A		C	C			B			A	
Approach Delay (s)		6.0			24.8			19.2			9.7	
Approach LOS		A			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	16.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	61.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	296	235	134	299	916	8	218	512	93	26	1044	754
Future Volume (vph)	296	235	134	299	916	8	218	512	93	26	1044	754
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.91	0.91		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.96		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1610	3211		1770	3534		1770	3539	1583	1770	3539	1583
Flt Permitted	0.19	0.57		0.32	1.00		0.12	1.00	1.00	0.44	1.00	1.00
Satd. Flow (perm)	320	1865		600	3534		219	3539	1583	826	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	322	255	146	325	996	9	237	557	101	28	1135	820
RTOR Reduction (vph)	0	42	0	0	1	0	0	0	57	0	0	37
Lane Group Flow (vph)	187	494	0	325	1004	0	237	557	44	28	1135	783
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	pm+ov
Protected Phases	7	4		3	8		5	2			6	7
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	35.7	35.7		38.3	22.5		39.5	39.5	39.5	29.5	29.5	44.0
Effective Green, g (s)	35.7	35.7		38.3	22.5		39.5	39.5	39.5	29.5	29.5	44.0
Actuated g/C Ratio	0.40	0.40		0.43	0.25		0.44	0.44	0.44	0.33	0.33	0.49
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	334	956		460	883		190	1553	694	270	1160	773
v/s Ratio Prot	0.09	0.08		0.12	c0.28		c0.08	0.16			0.32	c0.16
v/s Ratio Perm	0.13	0.12		0.18			c0.47		0.03	0.03		0.33
v/c Ratio	0.56	0.52		0.71	1.14		1.25	0.36	0.06	0.10	0.98	1.01
Uniform Delay, d1	31.1	20.6		25.3	33.8		23.2	16.8	14.6	21.1	29.9	23.0
Progression Factor	0.76	0.70		1.00	1.00		1.32	1.08	1.52	1.00	1.00	1.00
Incremental Delay, d2	1.9	0.4		4.9	75.6		146.2	0.6	0.2	0.8	21.7	35.5
Delay (s)	25.5	14.8		30.2	109.3		177.0	18.8	22.3	21.8	51.7	58.5
Level of Service	C	B		C	F		F	B	C	C	D	E
Approach Delay (s)		17.6			90.0			61.1			54.1	
Approach LOS		B			F			E			D	

Intersection Summary			
HCM 2000 Control Delay	59.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	95.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	91	73	9	13	581	159	40	170	2	110	172	519
Future Volume (vph)	91	73	9	13	581	159	40	170	2	110	172	519
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.97		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1831		1770	1803		1770	1860		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.56	1.00		0.56	1.00	1.00
Satd. Flow (perm)	1770	1831		1770	1803		1043	1860		1043	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	99	79	10	14	632	173	43	185	2	120	187	564
RTOR Reduction (vph)	0	4	0	0	11	0	0	1	0	0	0	233
Lane Group Flow (vph)	99	85	0	14	794	0	43	186	0	120	187	331
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		6
Actuated Green, G (s)	10.3	50.8		1.0	41.5		24.7	24.7		24.7	24.7	24.7
Effective Green, g (s)	10.3	50.8		1.0	41.5		24.7	24.7		24.7	24.7	24.7
Actuated g/C Ratio	0.11	0.56		0.01	0.46		0.27	0.27		0.27	0.27	0.27
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	202	1033		19	831		286	510		286	511	434
v/s Ratio Prot	c0.06	0.05		0.01	c0.44			0.10			0.10	
v/s Ratio Perm							0.04			0.11		c0.21
v/c Ratio	0.49	0.08		0.74	0.96		0.15	0.37		0.42	0.37	0.76
Uniform Delay, d1	37.4	9.0		44.4	23.4		24.7	26.3		26.8	26.3	30.0
Progression Factor	0.71	0.82		1.00	1.00		1.00	1.00		0.49	0.50	0.10
Incremental Delay, d2	1.9	0.0		88.4	20.9		1.1	2.0		2.0	0.9	5.7
Delay (s)	28.2	7.4		132.8	44.2		25.8	28.3		15.3	14.1	8.7
Level of Service	C	A		F	D		C	C		B	B	A
Approach Delay (s)		18.4			45.7			27.9			10.8	
Approach LOS		B			D			C			B	

Intersection Summary					
HCM 2000 Control Delay	26.9	HCM 2000 Level of Service		C	
HCM 2000 Volume to Capacity ratio	0.83				
Actuated Cycle Length (s)	90.0	Sum of lost time (s)		13.5	
Intersection Capacity Utilization	87.8%	ICU Level of Service		E	
Analysis Period (min)	15				

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	0	381	146	563	206	0
Future Volume (vph)	0	381	146	563	206	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frt	0.85		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	3008		1770	3539	1770	
Flt Permitted	1.00		0.49	1.00	0.95	
Satd. Flow (perm)	3008		922	3539	1770	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	414	159	612	224	0
RTOR Reduction (vph)	196	0	0	0	0	0
Lane Group Flow (vph)	219	0	159	612	224	0
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases			6			8
Actuated Green, G (s)	47.5		47.5	47.5	33.5	
Effective Green, g (s)	47.5		47.5	47.5	33.5	
Actuated g/C Ratio	0.53		0.53	0.53	0.37	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Lane Grp Cap (vph)	1587		486	1867	658	
v/s Ratio Prot	0.07			c0.17	c0.13	
v/s Ratio Perm			0.17			
v/c Ratio	0.14		0.33	0.33	0.34	
Uniform Delay, d1	10.8		12.1	12.1	20.3	
Progression Factor	1.00		0.31	0.32	1.00	
Incremental Delay, d2	0.2		1.6	0.4	1.4	
Delay (s)	11.0		5.4	4.3	21.7	
Level of Service	B		A	A	C	
Approach Delay (s)	11.0			4.5	21.7	
Approach LOS	B			A	C	

Intersection Summary			
HCM 2000 Control Delay	9.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	43.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	4	6	102	4	24	20	602	172	63	427	13
Future Volume (vph)	4	4	6	102	4	24	20	602	172	63	427	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frt		0.94		1.00	0.87		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1722		1770	1621		1770	3539	1583	1770	3524	
Flt Permitted		0.94		0.75	1.00		0.48	1.00	1.00	0.40	1.00	
Satd. Flow (perm)		1642		1393	1621		892	3539	1583	748	3524	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	4	4	7	111	4	26	22	654	187	68	464	14
RTOR Reduction (vph)	0	6	0	0	23	0	0	0	42	0	1	0
Lane Group Flow (vph)	0	9	0	111	7	0	22	654	145	68	477	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		11.1		11.1	11.1		69.9	69.9	69.9	69.9	69.9	
Effective Green, g (s)		11.1		11.1	11.1		69.9	69.9	69.9	69.9	69.9	
Actuated g/C Ratio		0.12		0.12	0.12		0.78	0.78	0.78	0.78	0.78	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		202		171	199		692	2748	1229	580	2736	
v/s Ratio Prot					0.00			c0.18			0.14	
v/s Ratio Perm		0.01		c0.08			0.02		0.09	0.09		
v/c Ratio		0.04		0.65	0.04		0.03	0.24	0.12	0.12	0.17	
Uniform Delay, d1		34.8		37.6	34.7		2.3	2.8	2.5	2.5	2.6	
Progression Factor		1.00		1.00	1.00		2.70	2.96	9.49	1.42	1.35	
Incremental Delay, d2		0.1		8.2	0.1		0.1	0.2	0.2	0.4	0.1	
Delay (s)		34.9		45.8	34.8		6.3	8.3	23.6	3.9	3.6	
Level of Service		C		D	C		A	A	C	A	A	
Approach Delay (s)		34.9			43.5			11.6			3.7	
Approach LOS		C			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	11.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	44.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	55	43	441	197	46	649
Future Volume (Veh/h)	55	43	441	197	46	649
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	60	47	479	214	50	705
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						564
pX, platoon unblocked						
vC, conflicting volume	1038	346			693	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1038	346			693	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	72	93			94	
cM capacity (veh/h)	214	650			898	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	60	47	319	374	50	352	352
Volume Left	60	0	0	0	50	0	0
Volume Right	0	47	0	214	0	0	0
cSH	214	650	1700	1700	898	1700	1700
Volume to Capacity	0.28	0.07	0.19	0.22	0.06	0.21	0.21
Queue Length 95th (ft)	28	6	0	0	4	0	0
Control Delay (s)	28.3	11.0	0.0	0.0	9.2	0.0	0.0
Lane LOS	D	B			A		
Approach Delay (s)	20.7		0.0		0.6		
Approach LOS	C						

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	35.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	654	61	83	1338	81	56
Future Volume (vph)	654	61	83	1338	81	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3494		1770	3539	1770	1583
Flt Permitted	1.00		0.31	1.00	0.95	1.00
Satd. Flow (perm)	3494		575	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	711	66	90	1454	88	61
RTOR Reduction (vph)	12	0	0	0	0	40
Lane Group Flow (vph)	765	0	90	1454	88	21
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Actuated Green, G (s)	30.5		30.5	30.5	20.5	20.5
Effective Green, g (s)	30.5		30.5	30.5	20.5	20.5
Actuated g/C Ratio	0.51		0.51	0.51	0.34	0.34
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1776		292	1798	604	540
v/s Ratio Prot	0.22			c0.41	c0.05	
v/s Ratio Perm			0.16			0.01
v/c Ratio	0.43		0.31	0.81	0.15	0.04
Uniform Delay, d1	9.3		8.6	12.3	13.7	13.2
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2		0.6	2.8	0.5	0.1
Delay (s)	9.5		9.2	15.1	14.2	13.3
Level of Service	A		A	B	B	B
Approach Delay (s)	9.5			14.8	13.8	
Approach LOS	A			B	B	

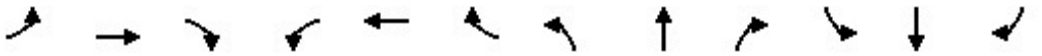
Intersection Summary			
HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	49.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	8	20	658	0	0	1416
Future Volume (Veh/h)	8	20	658	0	0	1416
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	22	715	0	0	1539
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			306			385
pX, platoon unblocked	0.71	0.89			0.89	
vC, conflicting volume	1484	358			715	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	187	38			439	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	98			100	
cM capacity (veh/h)	558	915			997	

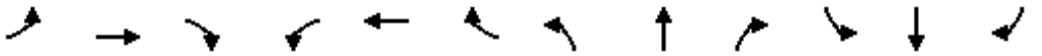
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	31	358	358	770	770
Volume Left	9	0	0	0	0
Volume Right	22	0	0	0	0
cSH	771	1700	1700	1700	1700
Volume to Capacity	0.04	0.21	0.21	0.45	0.45
Queue Length 95th (ft)	3	0	0	0	0
Control Delay (s)	9.9	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	9.9	0.0		0.0	
Approach LOS	A				

Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	Err%	ICU Level of Service	H	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	615	66	49	93	0	168	0	1285	172	140	789	0
Future Volume (vph)	615	66	49	93	0	168	0	1285	172	140	789	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5	4.5	
Lane Util. Factor	0.97	1.00	1.00	1.00		1.00		0.95	1.00	1.00	0.91	
Frt	1.00	1.00	0.85	1.00		0.85		1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1863	1583	1770		1583		3539	1583	1770	5085	
Flt Permitted	0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1863	1583	1770		1583		3539	1583	1770	5085	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	668	72	53	101	0	183	0	1397	187	152	858	0
RTOR Reduction (vph)	0	0	42	0	0	0	0	0	78	0	0	0
Lane Group Flow (vph)	668	72	11	101	0	183	0	1397	109	152	858	0
Turn Type	Split	NA	Perm	Prot		Prot		NA	Perm	Prot	NA	
Protected Phases	3	3		4		4		6		5	2	
Permitted Phases			3						6			
Actuated Green, G (s)	18.5	18.5	18.5	10.5		10.5		35.0	35.0	8.0	47.5	
Effective Green, g (s)	18.5	18.5	18.5	10.5		10.5		35.0	35.0	8.0	47.5	
Actuated g/C Ratio	0.21	0.21	0.21	0.12		0.12		0.39	0.39	0.09	0.53	
Clearance Time (s)	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5	4.5	
Lane Grp Cap (vph)	705	382	325	206		184		1376	615	157	2683	
v/s Ratio Prot	c0.19	0.04		0.06		c0.12		c0.39		c0.09	0.17	
v/s Ratio Perm			0.01						0.07			
v/c Ratio	0.95	0.19	0.03	0.49		0.99		1.02	0.18	0.97	0.32	
Uniform Delay, d1	35.3	29.5	28.6	37.2		39.7		27.5	18.1	40.9	12.1	
Progression Factor	0.94	0.90	1.00	1.10		1.07		1.30	2.48	1.28	0.79	
Incremental Delay, d2	19.5	0.8	0.1	6.7		58.9		24.9	0.5	61.2	0.3	
Delay (s)	52.7	27.4	28.7	47.8		101.4		60.5	45.2	113.5	9.8	
Level of Service	D	C	C	D		F		E	D	F	A	
Approach Delay (s)		48.8			82.3			58.7			25.4	
Approach LOS		D			F			E			C	

Intersection Summary			
HCM 2000 Control Delay	49.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	74.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	357	46	17	1	46	298	20	463	19	116	20	172
Future Volume (vph)	357	46	17	1	46	298	20	463	19	116	20	172
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	4.5
Lane Util. Factor	0.97	1.00		1.00	0.95			0.95			1.00	1.00
Frt	1.00	0.96		1.00	0.87			0.99			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.96	1.00
Satd. Flow (prot)	3433	1789		1770	3079			3512			1787	1583
Flt Permitted	0.95	1.00		0.95	1.00			1.00			0.96	1.00
Satd. Flow (perm)	3433	1789		1770	3079			3512			1787	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	388	50	18	1	50	324	22	503	21	126	22	187
RTOR Reduction (vph)	0	12	0	0	296	0	0	3	0	0	0	167
Lane Group Flow (vph)	388	56	0	1	78	0	0	543	0	0	148	20
Turn Type	Split	NA		Split	NA		Split	NA		Split	NA	custom
Protected Phases	2	2		1	1		3	3		4	4	4
Permitted Phases												5
Actuated Green, G (s)	29.8	29.8		7.8	7.8			25.0			9.4	9.4
Effective Green, g (s)	29.8	29.8		7.8	7.8			25.0			9.4	9.4
Actuated g/C Ratio	0.33	0.33		0.09	0.09			0.28			0.10	0.10
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	1136	592		153	266			975			186	165
v/s Ratio Prot	c0.11	0.03		0.00	c0.03			c0.15			c0.08	0.01
v/s Ratio Perm												
v/c Ratio	0.34	0.09		0.01	0.29			0.56			0.80	0.12
Uniform Delay, d1	22.7	20.8		37.6	38.5			27.8			39.4	36.5
Progression Factor	1.03	1.16		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	0.7	0.3		0.0	0.6			2.3			20.5	0.3
Delay (s)	24.0	24.4		37.6	39.1			30.1			59.9	36.9
Level of Service	C	C		D	D			C			E	D
Approach Delay (s)		24.1			39.1			30.1			47.0	
Approach LOS		C			D			C			D	

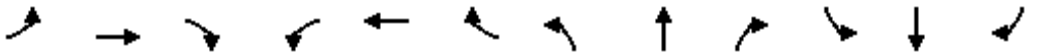
Intersection Summary			
HCM 2000 Control Delay	33.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	22.5
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	162	19	53	245	100	163
Future Volume (vph)	162	19	53	245	100	163
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	176	21	58	266	109	177

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2
Volume Total (vph)	197	58	266	109	177
Volume Left (vph)	0	58	0	109	0
Volume Right (vph)	21	0	0	0	177
Hadj (s)	-0.03	0.53	0.03	0.53	-0.67
Departure Headway (s)	5.5	6.1	5.6	6.4	5.2
Degree Utilization, x	0.30	0.10	0.41	0.19	0.26
Capacity (veh/h)	622	565	622	531	648
Control Delay (s)	10.8	8.5	11.2	9.7	8.8
Approach Delay (s)	10.8	10.7		9.1	
Approach LOS	B	B		A	

Intersection Summary			
Delay	10.2		
Level of Service	B		
Intersection Capacity Utilization	28.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	256	5	64	6	6	14	52	630	7	7	266	240
Future Volume (vph)	256	5	64	6	6	14	52	630	7	7	266	240
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	278	5	70	7	7	15	57	685	8	8	289	261

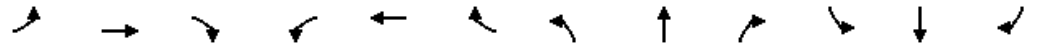
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total (vph)	353	29	57	685	8	8	289	261
Volume Left (vph)	278	7	57	0	0	8	0	0
Volume Right (vph)	70	15	0	0	8	0	0	261
Hadj (s)	0.07	-0.23	0.53	0.03	-0.67	0.53	0.03	-0.67
Departure Headway (s)	6.6	7.4	7.0	6.5	3.2	7.4	6.9	3.2
Degree Utilization, x	0.64	0.06	0.11	1.23	0.01	0.02	0.55	0.23
Capacity (veh/h)	531	431	505	562	1121	471	499	1122
Control Delay (s)	20.7	10.9	9.7	140.3	5.0	9.3	16.9	6.0
Approach Delay (s)	20.7	10.9	129.0			11.7		
Approach LOS	C	B	F			B		

Intersection Summary				
Delay	65.6			
Level of Service	F			
Intersection Capacity Utilization	71.5%	ICU Level of Service	C	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	256	458	200	30	162	96	91	1032	0	77	782	316
Future Volume (vph)	256	458	200	30	162	96	91	1032	0	77	782	316
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.95		1.00	0.94		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3378		1770	3342		1770	3539		1770	3539	1583
Flt Permitted	0.35	1.00		0.38	1.00		0.33	1.00		0.95	1.00	1.00
Satd. Flow (perm)	650	3378		708	3342		619	3539		1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	278	498	217	33	176	104	99	1122	0	84	850	343
RTOR Reduction (vph)	0	60	0	0	0	0	0	0	0	0	0	177
Lane Group Flow (vph)	278	655	0	33	280	0	99	1122	0	84	850	166
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4			6					2
Actuated Green, G (s)	28.0	28.0		12.8	12.8		40.8	40.8		7.7	43.6	43.6
Effective Green, g (s)	28.0	28.0		12.8	12.8		40.8	40.8		7.7	43.6	43.6
Actuated g/C Ratio	0.31	0.31		0.14	0.14		0.45	0.45		0.09	0.48	0.48
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	335	1050		100	475		343	1604		151	1714	766
v/s Ratio Prot	c0.10	0.19			0.08		0.02	c0.32		0.05	c0.24	
v/s Ratio Perm	c0.16			0.05			0.11					0.10
v/c Ratio	0.83	0.62		0.33	0.59		0.29	0.70		0.56	0.50	0.22
Uniform Delay, d1	26.2	26.5		34.7	36.1		16.0	19.7		39.5	15.7	13.4
Progression Factor	0.59	0.48		1.00	1.00		0.66	0.73		1.36	0.58	0.23
Incremental Delay, d2	14.1	1.0		1.9	1.9		0.4	2.2		4.3	1.0	0.6
Delay (s)	29.6	13.9		36.7	38.0		10.9	16.5		58.1	10.1	3.6
Level of Service	C	B		D	D		B	B		E	B	A
Approach Delay (s)		18.3			37.9			16.0			11.5	
Approach LOS		B			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	16.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	66	42	111	14	66	28	97	168	20	13	33	26
Future Volume (vph)	66	42	111	14	66	28	97	168	20	13	33	26
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	72	46	121	15	72	30	105	183	22	14	36	28

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total (vph)	118	121	117	310	78
Volume Left (vph)	72	0	15	105	14
Volume Right (vph)	0	121	30	22	28
Hadj (s)	0.34	-0.67	-0.09	0.06	-0.15
Departure Headway (s)	6.0	5.0	5.3	5.0	5.1
Degree Utilization, x	0.20	0.17	0.17	0.43	0.11
Capacity (veh/h)	560	672	622	690	636
Control Delay (s)	9.3	7.8	9.4	11.7	8.8
Approach Delay (s)	8.5		9.4	11.7	8.8
Approach LOS	A		A	B	A

Intersection Summary				
Delay	10.0			
Level of Service	A			
Intersection Capacity Utilization	41.4%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	328	493	118	0	279	15	69	780	149	42	844	126
Future Volume (vph)	328	493	118	0	279	15	69	780	149	42	844	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.97			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3437			3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.33	1.00			1.00	1.00	0.23	1.00	1.00	0.26	1.00	1.00
Satd. Flow (perm)	614	3437			3539	1583	428	3539	1583	480	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	357	536	128	0	303	16	75	848	162	46	917	137
RTOR Reduction (vph)	0	26	0	0	0	0	0	0	80	0	0	41
Lane Group Flow (vph)	357	638	0	0	303	16	75	848	82	46	917	96
Turn Type	pm+pt	NA			NA	Perm	Perm	NA	Perm	Perm	NA	pm+ov
Protected Phases	7	4			8			2			6	7
Permitted Phases	4					8	2		2	6		6
Actuated Green, G (s)	35.7	35.7			13.3	13.3	45.3	45.3	45.3	45.3	45.3	63.2
Effective Green, g (s)	35.7	35.7			13.3	13.3	45.3	45.3	45.3	45.3	45.3	63.2
Actuated g/C Ratio	0.40	0.40			0.15	0.15	0.50	0.50	0.50	0.50	0.50	0.70
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	473	1363			522	233	215	1781	796	241	1781	1190
v/s Ratio Prot	c0.15	0.19			0.09			0.24			c0.26	0.02
v/s Ratio Perm	c0.15					0.01	0.18		0.05	0.10		0.04
v/c Ratio	0.75	0.47			0.58	0.07	0.35	0.48	0.10	0.19	0.51	0.08
Uniform Delay, d1	21.0	20.1			35.7	33.0	13.5	14.6	11.7	12.3	15.0	4.2
Progression Factor	0.60	0.53			1.41	1.52	1.00	1.00	1.00	0.71	0.66	0.15
Incremental Delay, d2	6.0	0.2			1.2	0.1	4.4	0.9	0.3	1.6	0.9	0.0
Delay (s)	18.6	11.0			51.6	50.4	17.9	15.5	12.0	10.2	10.8	0.7
Level of Service	B	B			D	D	B	B	B	B	B	A
Approach Delay (s)		13.6			51.6			15.1			9.5	
Approach LOS		B			D			B			A	

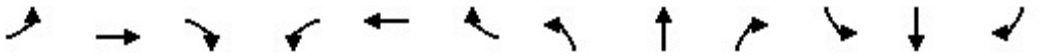
Intersection Summary			
HCM 2000 Control Delay	16.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	599	23	81	317	79	6	80	235	83	28	30
Future Volume (vph)	73	599	23	81	317	79	6	80	235	83	28	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5			4.5			4.5	
Lane Util. Factor		0.95	1.00		0.95			1.00			1.00	
Frt		1.00	0.85		0.98			0.90			0.97	
Flt Protected		0.99	1.00		0.99			1.00			0.97	
Satd. Flow (prot)		3520	1583		3422			1677			1757	
Flt Permitted		0.99	1.00		0.99			0.99			0.52	
Satd. Flow (perm)		3520	1583		3422			1671			948	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	79	651	25	88	345	86	7	87	255	90	30	33
RTOR Reduction (vph)	0	0	16	0	19	0	0	108	0	0	11	0
Lane Group Flow (vph)	0	730	9	0	500	0	0	241	0	0	142	0
Turn Type	Split	NA	Perm	Split	NA		Perm	NA		Perm	NA	
Protected Phases	2	2		1	1			8			4	
Permitted Phases			2				8			4		
Actuated Green, G (s)		31.4	31.4		17.6			27.5			27.5	
Effective Green, g (s)		31.4	31.4		17.6			27.5			27.5	
Actuated g/C Ratio		0.35	0.35		0.20			0.31			0.31	
Clearance Time (s)		4.5	4.5		4.5			4.5			4.5	
Vehicle Extension (s)		3.0	3.0		3.0			3.0			3.0	
Lane Grp Cap (vph)		1228	552		669			510			289	
v/s Ratio Prot		c0.21			c0.15							
v/s Ratio Perm			0.01					0.14			c0.15	
v/c Ratio		0.59	0.02		0.75			0.47			0.49	
Uniform Delay, d1		24.1	19.2		34.1			25.4			25.5	
Progression Factor		0.61	1.00		1.03			1.00			1.00	
Incremental Delay, d2		2.0	0.0		3.4			3.1			5.9	
Delay (s)		16.6	19.2		38.4			28.5			31.4	
Level of Service		B	B		D			C			C	
Approach Delay (s)		16.7			38.4			28.5			31.4	
Approach LOS		B			D			C			C	

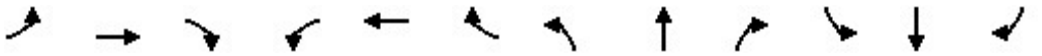
Intersection Summary			
HCM 2000 Control Delay	26.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	74.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



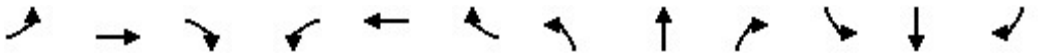
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	274	578	183	20	2048	0	0	655	25
Future Volume (vph)	0	0	0	274	578	183	20	2048	0	0	655	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5	4.5		4.5	4.5			4.5	
Lane Util. Factor				0.86	0.86		1.00	0.91			0.95	
Frt				1.00	0.97		1.00	1.00			0.99	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1522	4630		1770	5085			3520	
Flt Permitted				0.95	1.00		0.33	1.00			1.00	
Satd. Flow (perm)				1522	4630		619	5085			3520	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	298	628	199	22	2226	0	0	712	27
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	0	0	268	857	0	22	2226	0	0	736	0
Turn Type				Prot	NA		Perm	NA			NA	
Protected Phases				3	8			2			6	
Permitted Phases							2					
Actuated Green, G (s)				27.5	27.5		53.5	53.5			53.5	
Effective Green, g (s)				27.5	27.5		53.5	53.5			53.5	
Actuated g/C Ratio				0.31	0.31		0.59	0.59			0.59	
Clearance Time (s)				4.5	4.5		4.5	4.5			4.5	
Lane Grp Cap (vph)				465	1414		367	3022			2092	
v/s Ratio Prot				0.18	c0.19			c0.44			0.21	
v/s Ratio Perm							0.04					
v/c Ratio				0.58	0.61		0.06	0.74			0.35	
Uniform Delay, d1				26.3	26.6		7.7	13.2			9.4	
Progression Factor				1.00	1.00		0.99	0.78			1.00	
Incremental Delay, d2				5.1	1.9		0.1	0.4			0.5	
Delay (s)				31.5	28.6		7.7	10.7			9.8	
Level of Service				C	C		A	B			A	
Approach Delay (s)		0.0			29.3			10.7			9.8	
Approach LOS		A			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	15.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	62.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



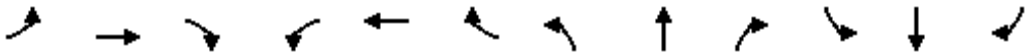
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	67	85	183	56	69	0	869	94	57	811	114
Future Volume (vph)	0	67	85	183	56	69	0	869	94	57	811	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00		0.95	1.00	1.00	0.95	
Frt		1.00	0.85	1.00	1.00	0.85		1.00	0.85	1.00	0.98	
Flt Protected		1.00	1.00	0.95	1.00	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1863	1583	1770	1863	1583		3539	1583	1770	3474	
Flt Permitted		1.00	1.00	0.71	1.00	1.00		1.00	1.00	0.15	1.00	
Satd. Flow (perm)		1863	1583	1322	1863	1583		3539	1583	283	3474	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	73	92	199	61	75	0	945	102	62	882	124
RTOR Reduction (vph)	0	0	64	0	0	53	0	0	62	0	18	0
Lane Group Flow (vph)	0	73	28	199	61	23	0	945	40	62	988	0
Turn Type		NA	Perm	Perm	NA	Perm		NA	Perm	pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases			4	8		8			2	6		
Actuated Green, G (s)		18.0	18.0	18.0	18.0	18.0		23.5	23.5	33.0	33.0	
Effective Green, g (s)		18.0	18.0	18.0	18.0	18.0		23.5	23.5	33.0	33.0	
Actuated g/C Ratio		0.30	0.30	0.30	0.30	0.30		0.39	0.39	0.55	0.55	
Clearance Time (s)		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	
Lane Grp Cap (vph)		558	474	396	558	474		1386	620	279	1910	
v/s Ratio Prot		0.04			0.03			c0.27		0.02	c0.28	
v/s Ratio Perm			0.02	c0.15		0.01			0.03	0.10		
v/c Ratio		0.13	0.06	0.50	0.11	0.05		0.68	0.06	0.22	0.52	
Uniform Delay, d1		15.3	15.0	17.3	15.2	14.9		15.1	11.4	8.1	8.5	
Progression Factor		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.5	0.2	4.5	0.4	0.2		2.7	0.2	1.8	1.0	
Delay (s)		15.8	15.2	21.8	15.6	15.1		17.9	11.6	9.9	9.5	
Level of Service		B	B	C	B	B		B	B	A	A	
Approach Delay (s)		15.5			19.2			17.3			9.5	
Approach LOS		B			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	56.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	985	197	116	953	126	100	716	122	100	669	124
Future Volume (vph)	93	985	197	116	953	126	100	716	122	100	669	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	4996		1770	3539	1583	1770	3539	1583
Flt Permitted	0.23	1.00	1.00	0.10	1.00		0.19	1.00	1.00	0.16	1.00	1.00
Satd. Flow (perm)	427	3539	1583	191	4996		349	3539	1583	295	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	101	1071	214	126	1036	137	109	778	133	109	727	135
RTOR Reduction (vph)	0	0	46	0	19	0	0	0	91	0	0	91
Lane Group Flow (vph)	101	1071	168	126	1154	0	109	778	42	109	727	44
Turn Type	Perm	NA	pm+ov	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4	5	3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		6
Actuated Green, G (s)	34.5	34.5	40.2	45.5	45.5		31.6	25.9	25.9	30.4	25.3	25.3
Effective Green, g (s)	34.5	34.5	40.2	45.5	45.5		31.6	25.9	25.9	30.4	25.3	25.3
Actuated g/C Ratio	0.38	0.38	0.45	0.51	0.51		0.35	0.29	0.29	0.34	0.28	0.28
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	163	1356	707	210	2525		212	1018	455	183	994	444
v/s Ratio Prot		c0.30	0.02	c0.04	0.23		0.03	c0.22		c0.03	0.21	
v/s Ratio Perm	0.24		0.09	0.26			0.15		0.03	0.17		0.03
v/c Ratio	0.62	0.79	0.24	0.60	0.46		0.51	0.76	0.09	0.60	0.73	0.10
Uniform Delay, d1	22.4	24.5	15.4	16.5	14.3		33.5	29.3	23.4	35.1	29.3	23.9
Progression Factor	0.58	0.58	0.45	1.00	1.00		1.00	1.00	1.00	0.67	0.53	0.32
Incremental Delay, d2	13.1	3.7	0.6	12.1	0.6		8.6	5.5	0.4	13.0	4.6	0.4
Delay (s)	26.1	18.0	7.5	28.5	14.9		42.1	34.7	23.8	36.4	20.1	8.1
Level of Service	C	B	A	C	B		D	C	C	D	C	A
Approach Delay (s)		16.9			16.2			34.1			20.3	
Approach LOS		B			B			C			C	

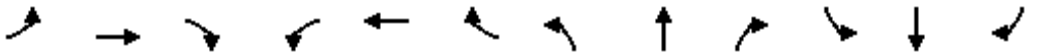
Intersection Summary			
HCM 2000 Control Delay	21.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	328	71	59	433	363	180	1011	50	98	411	58
Future Volume (vph)	105	328	71	59	433	363	180	1011	50	98	411	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3445		1770	3539	1583	1770	3539	1583	1770	4991	
Flt Permitted	0.35	1.00		0.38	1.00	1.00	0.45	1.00	1.00	0.20	1.00	
Satd. Flow (perm)	645	3445		703	3539	1583	846	3539	1583	366	4991	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	114	357	77	64	471	395	196	1099	54	107	447	63
RTOR Reduction (vph)	0	21	0	0	0	51	0	0	22	0	18	0
Lane Group Flow (vph)	114	413	0	64	471	344	196	1099	32	107	492	0
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8		8	2		2	6		
Actuated Green, G (s)	19.2	19.2		27.9	27.9	27.9	53.1	53.1	53.1	53.1	53.1	
Effective Green, g (s)	19.2	19.2		27.9	27.9	27.9	53.1	53.1	53.1	53.1	53.1	
Actuated g/C Ratio	0.21	0.21		0.31	0.31	0.31	0.59	0.59	0.59	0.59	0.59	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	137	734		267	1097	490	499	2088	933	215	2944	
v/s Ratio Prot		0.12		0.01	0.13			c0.31			0.10	
v/s Ratio Perm	c0.18			0.06		c0.22	0.23		0.02	0.29		
v/c Ratio	0.83	0.56		0.24	0.43	0.70	0.39	0.53	0.03	0.50	0.17	
Uniform Delay, d1	33.9	31.6		27.5	24.7	27.4	9.8	11.0	7.7	10.7	8.4	
Progression Factor	1.00	1.00		1.00	1.00	1.00	0.92	0.90	1.38	0.82	0.49	
Incremental Delay, d2	33.0	1.0		0.5	0.3	4.5	1.9	0.8	0.1	7.7	0.1	
Delay (s)	66.9	32.6		28.0	25.0	31.9	10.9	10.7	10.7	16.5	4.2	
Level of Service	E	C		C	C	C	B	B	B	B	A	
Approach Delay (s)		39.8			28.1			10.7			6.4	
Approach LOS		D			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	19.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	67.5%	ICU Level of Service	C
Analysis Period (min)	15		

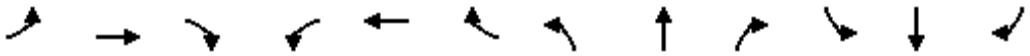
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	969	270	120	885	308	293	712	155	250	317	49
Future Volume (vph)	48	969	270	120	885	308	293	712	155	250	317	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3469	
Flt Permitted	0.14	1.00	1.00	0.14	1.00	1.00	0.38	1.00	1.00	0.19	1.00	
Satd. Flow (perm)	264	3539	1583	264	3539	1583	704	3539	1583	360	3469	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	52	1053	293	130	962	335	318	774	168	272	345	53
RTOR Reduction (vph)	0	0	191	0	0	203	0	0	127	0	14	0
Lane Group Flow (vph)	52	1053	102	130	962	132	318	774	41	272	384	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		
Actuated Green, G (s)	31.2	31.2	31.2	35.5	35.5	35.5	34.8	22.0	22.0	32.2	20.7	
Effective Green, g (s)	31.2	31.2	31.2	35.5	35.5	35.5	34.8	22.0	22.0	32.2	20.7	
Actuated g/C Ratio	0.35	0.35	0.35	0.39	0.39	0.39	0.39	0.24	0.24	0.36	0.23	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	141	1226	548	226	1395	624	423	865	386	308	797	
v/s Ratio Prot	0.01	c0.30		0.05	c0.27		0.11	c0.22		c0.11	0.11	
v/s Ratio Perm	0.11		0.06	0.18		0.08	0.18		0.03	0.20		
v/c Ratio	0.37	0.86	0.19	0.58	0.69	0.21	0.75	0.89	0.11	0.88	0.48	
Uniform Delay, d1	22.4	27.4	20.5	31.9	22.7	18.0	20.9	32.9	26.4	23.4	30.0	
Progression Factor	1.00	1.00	1.00	0.79	0.72	0.29	0.74	0.69	0.38	0.92	1.02	
Incremental Delay, d2	1.6	7.9	0.7	2.5	2.0	0.5	6.6	10.5	0.1	24.0	0.5	
Delay (s)	24.1	35.3	21.3	27.6	18.3	5.8	22.1	33.3	10.1	45.5	30.9	
Level of Service	C	D	C	C	B	A	C	C	B	D	C	
Approach Delay (s)		31.9			16.2			27.4			36.8	
Approach LOS		C			B			C			D	

Intersection Summary			
HCM 2000 Control Delay	26.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	82.0%	ICU Level of Service	D
Analysis Period (min)	15		

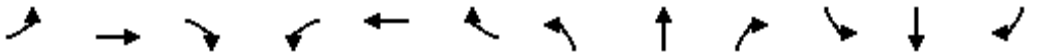
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	161	73	96	160	131	533	55	459	70	308	238	132
Future Volume (vph)	161	73	96	160	131	533	55	459	70	308	238	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	0.91	0.91		1.00	1.00	1.00	0.97	0.95	1.00	0.97	0.95	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	0.99		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1610	3135		1770	1863	1583	3433	3539	1583	3433	3350	
Flt Permitted	0.67	0.83		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1130	2650		1770	1863	1583	3433	3539	1583	3433	3350	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	175	79	104	174	142	579	60	499	76	335	259	143
RTOR Reduction (vph)	0	88	0	0	0	345	0	0	51	0	72	0
Lane Group Flow (vph)	112	158	0	174	142	234	60	499	25	335	330	0
Turn Type	Perm	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4					8			2			
Actuated Green, G (s)	13.7	13.7		13.5	31.7	31.7	5.1	29.5	29.5	15.3	39.7	
Effective Green, g (s)	13.7	13.7		13.5	31.7	31.7	5.1	29.5	29.5	15.3	39.7	
Actuated g/C Ratio	0.15	0.15		0.15	0.35	0.35	0.06	0.33	0.33	0.17	0.44	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	172	403		265	656	557	194	1160	518	583	1477	
v/s Ratio Prot				c0.10	0.08		0.02	c0.14		c0.10	0.10	
v/s Ratio Perm	c0.10	0.06				0.15			0.02			
v/c Ratio	0.65	0.39		0.66	0.22	0.42	0.31	0.43	0.05	0.57	0.22	
Uniform Delay, d1	35.9	34.4		36.1	20.4	22.2	40.8	23.7	20.7	34.4	15.6	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.71	0.56	
Incremental Delay, d2	8.5	0.6		5.8	0.2	0.5	0.9	1.2	0.2	1.2	0.3	
Delay (s)	44.4	35.0		41.8	20.6	22.7	41.7	24.8	20.8	25.7	9.0	
Level of Service	D	D		D	C	C	D	C	C	C	A	
Approach Delay (s)		38.0			26.1			25.9			16.6	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	25.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	233	242	1	0	658	370	5	672	36	192	281	190
Future Volume (vph)	233	242	1	0	658	370	5	672	36	192	281	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95			0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00			0.95		1.00	0.99		1.00	0.94	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3537			3348		1770	3512		1770	3325	
Flt Permitted	0.95	1.00			1.00		0.40	1.00		0.26	1.00	
Satd. Flow (perm)	1770	3537			3348		740	3512		477	3325	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	253	263	1	0	715	402	5	730	39	209	305	207
RTOR Reduction (vph)	0	0	0	0	65	0	0	3	0	0	100	0
Lane Group Flow (vph)	253	264	0	0	1052	0	5	766	0	209	412	0
Turn Type	Prot	NA			NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	18.1	58.7			36.1		52.3	52.3		52.3	52.3	
Effective Green, g (s)	18.1	58.7			36.1		52.3	52.3		52.3	52.3	
Actuated g/C Ratio	0.15	0.49			0.30		0.44	0.44		0.44	0.44	
Clearance Time (s)	4.5	4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	266	1730			1007		322	1530		207	1449	
v/s Ratio Prot	c0.14	0.07			c0.31			0.22			0.12	
v/s Ratio Perm							0.01			c0.44		
v/c Ratio	0.95	0.15			1.04		0.02	0.50		1.01	0.28	
Uniform Delay, d1	50.5	16.9			42.0		19.2	24.4		33.9	21.8	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	41.8	0.0			40.7		0.1	1.2		65.1	0.5	
Delay (s)	92.3	17.0			82.7		19.3	25.6		98.9	22.3	
Level of Service	F	B			F		B	C		F	C	
Approach Delay (s)		53.8			82.7			25.6			44.5	
Approach LOS		D			F			C			D	

Intersection Summary			
HCM 2000 Control Delay	55.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	88.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	97	182	33	200	27	542	909	28	9	352	103
Future Volume (vph)	110	97	182	33	200	27	542	909	28	9	352	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1830		1770	3524		1770	4913	
Flt Permitted	0.37	1.00	1.00	0.69	1.00		0.42	1.00		0.21	1.00	
Satd. Flow (perm)	686	1863	1583	1284	1830		785	3524		388	4913	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	120	105	198	36	217	29	589	988	30	10	383	112
RTOR Reduction (vph)	0	0	159	0	6	0	0	2	0	0	54	0
Lane Group Flow (vph)	120	105	39	36	240	0	589	1016	0	10	441	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	17.7	17.7	17.7	17.7	17.7		63.3	63.3		26.3	26.3	
Effective Green, g (s)	17.7	17.7	17.7	17.7	17.7		63.3	63.3		26.3	26.3	
Actuated g/C Ratio	0.20	0.20	0.20	0.20	0.20		0.70	0.70		0.29	0.29	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	134	366	311	252	359		907	2478		113	1435	
v/s Ratio Prot		0.06			0.13		c0.23	0.29			0.09	
v/s Ratio Perm	c0.17		0.02	0.03			c0.22			0.03		
v/c Ratio	0.90	0.29	0.13	0.14	0.67		0.65	0.41		0.09	0.31	
Uniform Delay, d1	35.2	30.8	29.8	29.9	33.4		10.3	5.6		23.1	24.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.41	0.39		1.00	1.00	
Incremental Delay, d2	47.3	0.4	0.2	0.3	4.7		1.3	0.4		1.5	0.6	
Delay (s)	82.5	31.2	30.0	30.1	38.1		5.6	2.6		24.7	25.3	
Level of Service	F	C	C	C	D		A	A		C	C	
Approach Delay (s)		45.2			37.1			3.7			25.3	
Approach LOS		D			D			A			C	

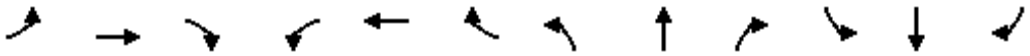
Intersection Summary				
HCM 2000 Control Delay	17.1	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.73			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5	
Intersection Capacity Utilization	72.4%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	82	0	0	0	102	1145	658	0	721	52
Future Volume (Veh/h)	0	0	82	0	0	0	102	1145	658	0	721	52
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	89	0	0	0	111	1245	715	0	784	57
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								206			797	
pX, platoon unblocked	0.76	0.76		0.76	0.76	0.76				0.76		
vC, conflicting volume	1657	2280	290	1817	2308	622	841			1245		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1229	2050	290	1441	2088	0	841			686		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	87	100	100	100	86			100		
cM capacity (veh/h)	91	36	707	55	34	822	790			685		

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	89	111	622	622	715	314	314	214
Volume Left	0	111	0	0	0	0	0	0
Volume Right	89	0	0	0	715	0	0	57
cSH	707	790	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.13	0.14	0.37	0.37	0.42	0.18	0.18	0.13
Queue Length 95th (ft)	11	12	0	0	0	0	0	0
Control Delay (s)	10.8	10.3	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	B						
Approach Delay (s)	10.8	0.6				0.0		
Approach LOS	B							

Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	44.1%	ICU Level of Service		A
Analysis Period (min)	15			



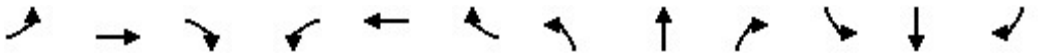
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	947	22	34	64	0	40	0	918	16	4	799	0
Future Volume (vph)	947	22	34	64	0	40	0	918	16	4	799	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5		4.5		4.5		4.5	4.5	
Lane Util. Factor	0.97	1.00		1.00		1.00		0.91		1.00	0.91	
Frt	1.00	0.91		1.00		0.85		1.00		1.00	1.00	
Flt Protected	0.95	1.00		0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)	3433	1693		1770		1583		5073		1770	5085	
Flt Permitted	0.95	1.00		0.95		1.00		1.00		0.22	1.00	
Satd. Flow (perm)	3433	1693		1770		1583		5073		413	5085	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1029	24	37	70	0	43	0	998	17	4	868	0
RTOR Reduction (vph)	0	32	0	0	0	41	0	2	0	0	0	0
Lane Group Flow (vph)	1029	29	0	70	0	2	0	1013	0	4	868	0
Turn Type	pm+pt	NA		Prot		Perm		NA		Perm	NA	
Protected Phases	7	4		3				2			6	
Permitted Phases	4					8				6		
Actuated Green, G (s)	29.8	11.5		21.9		3.6		43.1		43.1	43.1	
Effective Green, g (s)	29.8	11.5		21.9		3.6		43.1		43.1	43.1	
Actuated g/C Ratio	0.33	0.13		0.24		0.04		0.48		0.48	0.48	
Clearance Time (s)	4.5	4.5		4.5		4.5		4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	1136	216		430		63		2429		197	2435	
v/s Ratio Prot	c0.30	0.02		c0.04				c0.20			0.17	
v/s Ratio Perm						0.00				0.01		
v/c Ratio	0.91	0.13		0.16		0.03		0.42		0.02	0.36	
Uniform Delay, d1	28.8	34.8		26.8		41.5		15.3		12.3	14.7	
Progression Factor	0.47	0.86		1.00		1.00		0.43		0.79	0.80	
Incremental Delay, d2	7.4	0.2		0.2		0.2		0.4		0.2	0.4	
Delay (s)	21.0	30.3		27.0		41.7		6.9		9.9	12.2	
Level of Service	C	C		C		D		A		A	B	
Approach Delay (s)		21.5			32.6			6.9			12.2	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	14.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	60.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

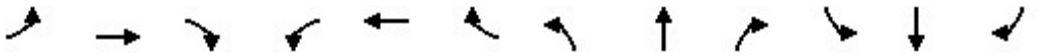
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	1029	0	0	1230	23	423	900	246	0	0	0
Future Volume (vph)	80	1029	0	0	1230	23	423	900	246	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5		4.5	4.5				
Lane Util. Factor	1.00	0.95			0.91		0.86	0.86				
Frt	1.00	1.00			1.00		1.00	0.97				
Flt Protected	0.95	1.00			1.00		0.95	1.00				
Satd. Flow (prot)	1770	3539			5071		1522	4649				
Flt Permitted	0.14	1.00			1.00		0.95	1.00				
Satd. Flow (perm)	263	3539			5071		1522	4649				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	1118	0	0	1337	25	460	978	267	0	0	0
RTOR Reduction (vph)	0	0	0	0	2	0	0	40	0	0	0	0
Lane Group Flow (vph)	87	1118	0	0	1360	0	414	1251	0	0	0	0
Turn Type	Perm	NA			NA		pm+pt	NA				
Protected Phases		4			8		6	2				
Permitted Phases	4						2					
Actuated Green, G (s)	47.5	47.5			47.5		33.5	33.5				
Effective Green, g (s)	47.5	47.5			47.5		33.5	33.5				
Actuated g/C Ratio	0.53	0.53			0.53		0.37	0.37				
Clearance Time (s)	4.5	4.5			4.5		4.5	4.5				
Lane Grp Cap (vph)	138	1867			2676		566	1730				
v/s Ratio Prot		0.32			0.27		c0.27	0.27				
v/s Ratio Perm	c0.33											
v/c Ratio	0.63	0.60			0.51		0.73	0.72				
Uniform Delay, d1	15.0	14.7			13.7		24.4	24.3				
Progression Factor	1.00	1.00			0.68		1.00	1.00				
Incremental Delay, d2	19.9	1.4			0.6		8.1	2.7				
Delay (s)	34.9	16.1			10.0		32.5	26.9				
Level of Service	C	B			A		C	C				
Approach Delay (s)		17.5			10.0			28.3			0.0	
Approach LOS		B			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	19.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	63.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	98	504	21	193	864	0	0	157	40
Future Volume (vph)	0	0	0	98	504	21	193	864	0	0	157	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.5		4.5	4.5			4.5	
Lane Util. Factor					0.91		1.00	0.95			0.95	
Frt					0.99		1.00	1.00			0.97	
Flt Protected					0.99		0.95	1.00			1.00	
Satd. Flow (prot)					5020		1770	3539			3433	
Flt Permitted					0.99		0.62	1.00			1.00	
Satd. Flow (perm)					5020		1151	3539			3433	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	107	548	23	210	939	0	0	171	43
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	0	0	19	0
Lane Group Flow (vph)	0	0	0	0	674	0	210	939	0	0	195	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8			2					
Actuated Green, G (s)					30.5		50.5	50.5			50.5	
Effective Green, g (s)					30.5		50.5	50.5			50.5	
Actuated g/C Ratio					0.34		0.56	0.56			0.56	
Clearance Time (s)					4.5		4.5	4.5			4.5	
Lane Grp Cap (vph)					1701		645	1985			1926	
v/s Ratio Prot								c0.27			0.06	
v/s Ratio Perm					0.13		0.18					
v/c Ratio					0.40		0.33	0.47			0.10	
Uniform Delay, d1					22.7		10.6	11.8			9.2	
Progression Factor					0.14		0.54	0.51			1.00	
Incremental Delay, d2					0.6		1.0	0.6			0.1	
Delay (s)					3.8		6.7	6.6			9.3	
Level of Service					A		A	A			A	
Approach Delay (s)		0.0			3.8			6.7			9.3	
Approach LOS		A			A			A			A	

Intersection Summary					
HCM 2000 Control Delay	6.0	HCM 2000 Level of Service		A	
HCM 2000 Volume to Capacity ratio	0.44				
Actuated Cycle Length (s)	90.0	Sum of lost time (s)		9.0	
Intersection Capacity Utilization	59.6%	ICU Level of Service		B	
Analysis Period (min)	15				
c Critical Lane Group					



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	294	21	0	0	0	0	965	436	0	256	0
Future Volume (vph)	92	294	21	0	0	0	0	965	436	0	256	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5						4.5			4.5	
Lane Util. Factor		0.95						0.95			0.95	
Frt		0.99						0.95			1.00	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		3472						3374			3539	
Flt Permitted		0.99						1.00			1.00	
Satd. Flow (perm)		3472						3374			3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	100	320	23	0	0	0	0	1049	474	0	278	0
RTOR Reduction (vph)	0	5	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	438	0	0	0	0	0	1523	0	0	278	0
Turn Type	Perm	NA						NA			NA	
Protected Phases		4						2			6	
Permitted Phases	4											
Actuated Green, G (s)		19.5						61.5			61.5	
Effective Green, g (s)		19.5						61.5			61.5	
Actuated g/C Ratio		0.22						0.68			0.68	
Clearance Time (s)		4.5						4.5			4.5	
Lane Grp Cap (vph)		752						2305			2418	
v/s Ratio Prot								c0.45			0.08	
v/s Ratio Perm		0.13										
v/c Ratio		0.58						0.66			0.11	
Uniform Delay, d1		31.6						8.2			4.9	
Progression Factor		1.00						0.65			1.58	
Incremental Delay, d2		3.3						1.1			0.1	
Delay (s)		34.9						6.4			7.8	
Level of Service		C						A			A	
Approach Delay (s)		34.9			0.0			6.4			7.8	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	12.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	59.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	707	116	74	422	249	152	1135	75	88	407	166
Future Volume (vph)	126	707	116	74	422	249	152	1135	75	88	407	166
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.98		1.00	0.94		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3464		1770	3342		1770	3506		1770	3539	1583
Flt Permitted	0.25	1.00		0.16	1.00		0.48	1.00		0.12	1.00	1.00
Satd. Flow (perm)	459	3464		304	3342		892	3506		217	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	137	768	126	80	459	271	165	1234	82	96	442	180
RTOR Reduction (vph)	0	15	0	0	32	0	0	6	0	0	0	83
Lane Group Flow (vph)	137	879	0	80	698	0	165	1310	0	96	442	97
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	32.5	32.5		32.5	32.5		48.5	48.5		48.5	48.5	48.5
Effective Green, g (s)	32.5	32.5		32.5	32.5		48.5	48.5		48.5	48.5	48.5
Actuated g/C Ratio	0.36	0.36		0.36	0.36		0.54	0.54		0.54	0.54	0.54
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Grp Cap (vph)	165	1250		109	1206		480	1889		116	1907	853
v/s Ratio Prot		0.25			0.21			0.37			0.12	
v/s Ratio Perm	c0.30			0.26			0.18			c0.44		0.06
v/c Ratio	0.83	0.70		0.73	0.58		0.34	0.69		0.83	0.23	0.11
Uniform Delay, d1	26.2	24.6		25.0	23.2		11.7	15.3		17.3	10.9	10.2
Progression Factor	1.00	1.00		0.71	0.67		0.50	0.44		1.07	0.71	0.21
Incremental Delay, d2	36.2	3.3		34.5	2.0		1.5	1.6		46.5	0.3	0.3
Delay (s)	62.4	28.0		52.2	17.5		7.4	8.3		65.1	8.1	2.4
Level of Service	E	C		D	B		A	A		E	A	A
Approach Delay (s)		32.5			20.9			8.2			14.3	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	18.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	81.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	114	843	129	96	493	241	140	1055	86	87	470	179
Future Volume (vph)	114	843	129	96	493	241	140	1055	86	87	470	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.99		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3469		1770	3539	1583	1770	3499		1770	3393	
Flt Permitted	0.39	1.00		0.14	1.00	1.00	0.31	1.00		0.11	1.00	
Satd. Flow (perm)	728	3469		255	3539	1583	586	3499		204	3393	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	124	916	140	104	536	262	152	1147	93	95	511	195
RTOR Reduction (vph)	0	13	0	0	0	25	0	7	0	0	44	0
Lane Group Flow (vph)	124	1043	0	104	536	237	152	1233	0	95	662	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	37.9	37.9		37.9	37.9	37.9	43.1	43.1		43.1	43.1	
Effective Green, g (s)	37.9	37.9		37.9	37.9	37.9	43.1	43.1		43.1	43.1	
Actuated g/C Ratio	0.42	0.42		0.42	0.42	0.42	0.48	0.48		0.48	0.48	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)	306	1460		107	1490	666	280	1675		97	1624	
v/s Ratio Prot		0.30			0.15			0.35			0.20	
v/s Ratio Perm	0.17			c0.41		0.15	0.26			c0.47		
v/c Ratio	0.41	0.71		0.97	0.36	0.36	0.54	0.74		0.98	0.41	
Uniform Delay, d1	18.2	21.6		25.5	17.8	17.7	16.5	18.9		23.0	15.2	
Progression Factor	1.00	1.00		0.53	0.42	0.32	1.00	1.00		0.82	0.79	
Incremental Delay, d2	3.9	3.0		74.7	0.6	1.3	7.4	2.9		84.4	0.7	
Delay (s)	22.1	24.6		88.3	8.0	7.0	23.9	21.8		103.2	12.7	
Level of Service	C	C		F	A	A	C	C		F	B	
Approach Delay (s)		24.3			17.0			22.0			23.4	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	21.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	84.5%	ICU Level of Service	E
Analysis Period (min)	15		

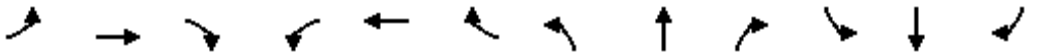
c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	761	107	98	472	314	285
Future Volume (vph)	761	107	98	472	314	285
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	0.97	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3474		1770	3539	3433	1583
Flt Permitted	1.00		0.24	1.00	0.95	1.00
Satd. Flow (perm)	3474		454	3539	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	827	116	107	513	341	310
RTOR Reduction (vph)	12	0	0	0	0	110
Lane Group Flow (vph)	931	0	107	513	341	200
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Actuated Green, G (s)	51.5		51.5	51.5	29.5	29.5
Effective Green, g (s)	51.5		51.5	51.5	29.5	29.5
Actuated g/C Ratio	0.57		0.57	0.57	0.33	0.33
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	1987		259	2025	1125	518
v/s Ratio Prot	c0.27			0.14	0.10	
v/s Ratio Perm			0.24			c0.13
v/c Ratio	0.47		0.41	0.25	0.30	0.39
Uniform Delay, d1	11.2		10.8	9.6	22.6	23.3
Progression Factor	0.27		0.95	0.94	0.63	0.37
Incremental Delay, d2	0.5		4.6	0.3	0.5	1.7
Delay (s)	3.5		14.8	9.3	14.8	10.3
Level of Service	A		B	A	B	B
Approach Delay (s)	3.5			10.3	12.7	
Approach LOS	A			B	B	

Intersection Summary			
HCM 2000 Control Delay	8.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	50.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	87	824	131	70	584	82	187	433	143	33	193	65
Future Volume (vph)	87	824	131	70	584	82	187	433	143	33	193	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.98		1.00	0.98			0.97			0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	3467		1770	3474			3398			3401	
Flt Permitted	0.30	1.00		0.17	1.00			0.76			0.82	
Satd. Flow (perm)	565	3467		318	3474			2612			2803	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	95	896	142	76	635	89	203	471	155	36	210	71
RTOR Reduction (vph)	0	14	0	0	12	0	0	22	0	0	30	0
Lane Group Flow (vph)	95	1024	0	76	712	0	0	807	0	0	287	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	42.5	42.5		42.5	42.5			38.5			38.5	
Effective Green, g (s)	42.5	42.5		42.5	42.5			38.5			38.5	
Actuated g/C Ratio	0.47	0.47		0.47	0.47			0.43			0.43	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Grp Cap (vph)	266	1637		150	1640			1117			1199	
v/s Ratio Prot		c0.30			0.20							
v/s Ratio Perm	0.17			0.24				c0.31			0.10	
v/c Ratio	0.36	0.63		0.51	0.43			0.72			0.24	
Uniform Delay, d1	15.1	17.8		16.5	15.8			21.3			16.4	
Progression Factor	0.38	0.35		1.09	1.09			1.00			0.40	
Incremental Delay, d2	2.5	1.2		11.2	0.8			4.1			0.5	
Delay (s)	8.3	7.5		29.1	18.0			25.4			7.0	
Level of Service	A	A		C	B			C			A	
Approach Delay (s)		7.6			19.1			25.4			7.0	
Approach LOS		A			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	15.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	76.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	445	665	309	160	621	37	234	571	83	39	567	384
Future Volume (vph)	445	665	309	160	621	37	234	571	83	39	567	384
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.91	0.91		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.96		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1610	3229		1770	3510		1770	3539	1583	1770	3539	1583
Flt Permitted	0.16	0.60		0.23	1.00		0.27	1.00	1.00	0.29	1.00	1.00
Satd. Flow (perm)	273	1957		432	3510		501	3539	1583	536	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	484	723	336	174	675	40	254	621	90	42	616	417
RTOR Reduction (vph)	0	46	0	0	5	0	0	0	53	0	0	38
Lane Group Flow (vph)	382	1115	0	174	710	0	254	621	37	42	616	379
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	pm+ov
Protected Phases	7	4		3	8		5	2			6	7
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	44.3	44.3		25.8	20.3		36.7	36.7	36.7	23.7	23.7	43.2
Effective Green, g (s)	44.3	44.3		25.8	20.3		36.7	36.7	36.7	23.7	23.7	43.2
Actuated g/C Ratio	0.49	0.49		0.29	0.23		0.41	0.41	0.41	0.26	0.26	0.48
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	424	1238		205	791		324	1443	645	141	931	759
v/s Ratio Prot	c0.20	c0.20		0.05	0.20		c0.07	0.18			0.17	0.11
v/s Ratio Perm	c0.25	0.25		0.19			c0.25		0.02	0.08		0.13
v/c Ratio	0.90	0.90		0.85	0.90		0.78	0.43	0.06	0.30	0.66	0.50
Uniform Delay, d1	22.8	20.8		26.0	33.8		29.4	19.1	16.2	26.5	29.6	16.0
Progression Factor	0.94	0.49		1.00	1.00		0.73	0.65	0.49	1.00	1.00	1.00
Incremental Delay, d2	15.6	6.3		26.4	12.9		6.2	0.5	0.1	5.3	3.7	0.5
Delay (s)	37.1	16.5		52.4	46.7		27.6	12.9	8.1	31.8	33.3	16.5
Level of Service	D	B		D	D		C	B	A	C	C	B
Approach Delay (s)		21.6			47.8			16.3			26.7	
Approach LOS		C			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	26.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	89.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

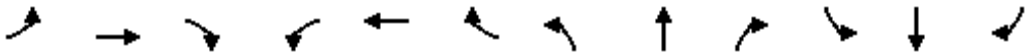
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	492	414	11	6	249	167	17	319	4	97	135	211
Future Volume (vph)	492	414	11	6	249	167	17	319	4	97	135	211
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.94		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1855		1770	1750		1770	1860		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.61	1.00		0.23	1.00	1.00
Satd. Flow (perm)	1770	1855		1770	1750		1139	1860		425	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	535	450	12	7	271	182	18	347	4	105	147	229
RTOR Reduction (vph)	0	1	0	0	27	0	0	1	0	0	0	176
Lane Group Flow (vph)	535	461	0	7	426	0	18	350	0	105	147	53
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		6
Actuated Green, G (s)	32.4	54.6		1.0	23.2		20.9	20.9		20.9	20.9	20.9
Effective Green, g (s)	32.4	54.6		1.0	23.2		20.9	20.9		20.9	20.9	20.9
Actuated g/C Ratio	0.36	0.61		0.01	0.26		0.23	0.23		0.23	0.23	0.23
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	637	1125		19	451		264	431		98	432	367
v/s Ratio Prot	c0.30	0.25		0.00	c0.24			0.19			0.08	
v/s Ratio Perm							0.02			c0.25		0.03
v/c Ratio	0.84	0.41		0.37	0.95		0.07	0.81		1.07	0.34	0.14
Uniform Delay, d1	26.4	9.3		44.2	32.8		27.0	32.7		34.5	28.8	27.5
Progression Factor	0.73	0.27		1.00	1.00		1.00	1.00		0.82	0.87	1.10
Incremental Delay, d2	8.0	0.2		11.7	28.7		0.5	15.3		92.6	1.4	0.5
Delay (s)	27.3	2.7		55.9	61.5		27.5	48.0		120.8	26.4	30.7
Level of Service	C	A		E	E		C	D		F	C	C
Approach Delay (s)		15.9			61.4			47.0			49.1	
Approach LOS		B			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	36.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	88.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	738	213	108	480	260	279
Future Volume (vph)	738	213	108	480	260	279
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.97		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3420		1770	3539	1770	1583
Flt Permitted	1.00		0.22	1.00	0.95	1.00
Satd. Flow (perm)	3420		419	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	802	232	117	522	283	303
RTOR Reduction (vph)	30	0	0	0	0	143
Lane Group Flow (vph)	1004	0	117	522	283	160
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases			6			8
Actuated Green, G (s)	55.5		55.5	55.5	25.5	25.5
Effective Green, g (s)	55.5		55.5	55.5	25.5	25.5
Actuated g/C Ratio	0.62		0.62	0.62	0.28	0.28
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	2109		258	2182	501	448
v/s Ratio Prot	c0.29			0.15	c0.16	
v/s Ratio Perm			0.28			0.10
v/c Ratio	0.48		0.45	0.24	0.56	0.36
Uniform Delay, d1	9.4		9.2	7.8	27.5	25.7
Progression Factor	0.29		1.28	0.62	1.00	1.00
Incremental Delay, d2	0.6		5.5	0.3	4.6	2.2
Delay (s)	3.3		17.3	5.1	32.1	27.9
Level of Service	A		B	A	C	C
Approach Delay (s)	3.3			7.3	29.9	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	11.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	5	19	213	15	106	25	914	61	20	380	13
Future Volume (vph)	15	5	19	213	15	106	25	914	61	20	380	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frt		0.93		1.00	0.87		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1705		1770	1617		1770	3539	1583	1770	3522	
Flt Permitted		0.89		0.73	1.00		0.50	1.00	1.00	0.25	1.00	
Satd. Flow (perm)		1548		1359	1617		937	3539	1583	469	3522	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	5	21	232	16	115	27	993	66	22	413	14
RTOR Reduction (vph)	0	16	0	0	65	0	0	0	22	0	2	0
Lane Group Flow (vph)	0	26	0	232	66	0	27	993	44	22	425	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		20.8		20.8	20.8		60.2	60.2	60.2	60.2	60.2	
Effective Green, g (s)		20.8		20.8	20.8		60.2	60.2	60.2	60.2	60.2	
Actuated g/C Ratio		0.23		0.23	0.23		0.67	0.67	0.67	0.67	0.67	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		357		314	373		626	2367	1058	313	2355	
v/s Ratio Prot					0.04			c0.28			0.12	
v/s Ratio Perm		0.02		c0.17			0.03		0.03	0.05		
v/c Ratio		0.07		0.74	0.18		0.04	0.42	0.04	0.07	0.18	
Uniform Delay, d1		27.1		32.1	27.7		5.1	6.9	5.1	5.2	5.6	
Progression Factor		1.00		1.00	1.00		2.63	2.92	5.83	1.00	1.00	
Incremental Delay, d2		0.1		8.8	0.2		0.1	0.4	0.1	0.4	0.2	
Delay (s)		27.1		40.9	28.0		13.5	20.4	29.6	5.6	5.8	
Level of Service		C		D	C		B	C	C	A	A	
Approach Delay (s)		27.1			36.2			20.8			5.8	
Approach LOS		C			D			C			A	

Intersection Summary			
HCM 2000 Control Delay	20.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	20	17	835	214	13	539
Future Volume (Veh/h)	20	17	835	214	13	539
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	18	908	233	14	586
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						549
pX, platoon unblocked						
vC, conflicting volume	1346	570			1141	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1346	570			1141	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	84	96			98	
cM capacity (veh/h)	139	464			608	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	22	18	605	536	14	293	293
Volume Left	22	0	0	0	14	0	0
Volume Right	0	18	0	233	0	0	0
cSH	139	464	1700	1700	608	1700	1700
Volume to Capacity	0.16	0.04	0.36	0.32	0.02	0.17	0.17
Queue Length 95th (ft)	14	3	0	0	2	0	0
Control Delay (s)	35.6	13.1	0.0	0.0	11.1	0.0	0.0
Lane LOS	E	B			B		
Approach Delay (s)	25.5		0.0		0.3		
Approach LOS	D						

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	39.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1137	69	69	1063	125	112
Future Volume (vph)	1137	69	69	1063	125	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3509		1770	3539	1770	1583
Flt Permitted	1.00		0.14	1.00	0.95	1.00
Satd. Flow (perm)	3509		257	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1236	75	75	1155	136	122
RTOR Reduction (vph)	8	0	0	0	0	32
Lane Group Flow (vph)	1303	0	75	1155	136	90
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Actuated Green, G (s)	29.0		29.0	29.0	22.0	22.0
Effective Green, g (s)	29.0		29.0	29.0	22.0	22.0
Actuated g/C Ratio	0.48		0.48	0.48	0.37	0.37
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1696		124	1710	649	580
v/s Ratio Prot	c0.37			0.33	c0.08	
v/s Ratio Perm			0.29			0.06
v/c Ratio	0.77		0.60	0.68	0.21	0.15
Uniform Delay, d1	12.7		11.3	11.9	13.0	12.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	2.1		8.1	1.1	0.7	0.6
Delay (s)	14.9		19.4	13.0	13.8	13.3
Level of Service	B		B	B	B	B
Approach Delay (s)	14.9			13.4	13.6	
Approach LOS	B			B	B	

Intersection Summary			
HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	56.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	938	0	0	982
Future Volume (Veh/h)	0	0	938	0	0	982
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	1020	0	0	1067
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			304			386
pX, platoon unblocked	0.87	0.78			0.78	
vC, conflicting volume	1554	510			1020	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	378	0			448	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	518	841			860	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	510	510	534	534
Volume Left	0	0	0	0	0
Volume Right	0	0	0	0	0
cSH	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.30	0.30	0.31	0.31
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	0.0	0.0		0.0	
Approach LOS	A				

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	30.5%	ICU Level of Service	A
Analysis Period (min)	15		

Appendix M:
2031 Plus Project Construction/Mitigation Intersection Analysis Worksheets

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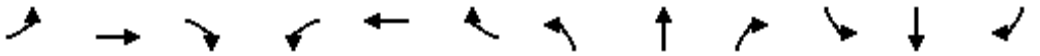
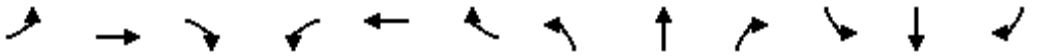


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	32	118	154	0	205	0	709	154	190	1207	0
Future Volume (vph)	44	32	118	154	0	205	0	709	154	190	1207	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5	4.5	
Lane Util. Factor	0.97	1.00	1.00	1.00		1.00		0.95	1.00	1.00	0.91	
Frt	1.00	1.00	0.85	1.00		0.85		1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1863	1583	1770		1583		3539	1583	1770	5085	
Flt Permitted	0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1863	1583	1770		1583		3539	1583	1770	5085	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	48	35	128	167	0	223	0	771	167	207	1312	0
RTOR Reduction (vph)	0	0	113	0	0	0	0	0	102	0	0	0
Lane Group Flow (vph)	48	35	15	167	0	223	0	771	65	207	1312	0
Turn Type	Split	NA	Perm	Prot		Prot		NA	Perm	Prot	NA	
Protected Phases	3	3		4		4		6		5	2	
Permitted Phases			3						6			
Actuated Green, G (s)	10.3	10.3	10.3	21.3		21.3		26.8	26.8	13.6	44.9	
Effective Green, g (s)	10.3	10.3	10.3	21.3		21.3		26.8	26.8	13.6	44.9	
Actuated g/C Ratio	0.11	0.11	0.11	0.24		0.24		0.30	0.30	0.15	0.50	
Clearance Time (s)	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5	4.5	
Lane Grp Cap (vph)	392	213	181	418		374		1053	471	267	2536	
v/s Ratio Prot	0.01	c0.02		0.09		c0.14		c0.22		c0.12	0.26	
v/s Ratio Perm			0.01						0.04			
v/c Ratio	0.12	0.16	0.08	0.40		0.60		0.73	0.14	0.78	0.52	
Uniform Delay, d1	35.8	36.0	35.6	29.0		30.5		28.4	23.1	36.7	15.2	
Progression Factor	0.83	0.83	0.69	0.86		0.87		1.55	3.39	1.38	0.64	
Incremental Delay, d2	0.6	1.6	0.9	2.8		6.7		4.2	0.6	16.6	0.6	
Delay (s)	30.3	31.3	25.5	27.7		33.4		48.1	78.9	67.2	10.4	
Level of Service	C	C	C	C		C		D	E	E	B	
Approach Delay (s)		27.6			31.0			53.6			18.1	
Approach LOS		C			C			D			B	

Intersection Summary			
HCM 2000 Control Delay	31.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	56.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	243	119	14	10	154	101	13	38	7	274	68	192
Future Volume (vph)	243	119	14	10	154	101	13	38	7	274	68	192
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	4.5
Lane Util. Factor	0.97	1.00		1.00	0.95			0.95			1.00	1.00
Frt	1.00	0.98		1.00	0.94			0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	1.00
Satd. Flow (prot)	3433	1834		1770	3328			3434			1791	1583
Flt Permitted	0.95	1.00		0.67	1.00			0.99			0.96	1.00
Satd. Flow (perm)	3433	1834		1239	3328			3434			1791	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	264	129	15	11	167	110	14	41	8	298	74	209
RTOR Reduction (vph)	0	4	0	0	74	0	0	7	0	0	0	127
Lane Group Flow (vph)	264	140	0	11	203	0	0	56	0	0	372	82
Turn Type	Prot	NA		Perm	NA		Split	NA		Split	NA	custom
Protected Phases	5	2			6		3	3		4	4	4
Permitted Phases				6								5
Actuated Green, G (s)	12.0	45.9		29.4	29.4			7.5			23.1	35.1
Effective Green, g (s)	12.0	45.9		29.4	29.4			7.5			23.1	35.1
Actuated g/C Ratio	0.13	0.51		0.33	0.33			0.08			0.26	0.39
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	457	935		404	1087			286			459	696
v/s Ratio Prot	c0.08	0.08			c0.06			c0.02			c0.21	0.03
v/s Ratio Perm				0.01								0.02
v/c Ratio	0.58	0.15		0.03	0.19			0.19			0.81	0.12
Uniform Delay, d1	36.6	11.7		20.6	21.7			38.4			31.4	17.5
Progression Factor	1.38	0.31		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	1.5	0.3		0.0	0.1			1.5			10.4	0.1
Delay (s)	52.1	3.9		20.6	21.8			40.0			41.8	17.6
Level of Service	D	A		C	C			D			D	B
Approach Delay (s)		35.1			21.8			40.0			33.1	
Approach LOS		D			C			D			C	

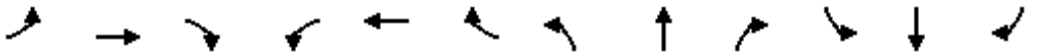
Intersection Summary			
HCM 2000 Control Delay	31.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	51.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	231	23	93	205	58	57
Future Volume (vph)	231	23	93	205	58	57
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	251	25	101	223	63	62

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2
Volume Total (vph)	276	101	223	63	62
Volume Left (vph)	0	101	0	63	0
Volume Right (vph)	25	0	0	0	62
Hadj (s)	-0.02	0.53	0.03	0.53	-0.67
Departure Headway (s)	5.0	5.7	5.2	6.5	5.3
Degree Utilization, x	0.39	0.16	0.32	0.11	0.09
Capacity (veh/h)	689	613	676	514	623
Control Delay (s)	11.1	8.5	9.4	9.1	7.6
Approach Delay (s)	11.1	9.1		8.4	
Approach LOS	B	A		A	

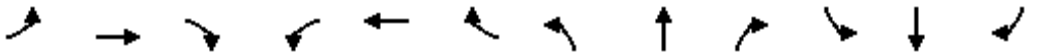
Intersection Summary			
Delay	9.8		
Level of Service	A		
Intersection Capacity Utilization	32.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	199	4	85	3	4	7	72	363	7	9	368	222
Future Volume (vph)	199	4	85	3	4	7	72	363	7	9	368	222
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	216	4	92	3	4	8	78	395	8	10	400	241

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total (vph)	312	15	78	395	8	10	400	241
Volume Left (vph)	216	3	78	0	0	10	0	0
Volume Right (vph)	92	8	0	0	8	0	0	241
Hadj (s)	0.00	-0.25	0.53	0.03	-0.67	0.53	0.03	-0.67
Departure Headway (s)	6.3	7.1	6.8	6.3	3.2	6.9	6.4	3.2
Degree Utilization, x	0.55	0.03	0.15	0.70	0.01	0.02	0.71	0.21
Capacity (veh/h)	534	407	506	548	1121	498	541	1122
Control Delay (s)	16.6	10.3	9.8	21.3	5.0	8.9	22.6	5.9
Approach Delay (s)	16.6	10.3	19.2			16.2		
Approach LOS	C	B	C			C		

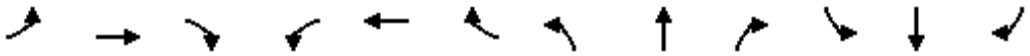
Intersection Summary				
Delay	17.2			
Level of Service	C			
Intersection Capacity Utilization	56.5%	ICU Level of Service	B	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	106	166	152	25	355	41	260	715	0	30	860	442
Future Volume (vph)	106	166	152	25	355	41	260	715	0	30	860	442
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.93		1.00	0.98		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3285		1770	3484		1770	3539		1770	3539	1583
Flt Permitted	0.24	1.00		0.54	1.00		0.22	1.00		0.95	1.00	1.00
Satd. Flow (perm)	441	3285		1014	3484		410	3539		1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	115	180	165	27	386	45	283	777	0	33	935	480
RTOR Reduction (vph)	0	118	0	0	0	0	0	0	0	0	0	191
Lane Group Flow (vph)	115	227	0	27	431	0	283	777	0	33	935	289
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4			6					2
Actuated Green, G (s)	25.5	25.5		15.8	15.8		47.2	47.2		3.8	33.7	33.7
Effective Green, g (s)	25.5	25.5		15.8	15.8		47.2	47.2		3.8	33.7	33.7
Actuated g/C Ratio	0.28	0.28		0.18	0.18		0.52	0.52		0.04	0.37	0.37
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	201	930		178	611		476	1856		74	1325	592
v/s Ratio Prot	c0.03	0.07			c0.12		c0.11	0.22		0.02	c0.26	
v/s Ratio Perm	0.13			0.03			0.20					0.18
v/c Ratio	0.57	0.24		0.15	0.71		0.59	0.42		0.45	0.71	0.49
Uniform Delay, d1	25.4	24.8		31.4	34.9		21.7	13.0		42.1	23.9	21.6
Progression Factor	0.76	0.62		1.00	1.00		0.51	0.31		1.42	0.44	0.15
Incremental Delay, d2	3.8	0.1		0.4	3.7		1.7	0.6		3.7	2.8	2.5
Delay (s)	23.3	15.4		31.8	38.6		12.7	4.6		63.5	13.3	5.9
Level of Service	C	B		C	D		B	A		E	B	A
Approach Delay (s)		17.4			38.2			6.8			12.0	
Approach LOS		B			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	14.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	50	25	64	7	104	3	363	150	11	6	47	62
Future Volume (vph)	50	25	64	7	104	3	363	150	11	6	47	62
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	27	70	8	113	3	395	163	12	7	51	67

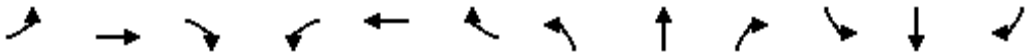
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total (vph)	81	70	124	570	125
Volume Left (vph)	54	0	8	395	7
Volume Right (vph)	0	70	3	12	67
Hadj (s)	0.37	-0.67	0.03	0.16	-0.28
Departure Headway (s)	7.0	5.9	6.2	5.1	5.3
Degree Utilization, x	0.16	0.12	0.21	0.81	0.19
Capacity (veh/h)	476	555	530	692	614
Control Delay (s)	10.1	8.5	10.9	25.9	9.6
Approach Delay (s)	9.3		10.9	25.9	9.6
Approach LOS	A		B	D	A

Intersection Summary				
Delay	19.3			
Level of Service	C			
Intersection Capacity Utilization	53.4%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	528	27	2	948	92	13	855	168
Future Volume (vph)	0	0	0	0	528	27	2	948	92	13	855	168
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor					0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt					1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected					1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)					3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted					1.00	1.00	0.24	1.00	1.00	0.21	1.00	1.00
Satd. Flow (perm)					3539	1583	451	3539	1583	384	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	574	29	2	1030	100	14	929	183
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	45	0	0	25
Lane Group Flow (vph)	0	0	0	0	574	29	2	1030	55	14	929	158
Turn Type	pm+pt				NA	Perm	Perm	NA	Perm	Perm	NA	pm+ov
Protected Phases	7	4			8			2			6	7
Permitted Phases	4					8	2		2	6		6
Actuated Green, G (s)					21.0	21.0	49.7	49.7	49.7	49.7	49.7	55.5
Effective Green, g (s)					21.0	21.0	49.7	49.7	49.7	49.7	49.7	55.5
Actuated g/C Ratio					0.23	0.23	0.55	0.55	0.55	0.55	0.55	0.62
Clearance Time (s)					4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)					3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)					825	369	249	1954	874	212	1954	1055
v/s Ratio Prot					c0.16			c0.29			0.26	c0.01
v/s Ratio Perm						0.02	0.00		0.03	0.04		0.09
v/c Ratio					0.70	0.08	0.01	0.53	0.06	0.07	0.48	0.15
Uniform Delay, d1					31.6	26.9	9.1	12.7	9.3	9.4	12.2	7.3
Progression Factor					1.63	1.70	1.00	1.00	1.00	0.43	0.32	0.10
Incremental Delay, d2					1.6	0.1	0.1	1.0	0.1	0.5	0.7	0.1
Delay (s)					53.0	45.8	9.1	13.7	9.5	4.5	4.6	0.8
Level of Service					D	D	A	B	A	A	A	A
Approach Delay (s)		0.0			52.6			13.4			4.0	
Approach LOS		A			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	17.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		

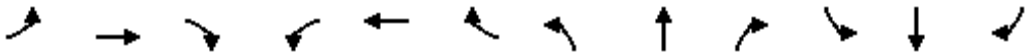
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	117	10	184	531	406	4	19	27	27	33	20
Future Volume (vph)	89	117	10	184	531	406	4	19	27	27	33	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5			4.5			4.5	
Lane Util. Factor		0.95	1.00		0.95			1.00			1.00	
Frt		1.00	0.85		0.95			0.93			0.97	
Flt Protected		0.98	1.00		0.99			1.00			0.98	
Satd. Flow (prot)		3464	1583		3320			1721			1770	
Flt Permitted		0.98	1.00		0.99			0.98			0.90	
Satd. Flow (perm)		3464	1583		3320			1701			1620	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	97	127	11	200	577	441	4	21	29	29	36	22
RTOR Reduction (vph)	0	0	8	0	95	0	0	23	0	0	14	0
Lane Group Flow (vph)	0	224	3	0	1123	0	0	31	0	0	73	0
Turn Type	Split	NA	Perm	Split	NA		Perm	NA		Perm	NA	
Protected Phases	2	2		1	1			8			4	
Permitted Phases			2				8			4		
Actuated Green, G (s)		22.4	22.4		36.0			18.1			18.1	
Effective Green, g (s)		22.4	22.4		36.0			18.1			18.1	
Actuated g/C Ratio		0.25	0.25		0.40			0.20			0.20	
Clearance Time (s)		4.5	4.5		4.5			4.5			4.5	
Vehicle Extension (s)		3.0	3.0		3.0			3.0			3.0	
Lane Grp Cap (vph)		862	393		1328			342			325	
v/s Ratio Prot		c0.06			c0.34							
v/s Ratio Perm			0.00					0.02			c0.05	
v/c Ratio		0.26	0.01		0.85			0.09			0.23	
Uniform Delay, d1		27.1	25.4		24.5			29.3			30.1	
Progression Factor		1.07	1.00		0.70			1.00			1.00	
Incremental Delay, d2		0.7	0.0		2.9			0.5			1.6	
Delay (s)		29.7	25.5		20.1			29.8			31.7	
Level of Service		C	C		C			C			C	
Approach Delay (s)		29.5			20.1			29.8			31.7	
Approach LOS		C			C			C			C	

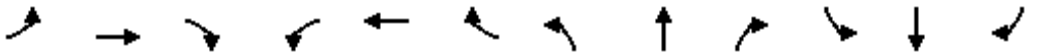
Intersection Summary			
HCM 2000 Control Delay	22.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	61.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



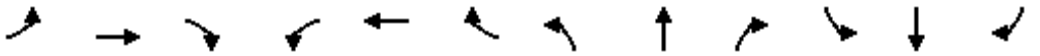
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	480	1755	229	115	844	0	0	917	55
Future Volume (vph)	0	0	0	480	1755	229	115	844	0	0	917	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5	4.5		4.5	4.5			4.5	
Lane Util. Factor				0.86	0.86		1.00	0.91			0.91	
Frt				1.00	0.98		1.00	1.00			0.99	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1522	4719		1770	5085			5042	
Flt Permitted				0.95	1.00		0.19	1.00			1.00	
Satd. Flow (perm)				1522	4719		347	5085			5042	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	522	1908	249	125	917	0	0	997	60
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	0	0	470	2209	0	125	917	0	0	1054	0
Turn Type				Prot	NA		Perm	NA			NA	
Protected Phases				3	8			2			6	
Permitted Phases							2					
Actuated Green, G (s)				44.5	44.5		36.5	36.5			36.5	
Effective Green, g (s)				44.5	44.5		36.5	36.5			36.5	
Actuated g/C Ratio				0.49	0.49		0.41	0.41			0.41	
Clearance Time (s)				4.5	4.5		4.5	4.5			4.5	
Lane Grp Cap (vph)				752	2333		140	2062			2044	
v/s Ratio Prot				0.31	c0.47			0.18			0.21	
v/s Ratio Perm							c0.36					
v/c Ratio				0.62	0.95		0.89	0.44			0.52	
Uniform Delay, d1				16.6	21.6		24.9	19.4			20.1	
Progression Factor				1.00	1.00		0.81	0.66			0.19	
Incremental Delay, d2				3.9	9.8		41.9	0.5			0.9	
Delay (s)				20.5	31.4		61.9	13.3			4.6	
Level of Service				C	C		E	B			A	
Approach Delay (s)		0.0			29.5			19.1			4.6	
Approach LOS		A			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	21.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	73.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



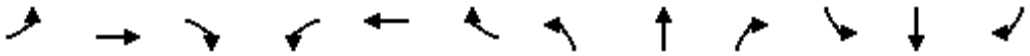
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	119	53	18	0	0	0	0	537	106	61	1160	0
Future Volume (vph)	119	53	18	0	0	0	0	537	106	61	1160	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5						4.5		4.5	4.5	
Lane Util. Factor	0.91	0.91						0.91		1.00	0.91	
Frt	1.00	0.98						0.98		1.00	1.00	
Flt Protected	0.95	0.98						1.00		0.95	1.00	
Satd. Flow (prot)	1610	3246						4960		1770	5085	
Flt Permitted	0.95	0.98						1.00		0.34	1.00	
Satd. Flow (perm)	1610	3246						4960		628	5085	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	129	58	20	0	0	0	0	584	115	66	1261	0
RTOR Reduction (vph)	0	14	0	0	0	0	0	33	0	0	0	0
Lane Group Flow (vph)	68	125	0	0	0	0	0	666	0	66	1261	0
Turn Type	Prot	NA						NA		pm+pt	NA	
Protected Phases	7	4						2		1	6	
Permitted Phases										6		
Actuated Green, G (s)	25.5	25.5						37.5		55.5	55.5	
Effective Green, g (s)	25.5	25.5						37.5		55.5	55.5	
Actuated g/C Ratio	0.28	0.28						0.42		0.62	0.62	
Clearance Time (s)	4.5	4.5						4.5		4.5	4.5	
Lane Grp Cap (vph)	456	919						2066		558	3135	
v/s Ratio Prot	c0.04	0.04						0.13		0.02	c0.25	
v/s Ratio Perm										0.06		
v/c Ratio	0.15	0.14						0.32		0.12	0.40	
Uniform Delay, d1	24.1	24.0						17.7		9.2	8.8	
Progression Factor	1.00	1.00						1.56		0.25	0.26	
Incremental Delay, d2	0.7	0.3						0.3		0.4	0.4	
Delay (s)	24.8	24.3						27.9		2.8	2.7	
Level of Service	C	C						C		A	A	
Approach Delay (s)		24.5			0.0			27.9			2.7	
Approach LOS		C			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	12.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	55.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	499	99	123	1239	46	123	441	129	76	1243	157
Future Volume (vph)	49	499	99	123	1239	46	123	441	129	76	1243	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	5058		1770	4913		1770	5000	
Flt Permitted	0.14	1.00	1.00	0.29	1.00		0.16	1.00		0.27	1.00	
Satd. Flow (perm)	266	3539	1583	544	5058		307	4913		496	5000	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	53	542	108	134	1347	50	134	479	140	83	1351	171
RTOR Reduction (vph)	0	0	65	0	5	0	0	59	0	0	18	0
Lane Group Flow (vph)	53	542	43	134	1392	0	134	560	0	83	1504	0
Turn Type	Perm	NA	pm+ov	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4	5	3	8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	28.5	28.5	36.0	38.5	38.5		31.8	31.8		30.5	30.5	
Effective Green, g (s)	28.5	28.5	36.0	38.5	38.5		31.8	31.8		30.5	30.5	
Actuated g/C Ratio	0.32	0.32	0.40	0.43	0.43		0.35	0.35		0.34	0.34	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)	84	1120	633	307	2163		230	1735		255	1694	
v/s Ratio Prot		0.15	0.01	0.03	c0.28		c0.05	0.11		0.02	c0.30	
v/s Ratio Perm	0.20		0.02	0.16			0.16			0.09		
v/c Ratio	0.63	0.48	0.07	0.44	0.64		0.58	0.32		0.33	0.89	
Uniform Delay, d1	26.3	24.8	16.7	16.8	20.3		32.3	21.2		21.1	28.1	
Progression Factor	0.87	0.84	0.72	1.00	1.00		0.61	0.24		0.54	0.69	
Incremental Delay, d2	30.4	1.5	0.2	4.5	1.5		10.3	0.5		3.1	6.9	
Delay (s)	53.2	22.3	12.3	21.3	21.8		30.0	5.6		14.6	26.3	
Level of Service	D	C	B	C	C		C	A		B	C	
Approach Delay (s)		23.1			21.8			9.9			25.7	
Approach LOS		C			C			A			C	

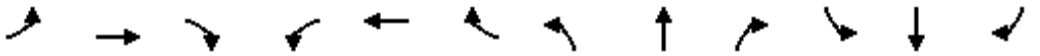
Intersection Summary			
HCM 2000 Control Delay	21.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	116	63	62	753	147	58	263	70	157	985	244
Future Volume (vph)	56	116	63	62	753	147	58	263	70	157	985	244
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3353		1770	3539	1583	1770	3539	1583	1770	4934	
Flt Permitted	0.18	1.00		0.63	1.00	1.00	0.15	1.00	1.00	0.58	1.00	
Satd. Flow (perm)	331	3353		1173	3539	1583	283	3539	1583	1074	4934	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	61	126	68	67	818	160	63	286	76	171	1071	265
RTOR Reduction (vph)	0	51	0	0	0	68	0	0	34	0	32	0
Lane Group Flow (vph)	61	143	0	67	818	92	63	286	42	171	1304	0
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8		8	2		2	6		
Actuated Green, G (s)	22.5	22.5		31.2	31.2	31.2	49.8	49.8	49.8	49.8	49.8	
Effective Green, g (s)	22.5	22.5		31.2	31.2	31.2	49.8	49.8	49.8	49.8	49.8	
Actuated g/C Ratio	0.25	0.25		0.35	0.35	0.35	0.55	0.55	0.55	0.55	0.55	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	82	838		434	1226	548	156	1958	875	594	2730	
v/s Ratio Prot		0.04		0.01	c0.23			0.08			c0.26	
v/s Ratio Perm	c0.18			0.05		0.06	0.22		0.03	0.16		
v/c Ratio	0.74	0.17		0.15	0.67	0.17	0.40	0.15	0.05	0.29	0.48	
Uniform Delay, d1	31.1	26.4		20.4	25.0	20.4	11.6	9.8	9.2	10.7	12.2	
Progression Factor	1.00	1.00		0.84	0.91	0.73	0.70	0.52	0.68	0.32	0.29	
Incremental Delay, d2	30.1	0.1		0.1	1.0	0.1	7.5	0.2	0.1	1.1	0.5	
Delay (s)	61.2	26.5		17.2	23.7	15.1	15.6	5.2	6.3	4.5	4.1	
Level of Service	E	C		B	C	B	B	A	A	A	A	
Approach Delay (s)		34.8			21.9			6.9			4.1	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		

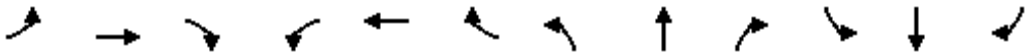
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	444	199	311	1263	352	159	381	59	150	491	30
Future Volume (vph)	52	444	199	311	1263	352	159	381	59	150	491	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3508	
Flt Permitted	0.12	1.00	1.00	0.36	1.00	1.00	0.44	1.00	1.00	0.43	1.00	
Satd. Flow (perm)	216	3539	1583	680	3539	1583	818	3539	1583	793	3508	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	57	483	216	338	1373	383	173	414	64	163	534	33
RTOR Reduction (vph)	0	0	133	0	0	183	0	0	52	0	5	0
Lane Group Flow (vph)	57	483	83	338	1373	200	173	414	12	163	562	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		
Actuated Green, G (s)	38.7	34.5	34.5	51.3	42.6	42.6	16.7	16.7	16.7	17.9	17.9	
Effective Green, g (s)	38.7	34.5	34.5	51.3	42.6	42.6	16.7	16.7	16.7	17.9	17.9	
Actuated g/C Ratio	0.43	0.38	0.38	0.57	0.47	0.47	0.19	0.19	0.19	0.20	0.20	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	165	1356	606	536	1675	749	229	656	293	249	697	
v/s Ratio Prot	0.02	0.14		c0.09	c0.39		c0.06	0.12		0.06	c0.16	
v/s Ratio Perm	0.13		0.05	0.27		0.13	0.08		0.01	0.07		
v/c Ratio	0.35	0.36	0.14	0.63	0.82	0.27	0.76	0.63	0.04	0.65	0.81	
Uniform Delay, d1	17.4	19.8	18.1	11.0	20.4	14.3	34.6	33.8	30.1	32.0	34.4	
Progression Factor	1.00	1.00	1.00	1.02	0.64	0.21	0.90	0.89	1.00	0.68	0.72	
Incremental Delay, d2	1.3	0.7	0.5	0.2	0.4	0.1	12.7	1.9	0.1	6.0	6.7	
Delay (s)	18.7	20.6	18.5	11.5	13.5	3.1	43.9	32.1	30.1	27.9	31.6	
Level of Service	B	C	B	B	B	A	D	C	C	C	C	
Approach Delay (s)		19.8			11.3			35.1			30.8	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	19.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	77.4%	ICU Level of Service	D
Analysis Period (min)	15		

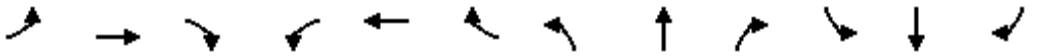
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	68	70	106	128	338	35	184	337	560	150	234
Future Volume (vph)	115	68	70	106	128	338	35	184	337	560	150	234
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	0.91	0.91		1.00	1.00	1.00	0.97	0.95	1.00	0.97	0.95	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	0.99		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1610	3154		1770	1863	1583	3433	3539	1583	3433	3216	
Flt Permitted	0.67	0.86		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1133	2739		1770	1863	1583	3433	3539	1583	3433	3216	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	74	76	115	139	367	38	200	366	609	163	254
RTOR Reduction (vph)	0	66	0	0	0	260	0	0	245	0	121	0
Lane Group Flow (vph)	85	124	0	115	139	107	38	200	121	609	296	0
Turn Type	Perm	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4					8			2			
Actuated Green, G (s)	12.3	12.3		9.4	26.2	26.2	3.3	29.7	29.7	20.6	47.0	
Effective Green, g (s)	12.3	12.3		9.4	26.2	26.2	3.3	29.7	29.7	20.6	47.0	
Actuated g/C Ratio	0.14	0.14		0.10	0.29	0.29	0.04	0.33	0.33	0.23	0.52	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	154	374		184	542	460	125	1167	522	785	1679	
v/s Ratio Prot				c0.06	0.07		0.01	0.06		c0.18	0.09	
v/s Ratio Perm	c0.08	0.05				0.07			c0.08			
v/c Ratio	0.55	0.33		0.62	0.26	0.23	0.30	0.17	0.23	0.78	0.18	
Uniform Delay, d1	36.3	35.1		38.6	24.4	24.3	42.2	21.4	21.9	32.5	11.3	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.66	0.80	
Incremental Delay, d2	4.2	0.5		6.5	0.3	0.3	1.4	0.3	1.0	3.8	0.2	
Delay (s)	40.5	35.7		45.1	24.7	24.5	43.6	21.7	22.9	25.4	9.2	
Level of Service	D	D		D	C	C	D	C	C	C	A	
Approach Delay (s)		37.2			28.4			23.8			18.8	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	24.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	53.1%	ICU Level of Service	A
Analysis Period (min)	15		

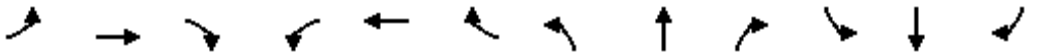
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	200	5	0	424	185	1	171	100	228	536	548
Future Volume (vph)	61	200	5	0	424	185	1	171	100	228	536	548
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95			0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00			0.95		1.00	0.94		1.00	0.92	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3527			3378		1770	3343		1770	3271	
Flt Permitted	0.95	1.00			1.00		0.15	1.00		0.57	1.00	
Satd. Flow (perm)	1770	3527			3378		288	3343		1065	3271	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	66	217	5	0	461	201	1	186	109	248	583	596
RTOR Reduction (vph)	0	3	0	0	57	0	0	50	0	0	157	0
Lane Group Flow (vph)	66	219	0	0	605	0	1	245	0	248	1022	0
Turn Type	Prot	NA			NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	7.6	32.4			20.3		48.6	48.6		48.6	48.6	
Effective Green, g (s)	7.6	32.4			20.3		48.6	48.6		48.6	48.6	
Actuated g/C Ratio	0.08	0.36			0.23		0.54	0.54		0.54	0.54	
Clearance Time (s)	4.5	4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	149	1269			761		155	1805		575	1766	
v/s Ratio Prot	c0.04	0.06			c0.18			0.07			c0.31	
v/s Ratio Perm							0.00			0.23		
v/c Ratio	0.44	0.17			0.80		0.01	0.14		0.43	0.58	
Uniform Delay, d1	39.2	19.7			32.9		9.6	10.3		12.4	13.9	
Progression Factor	1.34	1.48			1.15		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.1	0.1			5.7		0.1	0.2		2.4	1.4	
Delay (s)	54.6	29.1			43.6		9.6	10.4		14.8	15.2	
Level of Service	D	C			D		A	B		B	B	
Approach Delay (s)		34.9			43.6			10.4			15.2	
Approach LOS		C			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	23.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	73.4%	ICU Level of Service	D
Analysis Period (min)	15		

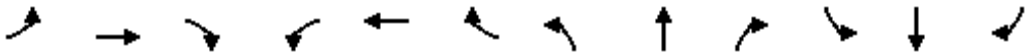
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	69	167	29	153	10	190	263	12	11	1188	154
Future Volume (vph)	81	69	167	29	153	10	190	263	12	11	1188	154
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1845		1770	3516		1770	4998	
Flt Permitted	0.47	1.00	1.00	0.71	1.00		0.12	1.00		0.57	1.00	
Satd. Flow (perm)	871	1863	1583	1319	1845		227	3516		1060	4998	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	88	75	182	32	166	11	207	286	13	12	1291	167
RTOR Reduction (vph)	0	0	154	0	3	0	0	3	0	0	13	0
Lane Group Flow (vph)	88	75	28	32	174	0	207	296	0	12	1445	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	13.8	13.8	13.8	13.8	13.8		67.2	67.2		52.1	52.1	
Effective Green, g (s)	13.8	13.8	13.8	13.8	13.8		67.2	67.2		52.1	52.1	
Actuated g/C Ratio	0.15	0.15	0.15	0.15	0.15		0.75	0.75		0.58	0.58	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	133	285	242	202	282		351	2625		613	2893	
v/s Ratio Prot		0.04			0.09		c0.07	0.08			0.29	
v/s Ratio Perm	c0.10		0.02	0.02			c0.37			0.01		
v/c Ratio	0.66	0.26	0.12	0.16	0.62		0.59	0.11		0.02	0.50	
Uniform Delay, d1	35.9	33.6	32.8	33.1	35.6		7.4	3.2		8.1	11.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.71	0.49		1.00	1.00	
Incremental Delay, d2	11.7	0.5	0.2	0.4	4.0		2.5	0.1		0.1	0.6	
Delay (s)	47.6	34.1	33.1	33.4	39.6		15.1	1.6		8.1	11.8	
Level of Service	D	C	C	C	D		B	A		A	B	
Approach Delay (s)		37.0			38.7			7.1			11.8	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	16.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		

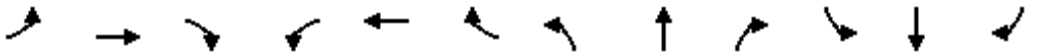
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	64	0	0	0	57	369	293	0	1414	229
Future Volume (Veh/h)	0	0	64	0	0	0	57	369	293	0	1414	229
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	70	0	0	0	62	401	318	0	1537	249
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								206			797	
pX, platoon unblocked	0.90	0.90	0.90	0.90	0.90	1.00	0.90			1.00		
vC, conflicting volume	1986	2186	637	1107	2311	200	1786			401		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1677	1900	195	701	2038	187	1475			388		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	90	100	100	100	85			100		
cM capacity (veh/h)	49	52	730	234	43	820	406			1161		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	70	0	62	200	200	318	615	615	556
Volume Left	0	0	62	0	0	0	0	0	0
Volume Right	70	0	0	0	0	318	0	0	249
cSH	730	1700	406	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.10	0.00	0.15	0.12	0.12	0.19	0.36	0.36	0.33
Queue Length 95th (ft)	8	0	13	0	0	0	0	0	0
Control Delay (s)	10.5	0.0	15.5	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	A	C						
Approach Delay (s)	10.5	0.0	1.2				0.0		
Approach LOS	B	A							

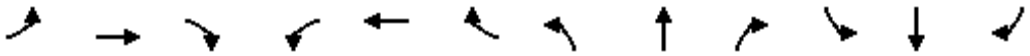
Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	43.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	37	15	20	0	11	0	487	49	37	1441	0
Future Volume (vph)	220	37	15	20	0	11	0	487	49	37	1441	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5		4.5		4.5		4.5	4.5	
Lane Util. Factor	0.97	1.00		1.00		1.00		0.91		1.00	0.91	
Frt	1.00	0.96		1.00		0.85		0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)	3433	1783		1770		1583		5016		1770	5085	
Flt Permitted	0.95	1.00		0.95		1.00		1.00		0.42	1.00	
Satd. Flow (perm)	3433	1783		1770		1583		5016		786	5085	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	40	16	22	0	12	0	529	53	40	1566	0
RTOR Reduction (vph)	0	14	0	0	0	12	0	9	0	0	0	0
Lane Group Flow (vph)	239	42	0	22	0	0	0	573	0	40	1566	0
Turn Type	pm+pt	NA		Prot		Perm		NA		Perm	NA	
Protected Phases	7	4		3				2			6	
Permitted Phases	4					8				6		
Actuated Green, G (s)	18.4	9.9		4.0		1.1		62.6		62.6	62.6	
Effective Green, g (s)	18.4	9.9		4.0		1.1		62.6		62.6	62.6	
Actuated g/C Ratio	0.20	0.11		0.04		0.01		0.70		0.70	0.70	
Clearance Time (s)	4.5	4.5		4.5		4.5		4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	701	196		78		19		3488		546	3536	
v/s Ratio Prot	c0.05	0.02		0.01				0.11			c0.31	
v/s Ratio Perm	0.02					0.00				0.05		
v/c Ratio	0.34	0.21		0.28		0.01		0.16		0.07	0.44	
Uniform Delay, d1	30.6	36.5		41.6		43.9		4.7		4.4	6.0	
Progression Factor	0.81	0.64		1.00		1.00		0.25		0.63	0.52	
Incremental Delay, d2	0.3	0.5		2.0		0.2		0.1		0.3	0.4	
Delay (s)	25.1	23.8		43.6		44.1		1.3		3.0	3.5	
Level of Service	C	C		D		D		A		A	A	
Approach Delay (s)		24.9			43.8			1.3			3.5	
Approach LOS		C			D			A			A	

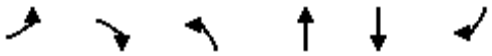
Intersection Summary			
HCM 2000 Control Delay	6.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	47.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	551	0	0	1499	20	120	179	95	0	0	0
Future Volume (vph)	75	551	0	0	1499	20	120	179	95	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5		4.5	4.5				
Lane Util. Factor	1.00	0.95			0.91		0.86	0.86				
Frt	1.00	1.00			1.00		1.00	0.95				
Flt Protected	0.95	1.00			1.00		0.95	1.00				
Satd. Flow (prot)	1770	3539			5075		1522	4558				
Flt Permitted	0.12	1.00			1.00		0.95	1.00				
Satd. Flow (perm)	216	3539			5075		1522	4558				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	599	0	0	1629	22	130	195	103	0	0	0
RTOR Reduction (vph)	0	0	0	0	2	0	0	81	0	0	0	0
Lane Group Flow (vph)	82	599	0	0	1649	0	108	239	0	0	0	0
Turn Type	Perm	NA			NA		pm+pt	NA				
Protected Phases		4			8		6	2				
Permitted Phases	4						2					
Actuated Green, G (s)	61.7	61.7			61.7		19.3	19.3				
Effective Green, g (s)	61.7	61.7			61.7		19.3	19.3				
Actuated g/C Ratio	0.69	0.69			0.69		0.21	0.21				
Clearance Time (s)	4.5	4.5			4.5		4.5	4.5				
Lane Grp Cap (vph)	148	2426			3479		326	977				
v/s Ratio Prot		0.17			0.33		c0.07	0.05				
v/s Ratio Perm	c0.38											
v/c Ratio	0.55	0.25			0.47		0.33	0.24				
Uniform Delay, d1	7.2	5.4			6.6		29.9	29.3				
Progression Factor	1.00	1.00			0.33		1.00	1.00				
Incremental Delay, d2	14.1	0.2			0.3		2.7	0.6				
Delay (s)	21.3	5.6			2.5		32.6	29.9				
Level of Service	C	A			A		C	C				
Approach Delay (s)		7.5			2.5			30.6			0.0	
Approach LOS		A			A			C			A	

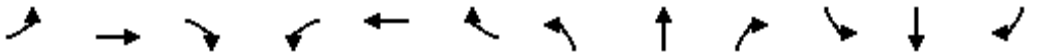
Intersection Summary			
HCM 2000 Control Delay	8.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	50.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	382	644	985	192
Future Volume (Veh/h)	0	0	382	644	985	192
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	415	700	1071	209
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				369	243	
pX, platoon unblocked	0.88	0.88	0.88			
vC, conflicting volume	2239	462	1280			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1847	0	824			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	41			
cM capacity (veh/h)	24	950	703			

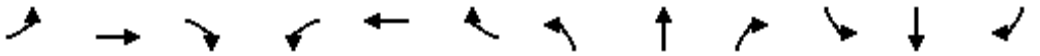
Direction, Lane #	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	415	233	233	233	428	428	423
Volume Left	415	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	209
cSH	703	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.59	0.14	0.14	0.14	0.25	0.25	0.25
Queue Length 95th (ft)	98	0	0	0	0	0	0
Control Delay (s)	17.2	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	C						
Approach Delay (s)	6.4				0.0		
Approach LOS							

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	51.1%	ICU Level of Service	A
Analysis Period (min)	15		



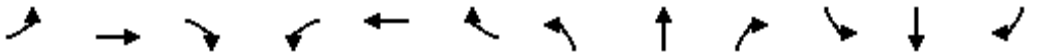
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	300	1564	60	87	275	0	0	356	41
Future Volume (vph)	0	0	0	300	1564	60	87	275	0	0	356	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.5		4.5	4.5			4.5	
Lane Util. Factor					0.91		1.00	0.95			0.95	
Frt					1.00		1.00	1.00			0.98	
Flt Protected					0.99		0.95	1.00			1.00	
Satd. Flow (prot)					5022		1770	3539			3484	
Flt Permitted					0.99		0.42	1.00			1.00	
Satd. Flow (perm)					5022		779	3539			3484	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	326	1700	65	95	299	0	0	387	45
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	0	0	10	0
Lane Group Flow (vph)	0	0	0	0	2087	0	95	299	0	0	422	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8			2					
Actuated Green, G (s)					53.5		27.5	27.5			27.5	
Effective Green, g (s)					53.5		27.5	27.5			27.5	
Actuated g/C Ratio					0.59		0.31	0.31			0.31	
Clearance Time (s)					4.5		4.5	4.5			4.5	
Lane Grp Cap (vph)					2985		238	1081			1064	
v/s Ratio Prot								0.08			0.12	
v/s Ratio Perm					0.42		c0.12					
v/c Ratio					0.70		0.40	0.28			0.40	
Uniform Delay, d1					12.7		24.7	23.7			24.7	
Progression Factor					0.11		0.60	0.61			1.00	
Incremental Delay, d2					0.5		4.9	0.6			1.1	
Delay (s)					1.9		19.7	15.0			25.8	
Level of Service					A		B	B			C	
Approach Delay (s)		0.0			1.9			16.2			25.8	
Approach LOS		A			A			B			C	

Intersection Summary			
HCM 2000 Control Delay	7.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	64.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



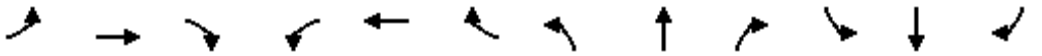
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑			↑↑			↑↑	
Traffic Volume (vph)	31	133	152	0	0	0	0	331	61	18	638	0
Future Volume (vph)	31	133	152	0	0	0	0	331	61	18	638	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5						4.5			4.5	
Lane Util. Factor		0.95						0.95			0.95	
Frt		0.93						0.98			1.00	
Flt Protected		1.00						1.00			1.00	
Satd. Flow (prot)		3268						3457			3534	
Flt Permitted		0.93						1.00			0.94	
Satd. Flow (perm)		3056						3457			3318	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	34	145	165	0	0	0	0	360	66	20	693	0
RTOR Reduction (vph)	0	109	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	235	0	0	0	0	0	426	0	0	713	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4									6		
Actuated Green, G (s)		30.5						50.5			50.5	
Effective Green, g (s)		30.5						50.5			50.5	
Actuated g/C Ratio		0.34						0.56			0.56	
Clearance Time (s)		4.5						4.5			4.5	
Lane Grp Cap (vph)		1035						1939			1861	
v/s Ratio Prot								0.12				
v/s Ratio Perm		c0.08									c0.21	
v/c Ratio		0.23						0.22			0.38	
Uniform Delay, d1		21.3						9.9			11.0	
Progression Factor		1.00						0.61			0.46	
Incremental Delay, d2		0.5						0.2			0.5	
Delay (s)		21.8						6.3			5.6	
Level of Service		C						A			A	
Approach Delay (s)		21.8			0.0			6.3			5.6	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	47.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	385	172	100	743	122	70	339	52	169	917	94
Future Volume (vph)	33	385	172	100	743	122	70	339	52	169	917	94
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.95		1.00	0.98		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3375		1770	3464		1770	3468		1770	3539	1583
Flt Permitted	0.17	1.00		0.34	1.00		0.20	1.00		0.48	1.00	1.00
Satd. Flow (perm)	308	3375		628	3464		373	3468		901	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	36	418	187	109	808	133	76	368	57	184	997	102
RTOR Reduction (vph)	0	48	0	0	15	0	0	14	0	0	0	31
Lane Group Flow (vph)	36	557	0	109	926	0	76	411	0	184	997	71
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	35.5	35.5		35.5	35.5		45.5	45.5		45.5	45.5	45.5
Effective Green, g (s)	35.5	35.5		35.5	35.5		45.5	45.5		45.5	45.5	45.5
Actuated g/C Ratio	0.39	0.39		0.39	0.39		0.51	0.51		0.51	0.51	0.51
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Grp Cap (vph)	121	1331		247	1366		188	1753		455	1789	800
v/s Ratio Prot		0.17			c0.27			0.12			c0.28	
v/s Ratio Perm	0.12			0.17			0.20			0.20		0.04
v/c Ratio	0.30	0.42		0.44	0.68		0.40	0.23		0.40	0.56	0.09
Uniform Delay, d1	18.7	19.8		20.0	22.5		13.8	12.5		13.8	15.3	11.5
Progression Factor	1.00	1.00		0.75	0.76		0.74	0.65		0.71	0.69	0.55
Incremental Delay, d2	6.2	1.0		5.4	2.6		6.3	0.3		2.6	1.2	0.2
Delay (s)	24.9	20.7		20.4	19.7		16.5	8.4		12.4	11.7	6.5
Level of Service	C	C		C	B		B	A		B	B	A
Approach Delay (s)		21.0			19.8			9.7			11.4	
Approach LOS		C			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	15.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	73.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

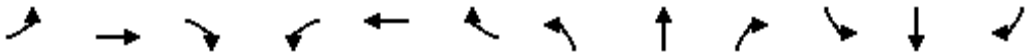


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	391	120	49	645	83	107	369	59	115	822	137
Future Volume (vph)	29	391	120	49	645	83	107	369	59	115	822	137
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	1.00	0.85	1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3415		1770	3539	1583	1770	3466		1770	3463	
Flt Permitted	0.21	1.00		0.31	1.00	1.00	0.22	1.00		0.48	1.00	
Satd. Flow (perm)	396	3415		584	3539	1583	408	3466		885	3463	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	425	130	53	701	90	116	401	64	125	893	149
RTOR Reduction (vph)	0	32	0	0	0	64	0	14	0	0	15	0
Lane Group Flow (vph)	32	523	0	53	701	27	116	451	0	125	1027	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	26.5	26.5		26.5	26.5	26.5	54.5	54.5		54.5	54.5	
Effective Green, g (s)	26.5	26.5		26.5	26.5	26.5	54.5	54.5		54.5	54.5	
Actuated g/C Ratio	0.29	0.29		0.29	0.29	0.29	0.61	0.61		0.61	0.61	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)	116	1005		171	1042	466	247	2098		535	2097	
v/s Ratio Prot		0.15			c0.20			0.13			c0.30	
v/s Ratio Perm	0.08			0.09		0.02	0.28			0.14		
v/c Ratio	0.28	0.52		0.31	0.67	0.06	0.47	0.21		0.23	0.49	
Uniform Delay, d1	24.4	26.5		24.7	27.9	22.8	9.8	8.0		8.2	10.0	
Progression Factor	1.00	1.00		0.56	0.54	0.47	1.00	1.00		0.85	0.84	
Incremental Delay, d2	5.8	1.9		4.3	3.2	0.2	6.3	0.2		0.9	0.7	
Delay (s)	30.2	28.4		18.0	18.2	11.0	16.1	8.3		7.8	9.1	
Level of Service	C	C		B	B	B	B	A		A	A	
Approach Delay (s)		28.5			17.4			9.8			8.9	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

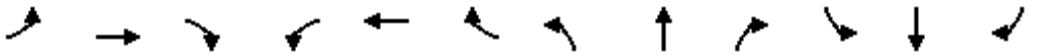
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	346	222	204	808	186	106
Future Volume (vph)	346	222	204	808	186	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	0.97	1.00
Frt	0.94		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3332		1770	3539	3433	1583
Flt Permitted	1.00		0.40	1.00	0.95	1.00
Satd. Flow (perm)	3332		743	3539	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	376	241	222	878	202	115
RTOR Reduction (vph)	87	0	0	0	0	85
Lane Group Flow (vph)	530	0	222	878	202	30
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Actuated Green, G (s)	57.5		57.5	57.5	23.5	23.5
Effective Green, g (s)	57.5		57.5	57.5	23.5	23.5
Actuated g/C Ratio	0.64		0.64	0.64	0.26	0.26
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	2128		474	2261	896	413
v/s Ratio Prot	0.16			0.25	c0.06	
v/s Ratio Perm			c0.30			0.02
v/c Ratio	0.25		0.47	0.39	0.23	0.07
Uniform Delay, d1	7.0		8.4	7.8	26.1	25.0
Progression Factor	0.43		0.73	0.75	0.86	0.87
Incremental Delay, d2	0.3		2.6	0.4	0.5	0.3
Delay (s)	3.3		8.7	6.2	23.0	22.2
Level of Service	A		A	A	C	C
Approach Delay (s)	3.3			6.7	22.7	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	8.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	44.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	78	319	167	105	585	65	157	225	49	25	310	34
Future Volume (vph)	78	319	167	105	585	65	157	225	49	25	310	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.95		1.00	0.98			0.98			0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.98			1.00	
Satd. Flow (prot)	1770	3357		1770	3486			3417			3479	
Flt Permitted	0.30	1.00		0.40	1.00			0.67			0.91	
Satd. Flow (perm)	565	3357		753	3486			2348			3160	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	85	347	182	114	636	71	171	245	53	27	337	37
RTOR Reduction (vph)	0	76	0	0	9	0	0	11	0	0	8	0
Lane Group Flow (vph)	85	453	0	114	698	0	0	458	0	0	393	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	40.5	40.5		40.5	40.5			40.5			40.5	
Effective Green, g (s)	40.5	40.5		40.5	40.5			40.5			40.5	
Actuated g/C Ratio	0.45	0.45		0.45	0.45			0.45			0.45	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Grp Cap (vph)	254	1510		338	1568			1056			1422	
v/s Ratio Prot		0.13			c0.20							
v/s Ratio Perm	0.15			0.15				c0.20			0.12	
v/c Ratio	0.33	0.30		0.34	0.44			0.43			0.28	
Uniform Delay, d1	16.0	15.7		16.0	17.0			16.9			15.5	
Progression Factor	0.55	0.46		1.31	1.35			1.00			0.53	
Incremental Delay, d2	3.2	0.5		2.6	0.9			1.3			0.5	
Delay (s)	12.0	7.6		23.7	23.9			18.2			8.8	
Level of Service	B	A		C	C			B			A	
Approach Delay (s)		8.2			23.9			18.2			8.8	
Approach LOS		A			C			B			A	

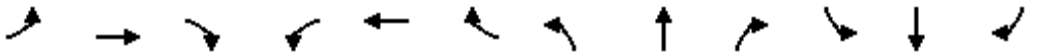
Intersection Summary			
HCM 2000 Control Delay	15.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	291	230	131	293	957	8	228	503	91	26	1025	740
Future Volume (vph)	291	230	131	293	957	8	228	503	91	26	1025	740
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.91	0.91		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.96		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1610	3212		1770	3535		1770	3539	1583	1770	3539	1583
Flt Permitted	0.17	0.56		0.45	1.00		0.13	1.00	1.00	0.45	1.00	1.00
Satd. Flow (perm)	285	1829		833	3535		238	3539	1583	834	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	316	250	142	318	1040	9	248	547	99	28	1114	804
RTOR Reduction (vph)	0	38	0	0	1	0	0	0	57	0	0	39
Lane Group Flow (vph)	183	487	0	318	1048	0	248	547	42	28	1114	765
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	pm+ov
Protected Phases	7	4		3	8		5	2			6	7
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	39.4	39.4		37.8	23.0		37.9	37.9	37.9	26.8	26.8	42.4
Effective Green, g (s)	39.4	39.4		37.8	23.0		37.9	37.9	37.9	26.8	26.8	42.4
Actuated g/C Ratio	0.44	0.44		0.42	0.26		0.42	0.42	0.42	0.30	0.30	0.47
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	354	1040		503	903		212	1490	666	248	1053	824
v/s Ratio Prot	0.09	0.08		0.10	c0.30		c0.09	0.15			0.31	c0.16
v/s Ratio Perm	0.14	0.12		0.16			c0.41		0.03	0.03		0.32
v/c Ratio	0.52	0.47		0.63	1.16		1.17	0.37	0.06	0.11	1.06	0.93
Uniform Delay, d1	18.5	17.9		18.5	33.5		23.0	17.8	15.5	23.0	31.6	22.4
Progression Factor	0.59	0.43		1.00	1.00		1.23	1.20	1.88	1.00	1.00	1.00
Incremental Delay, d2	1.2	0.3		2.6	84.7		114.1	0.7	0.2	0.9	44.4	16.4
Delay (s)	12.1	8.0		21.0	118.2		142.5	22.1	29.3	23.9	76.0	38.8
Level of Service	B	A		C	F		F	C	C	C	E	D
Approach Delay (s)		9.0			95.6			56.3			59.9	
Approach LOS		A			F			E			E	

Intersection Summary			
HCM 2000 Control Delay	61.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	96.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



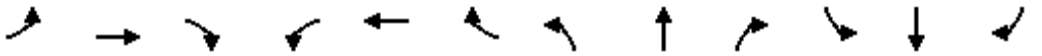
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	71	9	12	571	156	39	167	2	108	169	510
Future Volume (vph)	90	71	9	12	571	156	39	167	2	108	169	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.97		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1831		1770	1803		1770	1860		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.57	1.00		0.57	1.00	1.00
Satd. Flow (perm)	1770	1831		1770	1803		1056	1860		1056	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	98	77	10	13	621	170	42	182	2	117	184	554
RTOR Reduction (vph)	0	4	0	0	11	0	0	1	0	0	0	235
Lane Group Flow (vph)	98	83	0	13	780	0	42	183	0	117	184	319
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		6
Actuated Green, G (s)	10.3	50.5		1.0	41.2		25.0	25.0		25.0	25.0	25.0
Effective Green, g (s)	10.3	50.5		1.0	41.2		25.0	25.0		25.0	25.0	25.0
Actuated g/C Ratio	0.11	0.56		0.01	0.46		0.28	0.28		0.28	0.28	0.28
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	202	1027		19	825		293	516		293	517	439
v/s Ratio Prot	c0.06	0.05		0.01	c0.43			0.10			0.10	
v/s Ratio Perm							0.04			0.11		c0.20
v/c Ratio	0.49	0.08		0.68	0.94		0.14	0.36		0.40	0.36	0.73
Uniform Delay, d1	37.4	9.1		44.3	23.3		24.4	26.0		26.4	26.0	29.4
Progression Factor	0.70	0.83		1.00	1.00		1.00	1.00		0.47	0.45	0.62
Incremental Delay, d2	1.8	0.0		69.9	19.1		1.0	1.9		1.6	0.8	4.2
Delay (s)	27.9	7.6		114.2	42.4		25.5	28.0		14.0	12.4	22.4
Level of Service	C	A		F	D		C	C		B	B	C
Approach Delay (s)		18.3			43.6			27.5			19.1	
Approach LOS		B			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	29.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	86.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	18	375	144	553	202	0
Future Volume (vph)	18	375	144	553	202	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frt	0.86		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	3033		1770	3539	1770	
Flt Permitted	1.00		0.49	1.00	0.95	
Satd. Flow (perm)	3033		905	3539	1770	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	20	408	157	601	220	0
RTOR Reduction (vph)	193	0	0	0	0	0
Lane Group Flow (vph)	235	0	157	601	220	0
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases			6			8
Actuated Green, G (s)	47.5		47.5	47.5	33.5	
Effective Green, g (s)	47.5		47.5	47.5	33.5	
Actuated g/C Ratio	0.53		0.53	0.53	0.37	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Lane Grp Cap (vph)	1600		477	1867	658	
v/s Ratio Prot	0.08			0.17	c0.12	
v/s Ratio Perm			c0.17			
v/c Ratio	0.15		0.33	0.32	0.33	
Uniform Delay, d1	10.9		12.1	12.1	20.3	
Progression Factor	0.86		0.28	0.29	1.00	
Incremental Delay, d2	0.2		1.6	0.4	1.4	
Delay (s)	9.5		5.0	3.9	21.6	
Level of Service	A		A	A	C	
Approach Delay (s)	9.5			4.1	21.6	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	8.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	43.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	4	6	100	4	24	25	601	169	62	550	12
Future Volume (vph)	9	4	6	100	4	24	25	601	169	62	550	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frt		0.95		1.00	0.87		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1738		1770	1621		1770	3539	1583	1770	3528	
Flt Permitted		0.88		0.74	1.00		0.42	1.00	1.00	0.40	1.00	
Satd. Flow (perm)		1569		1385	1621		783	3539	1583	749	3528	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	4	7	109	4	26	27	653	184	67	598	13
RTOR Reduction (vph)	0	6	0	0	23	0	0	0	41	0	1	0
Lane Group Flow (vph)	0	15	0	109	7	0	27	653	143	67	610	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		11.1		11.1	11.1		69.9	69.9	69.9	69.9	69.9	
Effective Green, g (s)		11.1		11.1	11.1		69.9	69.9	69.9	69.9	69.9	
Actuated g/C Ratio		0.12		0.12	0.12		0.78	0.78	0.78	0.78	0.78	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		193		170	199		608	2748	1229	581	2740	
v/s Ratio Prot					0.00			c0.18			0.17	
v/s Ratio Perm		0.01		c0.08			0.03		0.09	0.09		
v/c Ratio		0.08		0.64	0.04		0.04	0.24	0.12	0.12	0.22	
Uniform Delay, d1		34.9		37.6	34.7		2.3	2.8	2.5	2.5	2.7	
Progression Factor		1.00		1.00	1.00		2.41	2.74	8.68	1.59	1.50	
Incremental Delay, d2		0.2		8.0	0.1		0.1	0.2	0.2	0.4	0.2	
Delay (s)		35.1		45.6	34.8		5.7	7.7	21.6	4.3	4.3	
Level of Service		D		D	C		A	A	C	A	A	
Approach Delay (s)		35.1			43.2			10.6			4.3	
Approach LOS		D			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	42.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	54	42	436	60	45	651
Future Volume (Veh/h)	54	42	436	60	45	651
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	59	46	474	65	49	708
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						543
pX, platoon unblocked						
vC, conflicting volume	958	270			539	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	958	270			539	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	76	94			95	
cM capacity (veh/h)	243	728			1025	

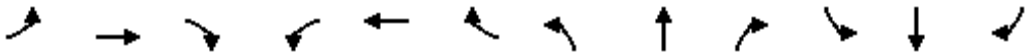
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	59	46	316	223	49	354	354
Volume Left	59	0	0	0	49	0	0
Volume Right	0	46	0	65	0	0	0
cSH	243	728	1700	1700	1025	1700	1700
Volume to Capacity	0.24	0.06	0.19	0.13	0.05	0.21	0.21
Queue Length 95th (ft)	23	5	0	0	4	0	0
Control Delay (s)	24.5	10.3	0.0	0.0	8.7	0.0	0.0
Lane LOS	C	B			A		
Approach Delay (s)	18.3		0.0		0.6		
Approach LOS	C						

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	30.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	639	57	81	1306	79	55
Future Volume (vph)	639	57	81	1306	79	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3496		1770	3539	1770	1583
Flt Permitted	1.00		0.31	1.00	0.95	1.00
Satd. Flow (perm)	3496		586	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	695	62	88	1420	86	60
RTOR Reduction (vph)	12	0	0	0	0	39
Lane Group Flow (vph)	745	0	88	1420	86	21
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Actuated Green, G (s)	26.4		26.4	26.4	19.6	19.6
Effective Green, g (s)	26.4		26.4	26.4	19.6	19.6
Actuated g/C Ratio	0.48		0.48	0.48	0.36	0.36
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1678		281	1698	630	564
v/s Ratio Prot	0.21			c0.40	c0.05	
v/s Ratio Perm			0.15			0.01
v/c Ratio	0.44		0.31	0.84	0.14	0.04
Uniform Delay, d1	9.4		8.8	12.4	12.0	11.5
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2		0.6	3.8	0.5	0.1
Delay (s)	9.6		9.4	16.2	12.4	11.7
Level of Service	A		A	B	B	B
Approach Delay (s)	9.6			15.8	12.1	
Approach LOS	A			B	B	

Intersection Summary			
HCM 2000 Control Delay	13.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	48.0%	ICU Level of Service	A
Analysis Period (min)	15		

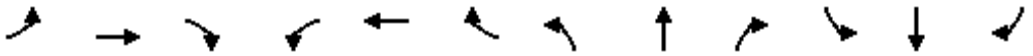
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	105	61	37	0	656	0	0	1115	348
Future Volume (vph)	0	0	0	105	61	37	0	656	0	0	1115	348
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5	4.5	4.5		4.5			4.5	
Lane Util. Factor				1.00	1.00	1.00		0.91			0.86	
Frt				1.00	1.00	0.85		1.00			0.96	
Flt Protected				0.95	1.00	1.00		1.00			1.00	
Satd. Flow (prot)				1770	1863	1583		5085			6179	
Flt Permitted				0.95	1.00	1.00		1.00			1.00	
Satd. Flow (perm)				1770	1863	1583		5085			6179	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	114	66	40	0	713	0	0	1212	378
RTOR Reduction (vph)	0	0	0	0	0	36	0	0	0	0	31	0
Lane Group Flow (vph)	0	0	0	114	66	4	0	713	0	0	1559	0
Turn Type				Prot	NA	Perm		NA			NA	
Protected Phases				3	8			2			6	
Permitted Phases						8						
Actuated Green, G (s)				9.8	9.8	9.8		71.2			71.2	
Effective Green, g (s)				9.8	9.8	9.8		71.2			71.2	
Actuated g/C Ratio				0.11	0.11	0.11		0.79			0.79	
Clearance Time (s)				4.5	4.5	4.5		4.5			4.5	
Vehicle Extension (s)				3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)				192	202	172		4022			4888	
v/s Ratio Prot				c0.06	0.04			0.14			c0.25	
v/s Ratio Perm						0.00						
v/c Ratio				0.59	0.33	0.03		0.18			0.32	
Uniform Delay, d1				38.2	37.1	35.8		2.3			2.6	
Progression Factor				1.00	1.00	1.00		0.23			0.23	
Incremental Delay, d2				4.9	0.9	0.1		0.1			0.1	
Delay (s)				43.1	38.0	35.9		0.6			0.7	
Level of Service				D	D	D		A			A	
Approach Delay (s)		0.0			40.2			0.6			0.7	
Approach LOS		A			D			A			A	

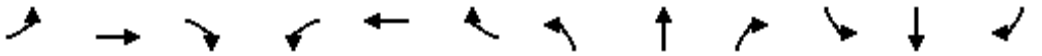
Intersection Summary			
HCM 2000 Control Delay	4.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	55.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	361	65	49	91	0	188	0	1236	169	137	750	0
Future Volume (vph)	361	65	49	91	0	188	0	1236	169	137	750	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5	4.5	
Lane Util. Factor	0.97	1.00	1.00	1.00		1.00		0.95	1.00	1.00	0.91	
Frt	1.00	1.00	0.85	1.00		0.85		1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1863	1583	1770		1583		3539	1583	1770	5085	
Flt Permitted	0.95	1.00	1.00	0.95		1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1863	1583	1770		1583		3539	1583	1770	5085	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	392	71	53	99	0	204	0	1343	184	149	815	0
RTOR Reduction (vph)	0	0	46	0	0	0	0	0	73	0	0	0
Lane Group Flow (vph)	392	71	7	99	0	204	0	1343	111	149	815	0
Turn Type	Split	NA	Perm	Prot		Prot		NA	Perm	Prot	NA	
Protected Phases	3	3		4		4		6		5	2	
Permitted Phases			3						6			
Actuated Green, G (s)	11.5	11.5	11.5	12.5		12.5		38.5	38.5	9.5	52.5	
Effective Green, g (s)	11.5	11.5	11.5	12.5		12.5		38.5	38.5	9.5	52.5	
Actuated g/C Ratio	0.13	0.13	0.13	0.14		0.14		0.43	0.43	0.11	0.58	
Clearance Time (s)	4.5	4.5	4.5	4.5		4.5		4.5	4.5	4.5	4.5	
Lane Grp Cap (vph)	438	238	202	245		219		1513	677	186	2966	
v/s Ratio Prot	c0.11	0.04		0.06		c0.13		c0.38		c0.08	0.16	
v/s Ratio Perm			0.00						0.07			
v/c Ratio	0.89	0.30	0.03	0.40		0.93		0.89	0.16	0.80	0.27	
Uniform Delay, d1	38.7	35.6	34.4	35.4		38.3		23.8	15.8	39.3	9.3	
Progression Factor	1.16	1.15	1.00	1.02		1.01		1.37	2.38	1.38	0.50	
Incremental Delay, d2	20.4	2.7	0.3	4.7		44.2		6.4	0.4	28.5	0.2	
Delay (s)	65.1	43.7	34.6	40.6		82.8		39.0	38.1	82.6	4.8	
Level of Service	E	D	C	D		F		D	D	F	A	
Approach Delay (s)		59.0			69.0			38.9			16.9	
Approach LOS		E			E			D			B	

Intersection Summary			
HCM 2000 Control Delay	38.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	67.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	351	45	17	1	57	375	20	454	19	114	20	169
Future Volume (vph)	351	45	17	1	57	375	20	454	19	114	20	169
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	4.5
Lane Util. Factor	0.97	1.00		1.00	0.95			0.95			1.00	1.00
Frt	1.00	0.96		1.00	0.87			0.99			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.96	1.00
Satd. Flow (prot)	3433	1788		1770	3078			3511			1787	1583
Flt Permitted	0.95	1.00		0.71	1.00			1.00			0.96	1.00
Satd. Flow (perm)	3433	1788		1329	3078			3511			1787	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	382	49	18	1	62	408	22	493	21	124	22	184
RTOR Reduction (vph)	0	11	0	0	244	0	0	3	0	0	0	138
Lane Group Flow (vph)	382	56	0	1	226	0	0	533	0	0	146	46
Turn Type	Prot	NA		Perm	NA		Split	NA		Split	NA	custom
Protected Phases	5	2			6		3	3		4	4	4
Permitted Phases				6								5
Actuated Green, G (s)	12.5	36.6		19.6	19.6			29.7			10.2	22.7
Effective Green, g (s)	12.5	36.6		19.6	19.6			29.7			10.2	22.7
Actuated g/C Ratio	0.14	0.41		0.22	0.22			0.33			0.11	0.25
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	476	727		289	670			1158			202	478
v/s Ratio Prot	c0.11	0.03			c0.07			c0.15			c0.08	0.01
v/s Ratio Perm				0.00								0.02
v/c Ratio	0.80	0.08		0.00	0.34			0.46			0.72	0.10
Uniform Delay, d1	37.6	16.4		27.6	29.7			23.8			38.5	25.8
Progression Factor	1.37	0.42		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	8.8	0.2		0.0	0.3			1.3			12.0	0.1
Delay (s)	60.4	7.1		27.6	30.0			25.1			50.6	25.9
Level of Service	E	A		C	C			C			D	C
Approach Delay (s)		52.4			30.0			25.1			36.8	
Approach LOS		D			C			C			D	

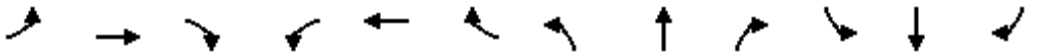
Intersection Summary			
HCM 2000 Control Delay	35.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	59.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	159	19	52	241	98	160
Future Volume (vph)	159	19	52	241	98	160
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	173	21	57	262	107	174

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2
Volume Total (vph)	194	57	262	107	174
Volume Left (vph)	0	57	0	107	0
Volume Right (vph)	21	0	0	0	174
Hadj (s)	-0.03	0.53	0.03	0.53	-0.67
Departure Headway (s)	5.5	6.0	5.5	6.4	5.2
Degree Utilization, x	0.29	0.10	0.40	0.19	0.25
Capacity (veh/h)	625	567	624	533	651
Control Delay (s)	10.7	8.5	11.0	9.7	8.7
Approach Delay (s)	10.7	10.6		9.1	
Approach LOS	B	B		A	

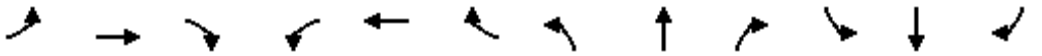
Intersection Summary			
Delay	10.1		
Level of Service	B		
Intersection Capacity Utilization	28.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	252	5	62	6	6	13	51	612	7	7	254	235
Future Volume (vph)	252	5	62	6	6	13	51	612	7	7	254	235
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	274	5	67	7	7	14	55	665	8	8	276	255

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total (vph)	346	28	55	665	8	8	276	255
Volume Left (vph)	274	7	55	0	0	8	0	0
Volume Right (vph)	67	14	0	0	8	0	0	255
Hadj (s)	0.08	-0.22	0.53	0.03	-0.67	0.53	0.03	-0.67
Departure Headway (s)	6.5	7.3	6.9	6.4	3.2	7.3	6.8	3.2
Degree Utilization, x	0.63	0.06	0.11	1.18	0.01	0.02	0.52	0.23
Capacity (veh/h)	533	437	510	567	1121	473	501	1122
Control Delay (s)	19.9	10.8	9.5	121.3	5.0	9.3	15.9	5.9
Approach Delay (s)	19.9	10.8	111.6			11.1		
Approach LOS	C	B	F			B		

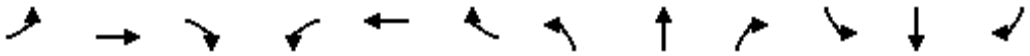
Intersection Summary				
Delay	57.5			
Level of Service	F			
Intersection Capacity Utilization	70.2%	ICU Level of Service	C	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	252	450	196	30	159	94	90	986	0	75	743	311
Future Volume (vph)	252	450	196	30	159	94	90	986	0	75	743	311
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.95		1.00	0.94		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3378		1770	3342		1770	3539		1770	3539	1583
Flt Permitted	0.35	1.00		0.38	1.00		0.35	1.00		0.95	1.00	1.00
Satd. Flow (perm)	659	3378		717	3342		646	3539		1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	274	489	213	33	173	102	98	1072	0	82	808	338
RTOR Reduction (vph)	0	60	0	0	0	0	0	0	0	0	0	177
Lane Group Flow (vph)	274	642	0	33	275	0	98	1072	0	82	808	161
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4			6					2
Actuated Green, G (s)	28.6	28.6		12.7	12.7		40.3	40.3		7.6	43.0	43.0
Effective Green, g (s)	28.6	28.6		12.7	12.7		40.3	40.3		7.6	43.0	43.0
Actuated g/C Ratio	0.32	0.32		0.14	0.14		0.45	0.45		0.08	0.48	0.48
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	350	1073		101	471		350	1584		149	1690	756
v/s Ratio Prot	c0.10	0.19			0.08		0.02	c0.30		0.05	c0.23	
v/s Ratio Perm	c0.15			0.05			0.11					0.10
v/c Ratio	0.78	0.60		0.33	0.58		0.28	0.68		0.55	0.48	0.21
Uniform Delay, d1	25.1	25.9		34.8	36.2		16.2	19.7		39.6	15.9	13.7
Progression Factor	0.60	0.48		1.00	1.00		0.63	0.64		1.38	0.41	0.13
Incremental Delay, d2	9.8	0.8		1.9	1.8		0.4	2.0		4.3	1.0	0.6
Delay (s)	25.0	13.1		36.7	38.0		10.6	14.6		58.9	7.4	2.4
Level of Service	C	B		D	D		B	B		E	A	A
Approach Delay (s)		16.4			37.9			14.3			9.5	
Approach LOS		B			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	15.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	69.3%	ICU Level of Service	C
Analysis Period (min)	15		

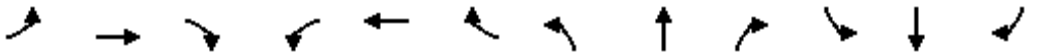
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	65	41	109	13	65	28	95	165	20	12	55	26
Future Volume (vph)	65	41	109	13	65	28	95	165	20	12	55	26
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	71	45	118	14	71	30	103	179	22	13	60	28

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total (vph)	116	118	115	304	101
Volume Left (vph)	71	0	14	103	13
Volume Right (vph)	0	118	30	22	28
Hadj (s)	0.34	-0.67	-0.10	0.06	-0.11
Departure Headway (s)	6.1	5.1	5.3	5.0	5.2
Degree Utilization, x	0.20	0.17	0.17	0.42	0.14
Capacity (veh/h)	555	662	614	685	636
Control Delay (s)	9.3	7.9	9.4	11.7	9.0
Approach Delay (s)	8.6		9.4	11.7	9.0
Approach LOS	A		A	B	A

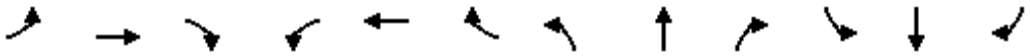
Intersection Summary				
Delay	10.0			
Level of Service	B			
Intersection Capacity Utilization	41.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	322	484	116	16	281	14	68	739	147	41	804	124
Future Volume (vph)	322	484	116	16	281	14	68	739	147	41	804	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95			0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.97			1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3437			3530	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.39	1.00			0.90	1.00	0.21	1.00	1.00	0.24	1.00	1.00
Satd. Flow (perm)	719	3437			3196	1583	393	3539	1583	454	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	350	526	126	17	305	15	74	803	160	45	874	135
RTOR Reduction (vph)	0	23	0	0	0	0	0	0	92	0	0	49
Lane Group Flow (vph)	350	629	0	0	322	15	74	803	68	45	874	86
Turn Type	pm+pt	NA			NA	Perm	Perm	NA	Perm	Perm	NA	pm+ov
Protected Phases	7	4			8			2			6	7
Permitted Phases	4					8	2		2	6		6
Actuated Green, G (s)	42.9	42.9			19.4	19.4	38.1	38.1	38.1	38.1	38.1	57.1
Effective Green, g (s)	42.9	42.9			19.4	19.4	38.1	38.1	38.1	38.1	38.1	57.1
Actuated g/C Ratio	0.48	0.48			0.22	0.22	0.42	0.42	0.42	0.42	0.42	0.63
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	564	1638			688	341	166	1498	670	192	1498	1083
v/s Ratio Prot	c0.13	0.18						0.23			c0.25	0.02
v/s Ratio Perm	c0.16				0.10	0.01	0.19		0.04	0.10		0.04
v/c Ratio	0.62	0.38			0.47	0.04	0.45	0.54	0.10	0.23	0.58	0.08
Uniform Delay, d1	15.8	15.1			30.8	28.0	18.4	19.4	15.6	16.6	19.9	6.3
Progression Factor	0.55	0.51			1.50	1.60	1.00	1.00	1.00	1.07	1.08	0.17
Incremental Delay, d2	1.9	0.1			0.4	0.0	8.4	1.4	0.3	2.6	1.5	0.0
Delay (s)	10.6	7.9			46.6	44.8	26.9	20.7	15.9	20.4	23.0	1.1
Level of Service	B	A			D	D	C	C	B	C	C	A
Approach Delay (s)		8.8			46.5			20.4			20.1	
Approach LOS		A			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	19.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	67.5%	ICU Level of Service	C
Analysis Period (min)	15		

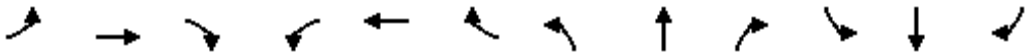
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	589	23	80	312	77	6	78	231	98	28	37
Future Volume (vph)	71	589	23	80	312	77	6	78	231	98	28	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5			4.5			4.5	
Lane Util. Factor		0.95	1.00		0.95			1.00			1.00	
Frt		1.00	0.85		0.98			0.90			0.97	
Flt Protected		0.99	1.00		0.99			1.00			0.97	
Satd. Flow (prot)		3520	1583		3423			1677			1753	
Flt Permitted		0.99	1.00		0.99			0.99			0.47	
Satd. Flow (perm)		3520	1583		3423			1669			851	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	77	640	25	87	339	84	7	85	251	107	30	40
RTOR Reduction (vph)	0	0	16	0	19	0	0	109	0	0	12	0
Lane Group Flow (vph)	0	717	9	0	491	0	0	234	0	0	165	0
Turn Type	Split	NA	Perm	Split	NA		Perm	NA		Perm	NA	
Protected Phases	2	2		1	1			8			4	
Permitted Phases			2				8			4		
Actuated Green, G (s)		32.7	32.7		17.3			26.5			26.5	
Effective Green, g (s)		32.7	32.7		17.3			26.5			26.5	
Actuated g/C Ratio		0.36	0.36		0.19			0.29			0.29	
Clearance Time (s)		4.5	4.5		4.5			4.5			4.5	
Vehicle Extension (s)		3.0	3.0		3.0			3.0			3.0	
Lane Grp Cap (vph)		1278	575		657			491			250	
v/s Ratio Prot		c0.20			c0.14							
v/s Ratio Perm			0.01					0.14			c0.19	
v/c Ratio		0.56	0.02		0.75			0.48			0.66	
Uniform Delay, d1		22.9	18.3		34.3			26.1			27.8	
Progression Factor		0.66	1.00		0.84			1.00			1.00	
Incremental Delay, d2		1.7	0.0		3.6			3.3			12.9	
Delay (s)		16.8	18.4		32.2			29.3			40.7	
Level of Service		B	B		C			C			D	
Approach Delay (s)		16.8			32.2			29.3			40.7	
Approach LOS		B			C			C			D	

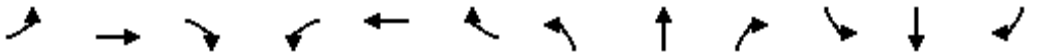
Intersection Summary			
HCM 2000 Control Delay	26.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	74.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



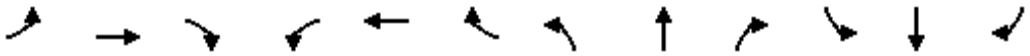
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	269	568	180	20	1766	0	0	618	25
Future Volume (vph)	0	0	0	269	568	180	20	1766	0	0	618	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5	4.5		4.5	4.5			4.5	
Lane Util. Factor				0.86	0.86		1.00	0.91			0.91	
Frt				1.00	0.97		1.00	1.00			0.99	
Flt Protected				0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)				1522	4630		1770	5085			5056	
Flt Permitted				0.95	1.00		0.36	1.00			1.00	
Satd. Flow (perm)				1522	4630		663	5085			5056	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	292	617	196	22	1920	0	0	672	27
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	5	0
Lane Group Flow (vph)	0	0	0	263	842	0	22	1920	0	0	694	0
Turn Type				Prot	NA		Perm	NA			NA	
Protected Phases				3	8			2			6	
Permitted Phases							2					
Actuated Green, G (s)				32.5	32.5		48.5	48.5			48.5	
Effective Green, g (s)				32.5	32.5		48.5	48.5			48.5	
Actuated g/C Ratio				0.36	0.36		0.54	0.54			0.54	
Clearance Time (s)				4.5	4.5		4.5	4.5			4.5	
Lane Grp Cap (vph)				549	1671		357	2740			2724	
v/s Ratio Prot				0.17	c0.18			c0.38			0.14	
v/s Ratio Perm							0.03					
v/c Ratio				0.48	0.50		0.06	0.70			0.25	
Uniform Delay, d1				22.2	22.5		9.9	15.4			11.1	
Progression Factor				1.00	1.00		0.94	0.70			0.79	
Incremental Delay, d2				3.0	1.1		0.1	0.7			0.2	
Delay (s)				25.2	23.5		9.4	11.4			9.0	
Level of Service				C	C		A	B			A	
Approach Delay (s)		0.0			23.9			11.4			9.0	
Approach LOS		A			C			B			A	

Intersection Summary				
HCM 2000 Control Delay	14.6	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.62			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0	
Intersection Capacity Utilization	57.0%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				



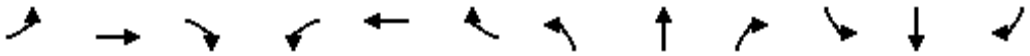
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	243	57	84	0	0	0	0	634	66	50	942	0
Future Volume (vph)	243	57	84	0	0	0	0	634	66	50	942	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5						4.5		4.5	4.5	
Lane Util. Factor	0.91	0.91						0.91		1.00	0.91	
Frt	1.00	0.95						0.99		1.00	1.00	
Flt Protected	0.95	0.98						1.00		0.95	1.00	
Satd. Flow (prot)	1610	3152						5013		1770	5085	
Flt Permitted	0.95	0.78						1.00		0.27	1.00	
Satd. Flow (perm)	1610	2515						5013		508	5085	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	264	62	91	0	0	0	0	689	72	54	1024	0
RTOR Reduction (vph)	0	25	0	0	0	0	0	14	0	0	0	0
Lane Group Flow (vph)	143	249	0	0	0	0	0	747	0	54	1024	0
Turn Type	Prot	NA						NA		pm+pt	NA	
Protected Phases	7	4			8			2		1	6	
Permitted Phases										6		
Actuated Green, G (s)	19.5	42.0						27.0		39.0	39.0	
Effective Green, g (s)	19.5	42.0						27.0		39.0	39.0	
Actuated g/C Ratio	0.22	0.47						0.30		0.43	0.43	
Clearance Time (s)	4.5	4.5						4.5		4.5	4.5	
Lane Grp Cap (vph)	348	1311						1503		325	2203	
v/s Ratio Prot	c0.09	0.04						0.15		0.01	c0.20	
v/s Ratio Perm		c0.05								0.06		
v/c Ratio	0.41	0.19						0.50		0.17	0.46	
Uniform Delay, d1	30.3	14.0						25.9		20.4	18.1	
Progression Factor	1.00	1.00						0.99		0.49	0.49	
Incremental Delay, d2	3.6	0.3						0.9		1.1	0.7	
Delay (s)	33.9	14.4						26.5		11.2	9.5	
Level of Service	C	B						C		B	A	
Approach Delay (s)		21.1			0.0			26.5			9.6	
Approach LOS		C			A			C			A	

Intersection Summary			
HCM 2000 Control Delay	17.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	36.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	91	968	193	117	936	118	98	720	120	98	668	134
Future Volume (vph)	91	968	193	117	936	118	98	720	120	98	668	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	5000		1770	4977		1770	4958	
Flt Permitted	0.24	1.00	1.00	0.11	1.00		0.18	1.00		0.17	1.00	
Satd. Flow (perm)	439	3539	1583	200	5000		341	4977		317	4958	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	99	1052	210	127	1017	128	107	783	130	107	726	146
RTOR Reduction (vph)	0	0	41	0	17	0	0	26	0	0	34	0
Lane Group Flow (vph)	99	1052	169	127	1128	0	107	887	0	107	838	0
Turn Type	Perm	NA	pm+ov	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4	5	3	8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	35.5	35.5	42.2	46.3	46.3		30.4	23.7		30.0	23.5	
Effective Green, g (s)	35.5	35.5	42.2	46.3	46.3		30.4	23.7		30.0	23.5	
Actuated g/C Ratio	0.39	0.39	0.47	0.51	0.51		0.34	0.26		0.33	0.26	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)	173	1395	742	212	2572		221	1310		210	1294	
v/s Ratio Prot		c0.30	0.02	c0.04	0.23		0.04	c0.18		c0.04	0.17	
v/s Ratio Perm	0.23		0.09	0.27			0.13			0.13		
v/c Ratio	0.57	0.75	0.23	0.60	0.44		0.48	0.68		0.51	0.65	
Uniform Delay, d1	21.3	23.5	14.2	15.8	13.7		32.2	29.7		32.9	29.6	
Progression Factor	0.60	0.59	0.56	1.00	1.00		0.51	0.45		0.74	0.63	
Incremental Delay, d2	10.5	3.1	0.6	11.9	0.5		7.3	2.8		8.3	2.4	
Delay (s)	23.3	16.9	8.5	27.7	14.2		23.7	16.1		32.6	21.1	
Level of Service	C	B	A	C	B		C	B		C	C	
Approach Delay (s)		16.1			15.6			16.9			22.4	
Approach LOS		B			B			B			C	

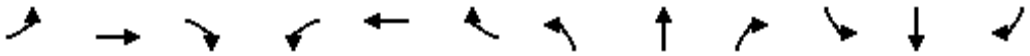
Intersection Summary			
HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	322	70	61	426	361	177	988	50	96	396	57
Future Volume (vph)	103	322	70	61	426	361	177	988	50	96	396	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3445		1770	3539	1583	1770	3539	1583	1770	4989	
Flt Permitted	0.35	1.00		0.38	1.00	1.00	0.46	1.00	1.00	0.20	1.00	
Satd. Flow (perm)	657	3445		716	3539	1583	861	3539	1583	380	4989	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	112	350	76	66	463	392	192	1074	54	104	430	62
RTOR Reduction (vph)	0	22	0	0	0	52	0	0	22	0	18	0
Lane Group Flow (vph)	112	404	0	66	463	340	192	1074	32	104	474	0
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8		8	2		2	6		
Actuated Green, G (s)	19.1	19.1		27.9	27.9	27.9	53.1	53.1	53.1	53.1	53.1	
Effective Green, g (s)	19.1	19.1		27.9	27.9	27.9	53.1	53.1	53.1	53.1	53.1	
Actuated g/C Ratio	0.21	0.21		0.31	0.31	0.31	0.59	0.59	0.59	0.59	0.59	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	139	731		272	1097	490	507	2088	933	224	2943	
v/s Ratio Prot		0.12		0.01	0.13			c0.30			0.09	
v/s Ratio Perm	c0.17			0.06		c0.21	0.22		0.02	0.27		
v/c Ratio	0.81	0.55		0.24	0.42	0.69	0.38	0.51	0.03	0.46	0.16	
Uniform Delay, d1	33.7	31.6		27.4	24.6	27.3	9.7	10.9	7.7	10.4	8.4	
Progression Factor	1.00	1.00		0.37	0.50	0.36	0.70	0.71	1.06	0.56	0.40	
Incremental Delay, d2	27.7	0.9		0.0	0.0	0.4	1.8	0.7	0.1	6.5	0.1	
Delay (s)	61.4	32.5		10.2	12.5	10.1	8.6	8.5	8.3	12.4	3.5	
Level of Service	E	C		B	B	B	A	A	A	B	A	
Approach Delay (s)		38.6			11.3			8.5			5.0	
Approach LOS		D			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	66.6%	ICU Level of Service	C
Analysis Period (min)	15		

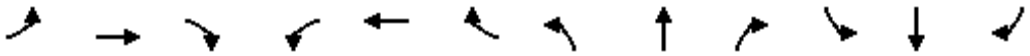
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	952	265	118	872	306	288	730	185	246	313	49
Future Volume (vph)	47	952	265	118	872	306	288	730	185	246	313	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	3468	
Flt Permitted	0.15	1.00	1.00	0.15	1.00	1.00	0.38	1.00	1.00	0.20	1.00	
Satd. Flow (perm)	279	3539	1583	279	3539	1583	708	3539	1583	365	3468	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	51	1035	288	128	948	333	313	793	201	267	340	53
RTOR Reduction (vph)	0	0	193	0	0	209	0	0	142	0	13	0
Lane Group Flow (vph)	51	1035	95	128	948	124	313	793	59	267	380	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		
Actuated Green, G (s)	29.8	29.8	29.8	33.5	33.5	33.5	36.7	21.7	21.7	34.1	20.4	
Effective Green, g (s)	29.8	29.8	29.8	33.5	33.5	33.5	36.7	21.7	21.7	34.1	20.4	
Actuated g/C Ratio	0.33	0.33	0.33	0.37	0.37	0.37	0.41	0.24	0.24	0.38	0.23	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	143	1171	524	216	1317	589	465	853	381	352	786	
v/s Ratio Prot	0.01	c0.29		0.04	c0.27		0.11	c0.22		c0.12	0.11	
v/s Ratio Perm	0.11		0.06	0.18		0.08	0.16		0.04	0.17		
v/c Ratio	0.36	0.88	0.18	0.59	0.72	0.21	0.67	0.93	0.16	0.76	0.48	
Uniform Delay, d1	23.4	28.5	21.4	32.9	24.2	19.2	19.5	33.4	26.9	22.0	30.2	
Progression Factor	1.00	1.00	1.00	0.78	0.71	0.20	0.84	0.71	0.34	0.72	0.77	
Incremental Delay, d2	1.5	9.8	0.8	3.1	2.4	0.6	3.3	14.5	0.2	8.9	0.5	
Delay (s)	25.0	38.3	22.2	28.6	19.6	4.5	19.7	38.1	9.2	24.7	23.6	
Level of Service	C	D	C	C	B	A	B	D	A	C	C	
Approach Delay (s)		34.4			16.9			29.2			24.1	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	26.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	81.7%	ICU Level of Service	D
Analysis Period (min)	15		

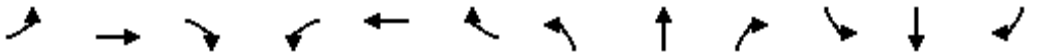
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	71	83	192	129	587	44	453	70	304	233	128
Future Volume (vph)	155	71	83	192	129	587	44	453	70	304	233	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	0.91	0.91		1.00	1.00	1.00	0.97	0.95	1.00	0.97	0.95	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	0.99		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1610	3148		1770	1863	1583	3433	3539	1583	3433	3351	
Flt Permitted	0.67	0.83		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1132	2644		1770	1863	1583	3433	3539	1583	3433	3351	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	168	77	90	209	140	638	48	492	76	330	253	139
RTOR Reduction (vph)	0	77	0	0	0	370	0	0	54	0	69	0
Lane Group Flow (vph)	104	154	0	209	140	268	48	492	22	330	323	0
Turn Type	Perm	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4					8			2			
Actuated Green, G (s)	13.4	13.4		15.0	32.9	32.9	3.8	26.3	26.3	17.3	39.8	
Effective Green, g (s)	13.4	13.4		15.0	32.9	32.9	3.8	26.3	26.3	17.3	39.8	
Actuated g/C Ratio	0.15	0.15		0.17	0.37	0.37	0.04	0.29	0.29	0.19	0.44	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	168	393		295	681	578	144	1034	462	659	1481	
v/s Ratio Prot				c0.12	0.08		0.01	c0.14		c0.10	0.10	
v/s Ratio Perm	c0.09	0.06				0.17			0.01			
v/c Ratio	0.62	0.39		0.71	0.21	0.46	0.33	0.48	0.05	0.50	0.22	
Uniform Delay, d1	35.9	34.6		35.4	19.6	21.8	41.9	26.2	22.9	32.5	15.5	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.72	0.57	
Incremental Delay, d2	6.6	0.7		7.6	0.2	0.6	1.4	1.6	0.2	0.5	0.3	
Delay (s)	42.5	35.3		43.0	19.7	22.4	43.2	27.8	23.1	23.8	9.2	
Level of Service	D	D		D	B	C	D	C	C	C	A	
Approach Delay (s)		37.5			26.4			28.4			15.9	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	25.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	66.2%	ICU Level of Service	C
Analysis Period (min)	15		

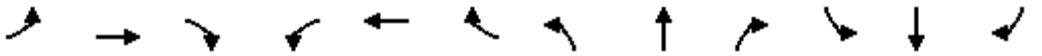
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	229	237	1	23	655	364	5	676	35	190	276	188
Future Volume (vph)	229	237	1	23	655	364	5	676	35	190	276	188
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95			0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00			0.95		1.00	0.99		1.00	0.94	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3537			3350		1770	3513		1770	3324	
Flt Permitted	0.95	1.00			0.94		0.41	1.00		0.25	1.00	
Satd. Flow (perm)	1770	3537			3161		755	3513		462	3324	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	249	258	1	25	712	396	5	735	38	207	300	204
RTOR Reduction (vph)	0	1	0	0	79	0	0	4	0	0	122	0
Lane Group Flow (vph)	249	258	0	0	1054	0	5	769	0	207	382	0
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases				8			2			6		
Actuated Green, G (s)	16.2	44.7			24.0		36.3	36.3		36.3	36.3	
Effective Green, g (s)	16.2	44.7			24.0		36.3	36.3		36.3	36.3	
Actuated g/C Ratio	0.18	0.50			0.27		0.40	0.40		0.40	0.40	
Clearance Time (s)	4.5	4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	318	1756			842		304	1416		186	1340	
v/s Ratio Prot	c0.14	0.07						0.22			0.11	
v/s Ratio Perm					c0.33		0.01			c0.45		
v/c Ratio	0.78	0.15			1.25		0.02	0.54		1.11	0.29	
Uniform Delay, d1	35.2	12.3			33.0		16.1	20.5		26.9	18.1	
Progression Factor	0.82	0.60			1.49		1.00	1.00		1.00	1.00	
Incremental Delay, d2	11.1	0.0			122.4		0.1	1.5		99.5	0.5	
Delay (s)	40.1	7.4			171.7		16.2	22.0		126.4	18.6	
Level of Service	D	A			F		B	C		F	B	
Approach Delay (s)		23.4			171.7			22.0			50.0	
Approach LOS		C			F			C			D	

Intersection Summary			
HCM 2000 Control Delay	82.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	88.4%	ICU Level of Service	E
Analysis Period (min)	15		

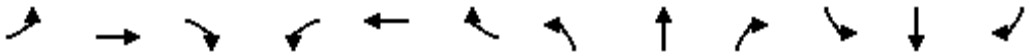
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	95	179	32	196	27	533	892	28	9	339	101
Future Volume (vph)	108	95	179	32	196	27	533	892	28	9	339	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1829		1770	3523		1770	4910	
Flt Permitted	0.37	1.00	1.00	0.69	1.00		0.43	1.00		0.22	1.00	
Satd. Flow (perm)	695	1863	1583	1286	1829		808	3523		404	4910	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	117	103	195	35	213	29	579	970	30	10	368	110
RTOR Reduction (vph)	0	0	157	0	6	0	0	2	0	0	54	0
Lane Group Flow (vph)	117	103	38	35	236	0	579	998	0	10	424	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	17.5	17.5	17.5	17.5	17.5		63.5	63.5		26.5	26.5	
Effective Green, g (s)	17.5	17.5	17.5	17.5	17.5		63.5	63.5		26.5	26.5	
Actuated g/C Ratio	0.19	0.19	0.19	0.19	0.19		0.71	0.71		0.29	0.29	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	135	362	307	250	355		917	2485		118	1445	
v/s Ratio Prot		0.06			0.13		c0.23	0.28			0.09	
v/s Ratio Perm	c0.17		0.02	0.03			c0.22			0.02		
v/c Ratio	0.87	0.28	0.12	0.14	0.67		0.63	0.40		0.08	0.29	
Uniform Delay, d1	35.1	30.9	29.9	30.0	33.5		9.9	5.4		23.0	24.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.60	0.51		1.00	1.00	
Incremental Delay, d2	40.3	0.4	0.2	0.3	4.7		1.2	0.4		1.4	0.5	
Delay (s)	75.4	31.3	30.1	30.3	38.2		7.2	3.2		24.4	25.0	
Level of Service	E	C	C	C	D		A	A		C	C	
Approach Delay (s)		43.2			37.2			4.7			25.0	
Approach LOS		D			D			A			C	

Intersection Summary			
HCM 2000 Control Delay	17.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	71.3%	ICU Level of Service	C
Analysis Period (min)	15		

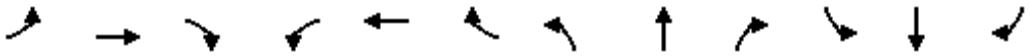
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	81	0	0	0	100	1120	662	0	726	51
Future Volume (Veh/h)	0	0	81	0	0	0	100	1120	662	0	726	51
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	88	0	0	0	109	1217	720	0	789	55
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								206			797	
pX, platoon unblocked	0.71	0.71		0.71	0.71	0.71				0.71		
vC, conflicting volume	1643	2252	290	1786	2279	608	844			1217		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1093	1948	290	1294	1987	0	844			494		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	88	100	100	100	86			100		
cM capacity (veh/h)	107	39	706	67	37	772	788			758		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	88	0	109	608	608	720	316	316	213
Volume Left	0	0	109	0	0	0	0	0	0
Volume Right	88	0	0	0	0	720	0	0	55
cSH	706	1700	788	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.12	0.00	0.14	0.36	0.36	0.42	0.19	0.19	0.13
Queue Length 95th (ft)	11	0	12	0	0	0	0	0	0
Control Delay (s)	10.8	0.0	10.3	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	A	B						
Approach Delay (s)	10.8	0.0	0.5				0.0		
Approach LOS	B	A							

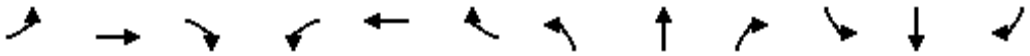
Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	44.3%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	930	22	33	63	0	39	0	913	15	3	803	0
Future Volume (vph)	930	22	33	63	0	39	0	913	15	3	803	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5		4.5		4.5		4.5	4.5	
Lane Util. Factor	0.97	1.00		1.00		1.00		0.91		1.00	0.91	
Frt	1.00	0.91		1.00		0.85		1.00		1.00	1.00	
Flt Protected	0.95	1.00		0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)	3433	1695		1770		1583		5073		1770	5085	
Flt Permitted	0.95	1.00		0.95		1.00		1.00		0.24	1.00	
Satd. Flow (perm)	3433	1695		1770		1583		5073		450	5085	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1011	24	36	68	0	42	0	992	16	3	873	0
RTOR Reduction (vph)	0	29	0	0	0	40	0	1	0	0	0	0
Lane Group Flow (vph)	1011	31	0	68	0	2	0	1007	0	3	873	0
Turn Type	pm+pt	NA		Prot		Perm		NA		Perm	NA	
Protected Phases	7	4		3				2			6	
Permitted Phases	4					8				6		
Actuated Green, G (s)	30.3	18.5		7.3		3.3		50.7		50.7	50.7	
Effective Green, g (s)	30.3	18.5		7.3		3.3		50.7		50.7	50.7	
Actuated g/C Ratio	0.34	0.21		0.08		0.04		0.56		0.56	0.56	
Clearance Time (s)	4.5	4.5		4.5		4.5		4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	1155	348		143		58		2857		253	2864	
v/s Ratio Prot	c0.22	0.02		0.04				c0.20			0.17	
v/s Ratio Perm	0.08					0.00				0.01		
v/c Ratio	0.88	0.09		0.48		0.03		0.35		0.01	0.30	
Uniform Delay, d1	28.1	28.9		39.5		41.8		10.7		8.6	10.4	
Progression Factor	0.41	0.31		1.00		1.00		0.46		0.78	0.73	
Incremental Delay, d2	5.4	0.1		2.5		0.2		0.3		0.1	0.3	
Delay (s)	16.9	8.9		42.0		42.0		5.2		6.8	7.8	
Level of Service	B	A		D		D		A		A	A	
Approach Delay (s)		16.5			42.0			5.2			7.8	
Approach LOS		B			D			A			A	

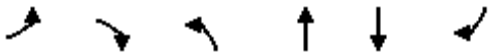
Intersection Summary			
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	78	1011	0	0	1220	23	415	884	242	0	0	0
Future Volume (vph)	78	1011	0	0	1220	23	415	884	242	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5		4.5	4.5				
Lane Util. Factor	1.00	0.95			0.91		0.86	0.86				
Frt	1.00	1.00			1.00		1.00	0.97				
Flt Protected	0.95	1.00			1.00		0.95	1.00				
Satd. Flow (prot)	1770	3539			5071		1522	4648				
Flt Permitted	0.15	1.00			1.00		0.95	1.00				
Satd. Flow (perm)	272	3539			5071		1522	4648				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	85	1099	0	0	1326	25	451	961	263	0	0	0
RTOR Reduction (vph)	0	0	0	0	2	0	0	46	0	0	0	0
Lane Group Flow (vph)	85	1099	0	0	1349	0	406	1223	0	0	0	0
Turn Type	Perm	NA			NA		pm+pt	NA				
Protected Phases		4			8		6	2				
Permitted Phases	4						2					
Actuated Green, G (s)	48.5	48.5			48.5		32.5	32.5				
Effective Green, g (s)	48.5	48.5			48.5		32.5	32.5				
Actuated g/C Ratio	0.54	0.54			0.54		0.36	0.36				
Clearance Time (s)	4.5	4.5			4.5		4.5	4.5				
Lane Grp Cap (vph)	146	1907			2732		549	1678				
v/s Ratio Prot		0.31			0.27		c0.27	0.26				
v/s Ratio Perm	c0.31											
v/c Ratio	0.58	0.58			0.49		0.74	0.73				
Uniform Delay, d1	13.9	13.9			13.0		25.1	24.9				
Progression Factor	1.00	1.00			0.89		1.00	1.00				
Incremental Delay, d2	15.8	1.3			0.6		8.7	2.8				
Delay (s)	29.8	15.2			12.2		33.7	27.7				
Level of Service	C	B			B		C	C				
Approach Delay (s)		16.2			12.2			29.2			0.0	
Approach LOS		B			B			C			A	

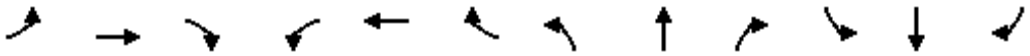
Intersection Summary			
HCM 2000 Control Delay	20.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	62.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	213	700	798	228
Future Volume (Veh/h)	0	0	213	700	798	228
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	232	761	867	248
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				369	243	
pX, platoon unblocked	0.86	0.86	0.86			
vC, conflicting volume	1709	413	1115			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1257	0	567			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	73			
cM capacity (veh/h)	103	933	861			

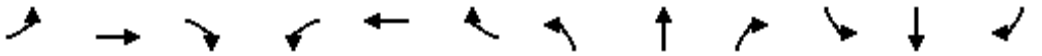
Direction, Lane #	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	232	254	254	254	347	347	421
Volume Left	232	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	248
cSH	861	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.27	0.15	0.15	0.15	0.20	0.20	0.25
Queue Length 95th (ft)	27	0	0	0	0	0	0
Control Delay (s)	10.7	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	2.5				0.0		
Approach LOS							

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	57.9%	ICU Level of Service	B
Analysis Period (min)	15		



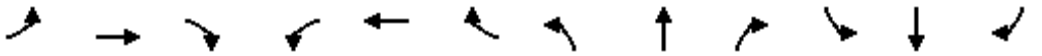
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	97	495	21	190	1082	0	0	166	39
Future Volume (vph)	0	0	0	97	495	21	190	1082	0	0	166	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.5		4.5	4.5			4.5	
Lane Util. Factor					0.91		1.00	0.95			0.95	
Frt					0.99		1.00	1.00			0.97	
Flt Protected					0.99		0.95	1.00			1.00	
Satd. Flow (prot)					5019		1770	3539			3439	
Flt Permitted					0.99		0.61	1.00			1.00	
Satd. Flow (perm)					5019		1142	3539			3439	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	105	538	23	207	1176	0	0	180	42
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	0	0	16	0
Lane Group Flow (vph)	0	0	0	0	662	0	207	1176	0	0	206	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8			2					
Actuated Green, G (s)					24.5		56.5	56.5			56.5	
Effective Green, g (s)					24.5		56.5	56.5			56.5	
Actuated g/C Ratio					0.27		0.63	0.63			0.63	
Clearance Time (s)					4.5		4.5	4.5			4.5	
Lane Grp Cap (vph)					1366		716	2221			2158	
v/s Ratio Prot								c0.33			0.06	
v/s Ratio Perm					0.13		0.18					
v/c Ratio					0.48		0.29	0.53			0.10	
Uniform Delay, d1					27.5		7.6	9.3			6.6	
Progression Factor					0.29		0.23	0.21			1.00	
Incremental Delay, d2					1.1		0.8	0.7			0.1	
Delay (s)					9.0		2.5	2.7			6.7	
Level of Service					A		A	A			A	
Approach Delay (s)		0.0			9.0			2.6			6.7	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	4.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	49.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



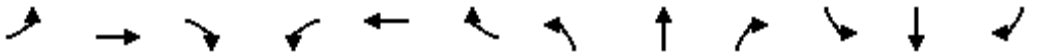
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑						↑↑			↑↑	
Traffic Volume (vph)	82	289	21	0	0	0	0	1190	186	7	256	0
Future Volume (vph)	82	289	21	0	0	0	0	1190	186	7	256	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5						4.5			4.5	
Lane Util. Factor		0.95						0.95			0.95	
Frt		0.99						0.98			1.00	
Flt Protected		0.99						1.00			1.00	
Satd. Flow (prot)		3474						3467			3534	
Flt Permitted		0.99						1.00			0.91	
Satd. Flow (perm)		3474						3467			3237	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	89	314	23	0	0	0	0	1293	202	8	278	0
RTOR Reduction (vph)	0	5	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	421	0	0	0	0	0	1495	0	0	286	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4									6		
Actuated Green, G (s)		21.5						59.5			59.5	
Effective Green, g (s)		21.5						59.5			59.5	
Actuated g/C Ratio		0.24						0.66			0.66	
Clearance Time (s)		4.5						4.5			4.5	
Lane Grp Cap (vph)		829						2292			2140	
v/s Ratio Prot								c0.43				
v/s Ratio Perm		0.12									0.09	
v/c Ratio		0.51						0.65			0.13	
Uniform Delay, d1		29.7						9.1			5.7	
Progression Factor		1.00						0.66			1.23	
Incremental Delay, d2		2.2						1.1			0.1	
Delay (s)		31.9						7.1			7.1	
Level of Service		C						A			A	
Approach Delay (s)		31.9			0.0			7.1			7.1	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	124	695	114	72	414	245	150	1115	73	87	405	163
Future Volume (vph)	124	695	114	72	414	245	150	1115	73	87	405	163
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.98		1.00	0.94		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3464		1770	3342		1770	3507		1770	3539	1583
Flt Permitted	0.25	1.00		0.17	1.00		0.48	1.00		0.12	1.00	1.00
Satd. Flow (perm)	474	3464		317	3342		894	3507		229	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	135	755	124	78	450	266	163	1212	79	95	440	177
RTOR Reduction (vph)	0	15	0	0	34	0	0	5	0	0	0	82
Lane Group Flow (vph)	135	864	0	78	682	0	163	1286	0	95	440	95
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	32.5	32.5		32.5	32.5		48.5	48.5		48.5	48.5	48.5
Effective Green, g (s)	32.5	32.5		32.5	32.5		48.5	48.5		48.5	48.5	48.5
Actuated g/C Ratio	0.36	0.36		0.36	0.36		0.54	0.54		0.54	0.54	0.54
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Grp Cap (vph)	171	1250		114	1206		481	1889		123	1907	853
v/s Ratio Prot		0.25			0.20			0.37			0.12	
v/s Ratio Perm	c0.29			0.25			0.18			c0.41		0.06
v/c Ratio	0.79	0.69		0.68	0.57		0.34	0.68		0.77	0.23	0.11
Uniform Delay, d1	25.7	24.5		24.4	23.1		11.7	15.1		16.4	10.9	10.2
Progression Factor	1.00	1.00		0.71	0.68		0.52	0.45		0.85	0.81	0.42
Incremental Delay, d2	30.0	3.2		27.9	1.9		1.5	1.6		36.6	0.3	0.3
Delay (s)	55.7	27.6		45.2	17.6		7.6	8.4		50.4	9.1	4.5
Level of Service	E	C		D	B		A	A		D	A	A
Approach Delay (s)		31.4			20.3			8.3			13.5	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	80.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

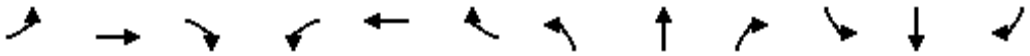


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	112	828	127	101	484	236	137	1037	85	86	467	176
Future Volume (vph)	112	828	127	101	484	236	137	1037	85	86	467	176
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.99		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3469		1770	3539	1583	1770	3499		1770	3394	
Flt Permitted	0.40	1.00		0.14	1.00	1.00	0.32	1.00		0.12	1.00	
Satd. Flow (perm)	737	3469		262	3539	1583	596	3499		219	3394	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	122	900	138	110	526	257	149	1127	92	93	508	191
RTOR Reduction (vph)	0	13	0	0	0	28	0	7	0	0	43	0
Lane Group Flow (vph)	122	1025	0	110	526	229	149	1212	0	93	656	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	37.5	37.5		37.5	37.5	37.5	43.5	43.5		43.5	43.5	
Effective Green, g (s)	37.5	37.5		37.5	37.5	37.5	43.5	43.5		43.5	43.5	
Actuated g/C Ratio	0.42	0.42		0.42	0.42	0.42	0.48	0.48		0.48	0.48	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)	307	1445		109	1474	659	288	1691		105	1640	
v/s Ratio Prot		0.30			0.15			0.35			0.19	
v/s Ratio Perm	0.17			c0.42		0.14	0.25			c0.42		
v/c Ratio	0.40	0.71		1.01	0.36	0.35	0.52	0.72		0.89	0.40	
Uniform Delay, d1	18.4	21.7		26.2	18.0	17.9	16.0	18.4		21.0	14.9	
Progression Factor	1.00	1.00		0.57	0.57	0.50	1.00	1.00		0.86	0.84	
Incremental Delay, d2	3.8	3.0		83.8	0.6	1.3	6.5	2.6		59.6	0.7	
Delay (s)	22.2	24.7		98.7	10.8	10.3	22.5	21.0		77.6	13.3	
Level of Service	C	C		F	B	B	C	C		E	B	
Approach Delay (s)		24.4			21.5			21.2			20.8	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	22.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	83.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

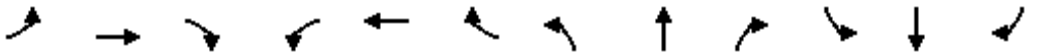
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	748	105	96	464	309	280
Future Volume (vph)	748	105	96	464	309	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	0.97	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3474		1770	3539	3433	1583
Flt Permitted	1.00		0.25	1.00	0.95	1.00
Satd. Flow (perm)	3474		458	3539	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	813	114	104	504	336	304
RTOR Reduction (vph)	12	0	0	0	0	108
Lane Group Flow (vph)	915	0	104	504	336	196
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Actuated Green, G (s)	50.5		50.5	50.5	30.5	30.5
Effective Green, g (s)	50.5		50.5	50.5	30.5	30.5
Actuated g/C Ratio	0.56		0.56	0.56	0.34	0.34
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	1949		256	1985	1163	536
v/s Ratio Prot	c0.26			0.14	0.10	
v/s Ratio Perm			0.23			c0.12
v/c Ratio	0.47		0.41	0.25	0.29	0.37
Uniform Delay, d1	11.8		11.2	10.1	21.8	22.5
Progression Factor	0.26		0.91	0.88	0.63	0.37
Incremental Delay, d2	0.6		4.5	0.3	0.5	1.5
Delay (s)	3.7		14.7	9.2	14.1	9.9
Level of Service	A		B	A	B	A
Approach Delay (s)	3.7			10.1	12.1	
Approach LOS	A			B	B	

Intersection Summary			
HCM 2000 Control Delay	8.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	49.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	809	129	69	581	81	184	425	140	32	190	64
Future Volume (vph)	86	809	129	69	581	81	184	425	140	32	190	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.98		1.00	0.98			0.97			0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	3466		1770	3474			3398			3401	
Flt Permitted	0.31	1.00		0.18	1.00			0.76			0.82	
Satd. Flow (perm)	570	3466		332	3474			2619			2819	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	93	879	140	75	632	88	200	462	152	35	207	70
RTOR Reduction (vph)	0	14	0	0	12	0	0	22	0	0	30	0
Lane Group Flow (vph)	93	1005	0	75	708	0	0	792	0	0	282	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	42.6	42.6		42.6	42.6			38.4			38.4	
Effective Green, g (s)	42.6	42.6		42.6	42.6			38.4			38.4	
Actuated g/C Ratio	0.47	0.47		0.47	0.47			0.43			0.43	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Lane Grp Cap (vph)	269	1640		157	1644			1117			1202	
v/s Ratio Prot		c0.29			0.20							
v/s Ratio Perm	0.16			0.23				c0.30			0.10	
v/c Ratio	0.35	0.61		0.48	0.43			0.71			0.23	
Uniform Delay, d1	14.9	17.6		16.1	15.7			21.2			16.4	
Progression Factor	0.39	0.36		0.87	0.88			1.00			0.39	
Incremental Delay, d2	2.4	1.2		9.6	0.8			3.8			0.4	
Delay (s)	8.2	7.5		23.7	14.5			25.0			6.8	
Level of Service	A	A		C	B			C			A	
Approach Delay (s)		7.6			15.4			25.0			6.8	
Approach LOS		A			B			C			A	

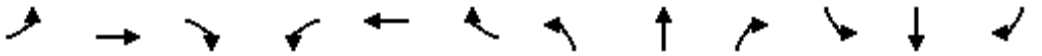
Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	75.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	437	650	339	157	608	36	235	561	82	38	557	377
Future Volume (vph)	437	650	339	157	608	36	235	561	82	38	557	377
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.91	0.91		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.95		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1610	3217		1770	3510		1770	3539	1583	1770	3539	1583
Flt Permitted	0.16	0.64		0.23	1.00		0.26	1.00	1.00	0.28	1.00	1.00
Satd. Flow (perm)	276	2071		430	3510		480	3539	1583	527	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	475	707	368	171	661	39	255	610	89	41	605	410
RTOR Reduction (vph)	0	55	0	0	5	0	0	0	53	0	0	43
Lane Group Flow (vph)	385	1110	0	171	695	0	255	610	36	41	605	367
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	pm+ov
Protected Phases	7	4		3	8		5	2			6	7
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	44.4	44.4		26.5	20.1		36.6	36.6	36.6	21.6	21.6	41.4
Effective Green, g (s)	44.4	44.4		26.5	20.1		36.6	36.6	36.6	21.6	21.6	41.4
Actuated g/C Ratio	0.49	0.49		0.29	0.22		0.41	0.41	0.41	0.24	0.24	0.46
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	429	1273		221	783		345	1439	643	126	849	728
v/s Ratio Prot	c0.20	c0.19		0.05	0.20		c0.09	0.17			0.17	0.11
v/s Ratio Perm	c0.25	0.24		0.17			c0.21		0.02	0.08		0.12
v/c Ratio	0.90	0.87		0.77	0.89		0.74	0.42	0.06	0.33	0.71	0.50
Uniform Delay, d1	22.6	20.3		24.8	33.9		29.0	19.1	16.2	28.2	31.4	17.1
Progression Factor	1.13	0.47		1.00	1.00		0.73	0.65	0.45	1.00	1.00	1.00
Incremental Delay, d2	15.2	4.7		15.4	11.9		4.4	0.5	0.1	6.7	5.1	0.6
Delay (s)	40.8	14.2		40.3	45.8		25.7	12.9	7.4	34.9	36.4	17.6
Level of Service	D	B		D	D		C	B	A	C	D	B
Approach Delay (s)		20.8			44.7			15.8			29.1	
Approach LOS		C			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	26.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	89.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



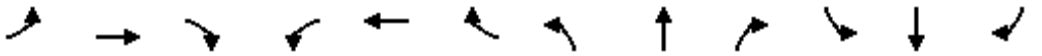
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	483	408	10	6	245	164	17	313	4	95	132	208
Future Volume (vph)	483	408	10	6	245	164	17	313	4	95	132	208
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.94		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1856		1770	1751		1770	1859		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.62	1.00		0.25	1.00	1.00
Satd. Flow (perm)	1770	1856		1770	1751		1157	1859		464	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	525	443	11	7	266	178	18	340	4	103	143	226
RTOR Reduction (vph)	0	1	0	0	27	0	0	1	0	0	0	173
Lane Group Flow (vph)	525	453	0	7	417	0	18	343	0	103	143	53
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		6
Actuated Green, G (s)	32.2	54.2		1.0	23.0		21.3	21.3		21.3	21.3	21.3
Effective Green, g (s)	32.2	54.2		1.0	23.0		21.3	21.3		21.3	21.3	21.3
Actuated g/C Ratio	0.36	0.60		0.01	0.26		0.24	0.24		0.24	0.24	0.24
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	633	1117		19	447		273	439		109	440	374
v/s Ratio Prot	c0.30	0.24		0.00	c0.24			0.18			0.08	
v/s Ratio Perm							0.02			c0.22		0.03
v/c Ratio	0.83	0.41		0.37	0.93		0.07	0.78		0.94	0.33	0.14
Uniform Delay, d1	26.4	9.4		44.2	32.8		26.6	32.2		33.8	28.4	27.1
Progression Factor	0.71	0.40		1.00	1.00		1.00	1.00		0.70	0.74	0.78
Incremental Delay, d2	7.4	0.2		11.7	26.6		0.5	13.0		54.6	1.2	0.5
Delay (s)	26.2	4.0		55.9	59.3		27.1	45.2		78.4	22.3	21.6
Level of Service	C	A		E	E		C	D		E	C	C
Approach Delay (s)		15.9			59.3			44.3			34.2	
Approach LOS		B			E			D			C	

Intersection Summary			
HCM 2000 Control Delay	32.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	86.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	725	210	106	479	255	274
Future Volume (vph)	725	210	106	479	255	274
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.97		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3420		1770	3539	1770	1583
Flt Permitted	1.00		0.23	1.00	0.95	1.00
Satd. Flow (perm)	3420		424	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	788	228	115	521	277	298
RTOR Reduction (vph)	30	0	0	0	0	140
Lane Group Flow (vph)	986	0	115	521	277	158
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases			6			8
Actuated Green, G (s)	54.5		54.5	54.5	26.5	26.5
Effective Green, g (s)	54.5		54.5	54.5	26.5	26.5
Actuated g/C Ratio	0.61		0.61	0.61	0.29	0.29
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Lane Grp Cap (vph)	2071		256	2143	521	466
v/s Ratio Prot	c0.29			0.15	c0.16	
v/s Ratio Perm			0.27			0.10
v/c Ratio	0.48		0.45	0.24	0.53	0.34
Uniform Delay, d1	9.8		9.6	8.2	26.6	24.9
Progression Factor	0.30		1.31	1.19	1.00	1.00
Incremental Delay, d2	0.6		4.6	0.2	3.9	2.0
Delay (s)	3.6		17.2	10.0	30.4	26.9
Level of Service	A		B	A	C	C
Approach Delay (s)	3.6			11.3	28.6	
Approach LOS	A			B	C	

Intersection Summary			
HCM 2000 Control Delay	12.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	58.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	5	19	210	14	104	27	930	60	20	375	12
Future Volume (vph)	16	5	19	210	14	104	27	930	60	20	375	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frt		0.93		1.00	0.87		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1706		1770	1616		1770	3539	1583	1770	3523	
Flt Permitted		0.89		0.73	1.00		0.51	1.00	1.00	0.25	1.00	
Satd. Flow (perm)		1542		1358	1616		943	3539	1583	459	3523	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	5	21	228	15	113	29	1011	65	22	408	13
RTOR Reduction (vph)	0	16	0	0	62	0	0	0	21	0	2	0
Lane Group Flow (vph)	0	27	0	228	66	0	29	1011	44	22	419	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		20.6		20.6	20.6		60.4	60.4	60.4	60.4	60.4	
Effective Green, g (s)		20.6		20.6	20.6		60.4	60.4	60.4	60.4	60.4	
Actuated g/C Ratio		0.23		0.23	0.23		0.67	0.67	0.67	0.67	0.67	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		352		310	369		632	2375	1062	308	2364	
v/s Ratio Prot					0.04			c0.29			0.12	
v/s Ratio Perm		0.02		c0.17			0.03		0.03	0.05		
v/c Ratio		0.08		0.74	0.18		0.05	0.43	0.04	0.07	0.18	
Uniform Delay, d1		27.2		32.2	27.9		5.0	6.8	5.0	5.1	5.5	
Progression Factor		1.00		1.00	1.00		2.58	2.69	5.52	1.01	1.09	
Incremental Delay, d2		0.1		8.8	0.2		0.1	0.4	0.0	0.4	0.1	
Delay (s)		27.3		40.9	28.1		13.1	18.7	27.7	5.6	6.2	
Level of Service		C		D	C		B	B	C	A	A	
Approach Delay (s)		27.3			36.3			19.1			6.1	
Approach LOS		C			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	19.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	51.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	20	17	857	14	12	397
Future Volume (Veh/h)	20	17	857	14	12	397
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	18	932	15	13	432
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						595
pX, platoon unblocked						
vC, conflicting volume	1182	474			947	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1182	474			947	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	88	97			98	
cM capacity (veh/h)	179	537			721	

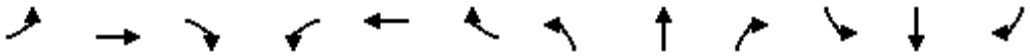
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	22	18	621	326	13	216	216
Volume Left	22	0	0	0	13	0	0
Volume Right	0	18	0	15	0	0	0
cSH	179	537	1700	1700	721	1700	1700
Volume to Capacity	0.12	0.03	0.37	0.19	0.02	0.13	0.13
Queue Length 95th (ft)	10	3	0	0	1	0	0
Control Delay (s)	27.8	11.9	0.0	0.0	10.1	0.0	0.0
Lane LOS	D	B			B		
Approach Delay (s)	20.7		0.0		0.3		
Approach LOS	C						

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	34.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1110	62	67	1038	116	109
Future Volume (vph)	1110	62	67	1038	116	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3511		1770	3539	1770	1583
Flt Permitted	1.00		0.14	1.00	0.95	1.00
Satd. Flow (perm)	3511		260	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1207	67	73	1128	126	118
RTOR Reduction (vph)	8	0	0	0	0	35
Lane Group Flow (vph)	1266	0	73	1128	126	83
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Actuated Green, G (s)	28.7		28.7	28.7	22.3	22.3
Effective Green, g (s)	28.7		28.7	28.7	22.3	22.3
Actuated g/C Ratio	0.48		0.48	0.48	0.37	0.37
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1679		124	1692	657	588
v/s Ratio Prot	c0.36			0.32	c0.07	
v/s Ratio Perm			0.28			0.05
v/c Ratio	0.75		0.59	0.67	0.19	0.14
Uniform Delay, d1	12.8		11.4	12.0	12.8	12.5
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	2.0		7.0	1.0	0.6	0.5
Delay (s)	14.7		18.3	13.0	13.4	13.0
Level of Service	B		B	B	B	B
Approach Delay (s)	14.7			13.3	13.2	
Approach LOS	B			B	B	

Intersection Summary			
HCM 2000 Control Delay	14.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	54.5%	ICU Level of Service	A
Analysis Period (min)	15		

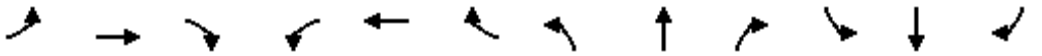
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	138	55	61	0	877	0	0	854	124
Future Volume (vph)	0	0	0	138	55	61	0	877	0	0	854	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5	4.5	4.5		4.5			4.5	
Lane Util. Factor				1.00	1.00	1.00		0.91			0.86	
Frt				1.00	1.00	0.85		1.00			0.98	
Flt Protected				0.95	1.00	1.00		1.00			1.00	
Satd. Flow (prot)				1770	1863	1583		5085			6286	
Flt Permitted				0.95	1.00	1.00		1.00			1.00	
Satd. Flow (perm)				1770	1863	1583		5085			6286	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	150	60	66	0	953	0	0	928	135
RTOR Reduction (vph)	0	0	0	0	0	56	0	0	0	0	15	0
Lane Group Flow (vph)	0	0	0	150	60	10	0	953	0	0	1048	0
Turn Type				Prot	NA	Perm		NA			NA	
Protected Phases				3	8			2			6	
Permitted Phases						8						
Actuated Green, G (s)				13.0	13.0	13.0		68.0			68.0	
Effective Green, g (s)				13.0	13.0	13.0		68.0			68.0	
Actuated g/C Ratio				0.14	0.14	0.14		0.76			0.76	
Clearance Time (s)				4.5	4.5	4.5		4.5			4.5	
Vehicle Extension (s)				3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)				255	269	228		3842			4749	
v/s Ratio Prot				c0.08	0.03			c0.19			0.17	
v/s Ratio Perm						0.01						
v/c Ratio				0.59	0.22	0.04		0.25			0.22	
Uniform Delay, d1				36.0	34.0	33.1		3.3			3.2	
Progression Factor				1.00	1.00	1.00		0.13			0.22	
Incremental Delay, d2				3.4	0.4	0.1		0.1			0.1	
Delay (s)				39.4	34.5	33.2		0.6			0.8	
Level of Service				D	C	C		A			A	
Approach Delay (s)		0.0			36.9			0.6			0.8	
Approach LOS		A			D			A			A	

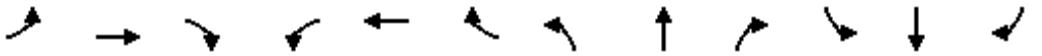
Intersection Summary			
HCM 2000 Control Delay	5.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	32.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	200	5	0	424	185	1	171	100	228	536	548
Future Volume (vph)	61	200	5	0	424	185	1	171	100	228	536	548
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95			0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00			0.95		1.00	0.94		1.00	0.92	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3527			3378		1770	3343		1770	3271	
Flt Permitted	0.95	1.00			1.00		0.16	1.00		0.57	1.00	
Satd. Flow (perm)	1770	3527			3378		293	3343		1057	3271	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	66	217	5	0	461	201	1	186	109	248	583	596
RTOR Reduction (vph)	0	2	0	0	66	0	0	72	0	0	247	0
Lane Group Flow (vph)	66	220	0	0	596	0	1	223	0	248	932	0
Turn Type	Prot	NA			NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	18.0	40.6			18.1		25.4	25.4		25.4	25.4	
Effective Green, g (s)	18.0	40.6			18.1		25.4	25.4		25.4	25.4	
Actuated g/C Ratio	0.24	0.54			0.24		0.34	0.34		0.34	0.34	
Clearance Time (s)	4.5	4.5			4.5		4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)	424	1909			815		99	1132		357	1107	
v/s Ratio Prot	c0.04	0.06			c0.18			0.07			c0.29	
v/s Ratio Perm							0.00			0.23		
v/c Ratio	0.16	0.12			0.73		0.01	0.20		0.69	0.84	
Uniform Delay, d1	22.5	8.4			26.2		16.5	17.6		21.4	22.9	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	0.1			5.7		0.2	0.4		10.6	7.8	
Delay (s)	23.3	8.5			31.9		16.6	18.0		32.1	30.8	
Level of Service	C	A			C		B	B		C	C	
Approach Delay (s)		11.9			31.9			18.0			31.0	
Approach LOS		B			C			B			C	

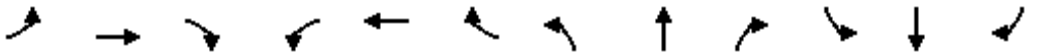
Intersection Summary			
HCM 2000 Control Delay	27.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	73.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	291	230	131	293	957	8	228	503	91	26	1025	740
Future Volume (vph)	291	230	131	293	957	8	228	503	91	26	1025	740
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.91	0.91		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.96		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1610	3212		1770	3535		1770	3539	1583	1770	3539	1583
Flt Permitted	0.17	0.57		0.45	1.00		0.12	1.00	1.00	0.37	1.00	1.00
Satd. Flow (perm)	289	1844		833	3535		219	3539	1583	689	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	316	250	142	318	1040	9	248	547	99	28	1114	804
RTOR Reduction (vph)	0	39	0	0	1	0	0	0	56	0	0	38
Lane Group Flow (vph)	183	486	0	318	1048	0	248	547	43	28	1114	766
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	pm+ov
Protected Phases	7	4		3	8		5	2			6	7
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	37.0	37.0		37.0	23.5		39.5	39.5	39.5	29.5	29.5	43.0
Effective Green, g (s)	37.0	37.0		37.0	23.5		39.5	39.5	39.5	29.5	29.5	43.0
Actuated g/C Ratio	0.41	0.41		0.41	0.26		0.44	0.44	0.44	0.33	0.33	0.48
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	316	963		483	923		190	1553	694	225	1160	756
v/s Ratio Prot	0.09	0.08		0.10	c0.30		c0.08	0.15			0.31	c0.15
v/s Ratio Perm	0.15	0.13		0.17			c0.49		0.03	0.04		0.33
v/c Ratio	0.58	0.50		0.66	1.14		1.31	0.35	0.06	0.12	0.96	1.01
Uniform Delay, d1	20.0	19.7		19.0	33.2		36.7	16.8	14.6	21.2	29.7	23.5
Progression Factor	0.80	0.89		1.00	1.00		0.87	0.88	0.97	1.00	1.00	1.00
Incremental Delay, d2	2.4	0.4		6.9	74.5		169.1	0.6	0.2	1.1	18.5	36.0
Delay (s)	18.4	17.8		25.9	107.7		201.0	15.4	14.4	22.3	48.1	59.5
Level of Service	B	B		C	F		F	B	B	C	D	E
Approach Delay (s)		18.0			88.7			66.8			52.5	
Approach LOS		B			F			E			D	

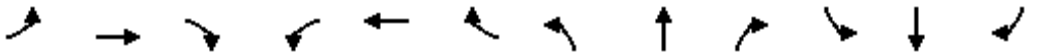
Intersection Summary			
HCM 2000 Control Delay	60.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	96.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	229	237	1	23	655	364	5	676	35	190	276	188
Future Volume (vph)	229	237	1	23	655	364	5	676	35	190	276	188
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5			4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95			0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00			0.95		1.00	0.99		1.00	0.94	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3537			3350		1770	3513		1770	3324	
Flt Permitted	0.95	1.00			0.94		0.40	1.00		0.25	1.00	
Satd. Flow (perm)	1770	3537			3156		738	3513		466	3324	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	249	258	1	25	712	396	5	735	38	207	300	204
RTOR Reduction (vph)	0	0	0	0	48	0	0	2	0	0	80	0
Lane Group Flow (vph)	249	259	0	0	1085	0	5	771	0	207	424	0
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases				8			2			6		
Actuated Green, G (s)	20.9	74.9			49.5		66.1	66.1		66.1	66.1	
Effective Green, g (s)	20.9	74.9			49.5		66.1	66.1		66.1	66.1	
Actuated g/C Ratio	0.14	0.50			0.33		0.44	0.44		0.44	0.44	
Clearance Time (s)	4.5	4.5			4.5		4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)	246	1766			1041		325	1548		205	1464	
v/s Ratio Prot	c0.14	0.07						0.22			0.13	
v/s Ratio Perm					c0.34		0.01			c0.44		
v/c Ratio	1.01	0.15			1.04		0.02	0.50		1.01	0.29	
Uniform Delay, d1	64.5	20.3			50.2		23.6	30.1		42.0	26.9	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	60.5	0.2			39.7		0.1	1.1		65.4	0.5	
Delay (s)	125.1	20.5			89.9		23.7	31.2		107.3	27.4	
Level of Service	F	C			F		C	C		F	C	
Approach Delay (s)		71.7			89.9			31.2			50.7	
Approach LOS		E			F			C			D	

Intersection Summary			
HCM 2000 Control Delay	63.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	88.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	437	650	339	157	608	36	235	561	82	38	557	377
Future Volume (vph)	437	650	339	157	608	36	235	561	82	38	557	377
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.91	0.91		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.95		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1610	3217		1770	3510		1770	3539	1583	1770	3539	1583
Flt Permitted	0.16	0.64		0.23	1.00		0.26	1.00	1.00	0.28	1.00	1.00
Satd. Flow (perm)	276	2071		430	3510		480	3539	1583	527	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	475	707	368	171	661	39	255	610	89	41	605	410
RTOR Reduction (vph)	0	55	0	0	5	0	0	0	53	0	0	43
Lane Group Flow (vph)	385	1110	0	171	695	0	255	610	36	41	605	367
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	pm+ov
Protected Phases	7	4		3	8		5	2			6	7
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	44.4	44.4		26.5	20.1		36.6	36.6	36.6	21.6	21.6	41.4
Effective Green, g (s)	44.4	44.4		26.5	20.1		36.6	36.6	36.6	21.6	21.6	41.4
Actuated g/C Ratio	0.49	0.49		0.29	0.22		0.41	0.41	0.41	0.24	0.24	0.46
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	429	1273		221	783		345	1439	643	126	849	728
v/s Ratio Prot	c0.20	c0.19		0.05	0.20		c0.09	0.17			0.17	0.11
v/s Ratio Perm	c0.25	0.24		0.17			c0.21		0.02	0.08		0.12
v/c Ratio	0.90	0.87		0.77	0.89		0.74	0.42	0.06	0.33	0.71	0.50
Uniform Delay, d1	22.6	20.3		24.8	33.9		29.0	19.1	16.2	28.2	31.4	17.1
Progression Factor	1.14	0.48		1.00	1.00		0.73	0.65	0.45	1.00	1.00	1.00
Incremental Delay, d2	15.2	4.7		15.4	11.9		4.4	0.5	0.1	6.7	5.1	0.6
Delay (s)	41.1	14.5		40.3	45.8		25.7	12.9	7.4	34.9	36.4	17.6
Level of Service	D	B		D	D		C	B	A	C	D	B
Approach Delay (s)		21.1			44.7			15.8			29.1	
Approach LOS		C			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	89.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Appendix N: Metropolitan Water District Analysis: Traffic Reassignment Results

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APPENDIX O

MWD Analysis

Union Station Campus Internal Circulation Analysis

INTRODUCTION

The Link Union Station Project proposes changes to the internal circulation system within the Union Station campus. Specifically, the roadway along the east side of the building separating the Gold Line tracks from the baggage claim building is proposed to be closed permanently (the Project) in order to make room for a large pedestrian plaza connecting the passenger corridors to the Union Station building itself. Figure M-1 shows the location of the roadway section in question.

The east road roadway closure would necessitate more travel along the west roadway along the Alameda Street side of the building. The purpose of this analysis is to evaluate the effects of the proposed roadway closure on the overall internal circulation within the site.

EXISTING CONDITIONS

The internal circulation system is basically provided by a two-lane, two-way roadway surrounding Union Station. The roadway connects Union Station to Alameda Street and to East Cesar Chavez Avenue at signalized intersections. The internal roadway provides access to the Union Station building, the Mozaic at Union Station apartments, the Metropolitan Water Department (MWD) Building, the First 5 LA Building, and the surface and underground parking serving these buildings.

The intersections within the Union Station site are all controlled with stop signs. The entrances to the site on Alameda Street and on E. Cesar Chavez Avenue are controlled by traffic signals.

Traffic Flow

Morning and afternoon peak period traffic counts were conducted at key intersections along the internal circulation roadway. Figure M-1 shows the locations of these counts at Intersections 1-11. Intersection 9 provides an inbound ramp from the circulation road to the underground parking for the MWD Building, but on the day the counts were conducted, the ramp was closed so all traffic to/from the MWD Building used the garage entrance at Intersection 10. Figure M-2

shows the results of the turning movement counts. Morning and afternoon peak hour counts show the flow of traffic in and out of the site and along the internal circulation roadway.

Figure M-2 also shows the results of 24-hour traffic counts along the east and south sides of the circulation roadway. The east side roadway section to be closed accommodates approximately 1,500 vehicles per day (vpd) near the baggage claim building, decreasing to approximately 1,050 vpd just north of the MWD garage entrance (Intersection 10). The roadway section south of the MWD Building carries almost 1,300 vpd. The capacity of a two-lane roadway is 10-12,000 vpd, so none of the sections of the internal circulation roadway is nearing capacity or experiencing congestion issues, and observations confirmed this.

Pedestrian Flow

The traffic counts conducted along the internal circulation roadway also included a summary of the pedestrians crossing the roadway at each study intersection. Figure M-3 shows the pedestrian flow at the key internal intersections.

At the Alameda Street entrance to Union Station, the pedestrian flows are the highest. Approximately 525 pedestrians cross the internal roadway at the Alameda Street driveways in the morning peak hour with that number increasing to 890 in the afternoon peak hour.

In addition, another 300 pedestrians cross the internal roadway in both the morning and afternoon peak hours southerly between the First 5 LA and the MWD Buildings. Most of these people come from Alameda Street and from the bus stops serving the El Monte Busway. These crossings take place both in and between the three marked crosswalks in this section of the internal roadway.

Traffic Flow Adjustments

Adjustments to the internal traffic flow were made to account for the fact that the MWD Building is undergoing renovation and major portions of the building were vacant during the time of the traffic counts. Therefore the trips in and out of the MWD garage intersection were increased by 30% to account for the vacant space in the building. Figure M-4 shows the what the existing traffic flow would be along the internal roadway if the MWD Building were fully occupied.

FUTURE ROADWAY CHANGES

Internal Roadway Closure

Figure M-1 shows the section of the east circulation roadway proposed for closure. The two-lane roadway between the Baggage Building parking lot southerly to the MWD Building curve would be closed to traffic.

TRAFFIC SHIFTS

Figure M-5 shows the shift in morning and afternoon peak hour traffic that would take place as a result of the east circulation roadway closure. Essentially, the traffic that is now using the east circulation roadway would shift to the west side of the Union Station building to make their way to/from the First 5 LA Building and the MWD Building.

The roadway closure would increase the peak directional flow along the west circulation roadway by approximately 75 vehicles per hour in the morning peak hour and by 85 vph in the afternoon peak hour. The closure of the east circulation roadway is not expected to affect the traffic flows using the external intersections along Alameda Street and along Cesar Chavez Avenue.

Figure M-6 shows the results of a full MWD Building with the east circulation roadway closed.

FUTURE ROADWAY VOLUMES

Figures M-7 and M-8 show the future morning and afternoon peak hour traffic levels expected with and without the east circulation roadway closure under Year 2031 conditions. Both figures assume a full MWD Building, completion of the Link Union Station project, and ambient growth in background traffic. Both future scenarios assume the consolidation of the Alameda Street/Union Station entrance opposite Los Angeles Street as part of the Union Station Forecourt project.

IMPACT ANALYSIS METHODOLOGY

Intersection capacity has been analyzed using *Highway Capacity Manual, 6th Edition, A Guide for Multimodal Mobility Analysis* (Transportation Research Board, 2016) (HCM) methodology in accordance with the LADOT *Transportation Impact Study Guidelines* for roadway infrastructure projects. The Highway Capacity Manual methodology was implemented using Vistro software to analyze intersection operating conditions. The methodology calculates the amount of intersection delay that occurs under existing or projected traffic conditions, which is used to determine the intersection LOS according to the LOS definitions provided in Table M-1. LOS worksheets for each scenario are provided in the Attachment to this Appendix.

Impact Criteria and Significance Thresholds

The significance of the potential impacts of Project generated traffic at the study intersections was determined using criteria identified in *Transportation Impact Study Guidelines*. LADOT guidelines indicate that a project is considered to have a significant transportation impact on a signalized intersection if the increase in the seconds of delay attributable to the project exceeds a specific threshold depending on the final intersection LOS. LADOT has developed a sliding

scale methodology in which the minimum allowable increase in the delay attributable to a project decreases as the V/C ratio of the intersection increases:

Intersection Conditions with Project Traffic		Significant Impact Threshold for Project-related Increase in Delay (secs)
LOS	**Delay (secs)**	
C	15.1 – 25.0	Equal to or greater than 6.0
D	25.1 – 35.0	Equal to or greater than 4.0
E, F	>35.0	Equal to or greater than 2.5

Source: City of Los Angeles.

The relative impact of the added traffic volumes to be generated by the Project was evaluated based on analysis of existing and future operating conditions at the study intersections, with and without the Project.

The internal intersections are currently controlled by Stop signs and the above criteria was also used to evaluate the performance of the unsignalized study intersections. Typically, LADOT asks that unsignalized intersections be evaluated for potential installation of a traffic signal if the unsignalized intersection operates at a poor Level of Service (LOS E or F). However, in this case, the unsignalized intersections are located so close to existing signalized intersections that signalizing intersections along the internal circulation roadway would be impractical. Therefore, the unsignalized were investigated in terms of overall performance (seconds of delay) with and without the Project.

To account for the effects of pedestrians on intersection operations, the capacity of Intersections 2, 3, 6, 7, and 8 along the internal circulation roadway were adjusted. Observations showed that these intersections performed worse than the capacity calculations indicated, primarily due to the effects of random pedestrian crossings. Therefore, the intersection Levels of Service were downgraded one or two Levels of Service to reflect the actual performance levels observed.

IMPACT ANALYSIS RESULTS

2018 Conditions

Table M-2 shows the results of the intersection capacity calculations both with and without the Project. When comparing the “With Project” results to the “Existing Conditions – Fully Occupied MWD Building” conditions, the results show that none of the 11 study intersections experience an increase in seconds of delay that approaches the levels of significance shown above. In all but one case, the increases in delay are less than one second.

The closure of the east circulation roadway would not have a significant impact on any of the study locations under the Existing Conditions.

2031 Conditions

Table M-3 shows similar results for the 2031 conditions. While the actual performance of the study intersections degraded somewhat in the Year 2031 tests (due to the growth in background traffic levels and the loss of one through lane in each direction along Alameda Street), the shift in traffic caused by the closure of the east circulation roadway did not result in any significant impacts at any of the study intersections.

CONCLUSION

The proposal to close the east circulation roadway in order to create a larger pedestrian plaza area as part of the Link US plan will cause traffic shifts along the internal circulation roadway system inside the Union Station campus. Approximately 75 trips in the morning peak hour and 85 trips in the afternoon peak hour will shift from the east to the west side of the Union Station Building.

No significant impacts are anticipated as a result of the closure of a section of the east circulation roadway.

The internal circulation system of the Union Station campus will still operate satisfactorily even with the east circulation roadway closed. Access to the parking areas serving the First 5 LA Building and the MWD Building can be maintained and satisfactory Levels of Service will result.

TABLE M-1
LEVEL OF SERVICE DEFINITIONS

Level of Service	Delay (Seconds)	Definition
A	0.0 - 10.0	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.
B	10.1 - 15.0	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
C	15.1 - 25.0	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	25.1 - 35.0	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	35.1 - 50	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	> 50.0	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths.

Source:
Highway Capacity Manual 6th Edition (Transportation Reseach Board, 2016).

TABLE M-2
EXISTING CONDITIONS (YEAR 2018)
INTERSECTION ANALYSIS WITH PEDESTRIAN VOLUMES

No	Intersection	Peak Hour	Existing Conditions		Existing Conditions (Fully Occupied)			Existing with Project (Fully Occupied)		
			Delay	LOS	Delay	LOS	Change in Delay	Delay	LOS	Change in Delay
1.	Union Station North Driveway & E Cesar Chavez	AM PM	11.9 14.8	B B	11.9 14.8	B B	0.0 0.0	11.9 14.8	B B	0.0 0.0
2. [a]	Union Station North Driveway & North Internal T-Intersection	AM PM	8.0 8.5	B* B*	8.1 8.6	B* B*	0.1 0.1	8.0 9.1	B* B*	-0.1 0.5
3.] [a]	Union Station North Driveway & South Internal T-Intersection	AM PM	8.0 7.5	B* B*	8.2 7.5	B* B*	0.2 0.0	7.4 7.3	B* B*	-0.8 -0.2
4.	N Alameda Street & N Los Angeles Street (North)	AM PM	17.4 21.0	C C	18.2 21.6	C C	0.8 0.6	18.2 21.6	C C	0.0 0.0
Source: *ion* (Tra	N Alameda Street & N Los Angeles Street (South)	AM PM	21.3 30.0	C D	21.3 30.0	C D	0.0 0.0	21.3 30.0	C D	0.0 0.0
6. [a]	Union Station Driveway & West Internal Circulation Road (North)	AM PM	8.0 8.8	C* C*	8.0 9.0	C* C*	0.0 0.2	8.1 9.3	C* C*	0.1 0.3
7. [a]	Union Station Driveway & West Internal Circulation Road (South)	AM PM	7.9 8.4	C* C*	7.9 8.4	C* C*	0.0 0.0	8.0 8.6	C* C*	0.1 0.2
8. [a]	Union Station Driveway & MWD West Valet Parking Driveway	AM PM	12.4 12.2	C* C*	12.4 12.2	C* C*	0.0 0.0	12.4 12.2	C* C*	0.0 0.0
9. [a]	Union Station Circulation Road & Gated Ramp	AM PM	0.0 0.0	A A	0.0 0.0	A A	0.0 0.0	0.0 0.0	A A	0.0 0.0
10. [a]	Union Station Circulation Road & MWD East Driveway to Parking Garage	AM PM	9.8 9.2	A A	10.2 9.5	B A	0.4 0.3	11.4 9.4	B A	1.2 -0.1
11. [a]	Union Station Circulation Road & MWD Truck Dock	AM PM	8.5 8.5	A A	8.5 8.5	A A	0.0 0.0	8.5 8.5	A A	0.0 0.0

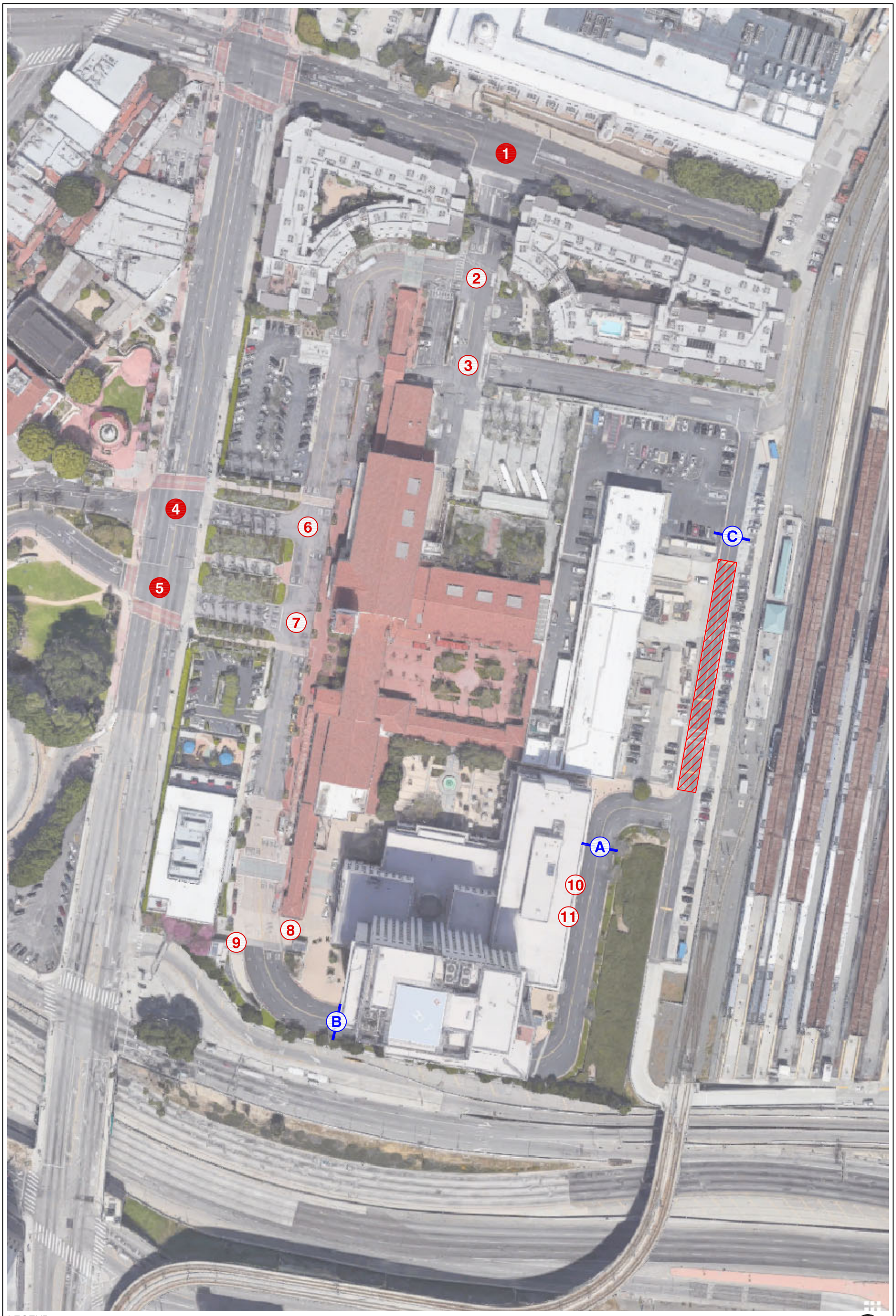
Note:
[a] Intersection is unsignalized.
* Intersection LOS changed to account for pedestrian volumes.

TABLE M-3
FUTURE CONDITIONS (YEAR 2031)
INTERSECTION ANALYSIS WITH PEDESTRIAN VOLUMES

Delay
(Seconds)

No	Peak Hour	Future Base Conditions		Future Base Conditions (Fully Occupied)			Future With Project Conditions (Fully Occupied)		
		Delay	LOS	Delay	LOS	Change in Delay	Delay	LOS	Change in Delay
1.	AM PM	12.8 17.1	B C	12.8 17.1	B C	0.0 0.0	12.8 17.1	B C	0.0 0.0
2. [a]	AM PM	8.8 9.8	B* B*	9.1 10.5	B* C*	0.3 0.7	9.0 11.5	B* C*	-0.1 1.0
3. [a]	AM PM	8.0 7.5	B* B*	8.9 7.9	B* B*	0.9 0.4	8.1 7.5	B* B*	-0.8 -0.4
4. Source:	AM PM	27.7 83.3	D F	28.7 83.3	D F	1.0 0.0	28.8 83.3	D F	0.1 0.0
ion (Tra [a]	AM PM	8.8 9.9	C* C*	8.8 10.0	C* C*	0.0 0.1	9.1 10.3	C* C*	0.3 0.3
8. [a]	AM PM	12.4 12.2	C* C*	12.4 12.2	C* C*	0.0 0.0	12.4 12.2	C* C*	0.0 0.0
9. [a]	AM PM	0.0 0.0	A A	0.0 0.0	A A	0.0 0.0	0.0 0.0	A A	0.0 0.0
10. [a]	AM PM	9.8 9.2	A A	10.2 9.5	B A	0.4 0.3	11.4 9.4	B A	1.2 -0.1
11. [a]	AM PM	8.5 8.5	A A	8.5 8.5	A A	0.0 0.0	8.5 8.5	A A	0.0 0.0

Note:
[a]
*



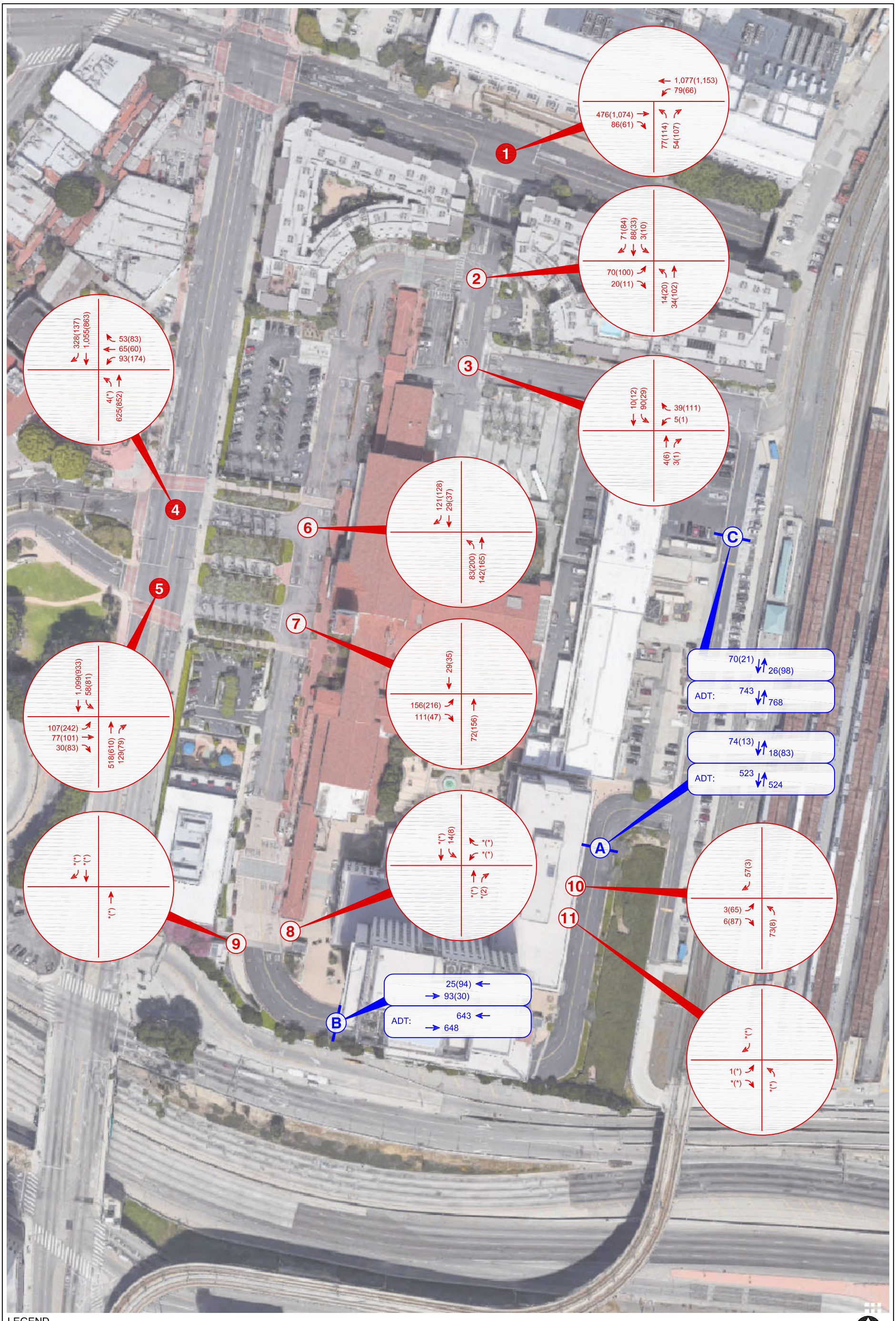
LEGEND

Signalized Intersection | Unsignalized Intersection | Street Segment | Proposed Closure

N
Not to Scale

LINK UNION STATION
STUDY AREA & ANALYZED LOCATIONS

FIGURE
M-1



EXISTING CONDITIONS (YEAR 2018)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
M-2

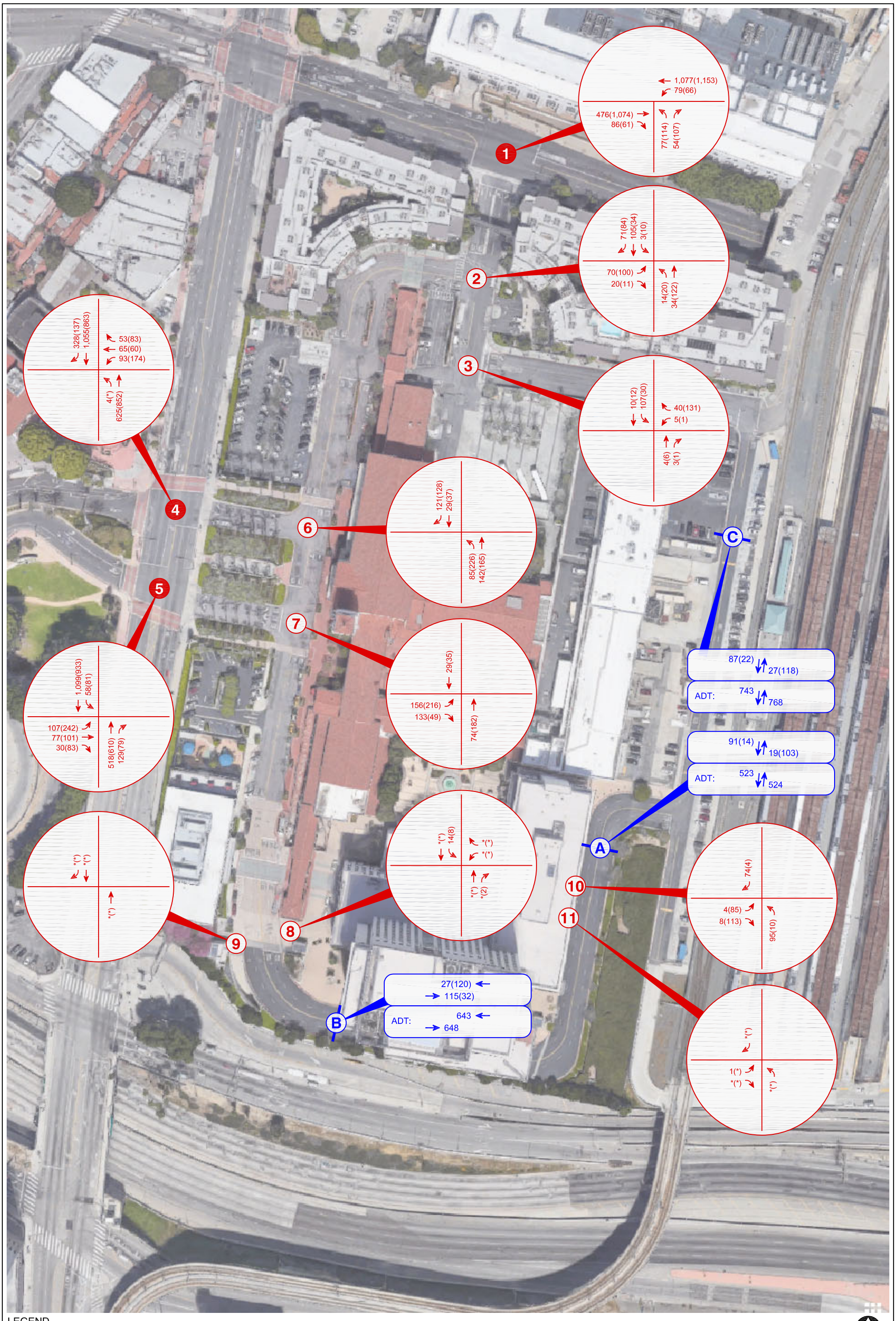
LEGEND

Signalized Intersection | # Unsignalized Intersection | X Street Segment | X(X) AM(PM) Peak Hour Pedestrian Volumes | * Negligible Volume

N
Not to Scale

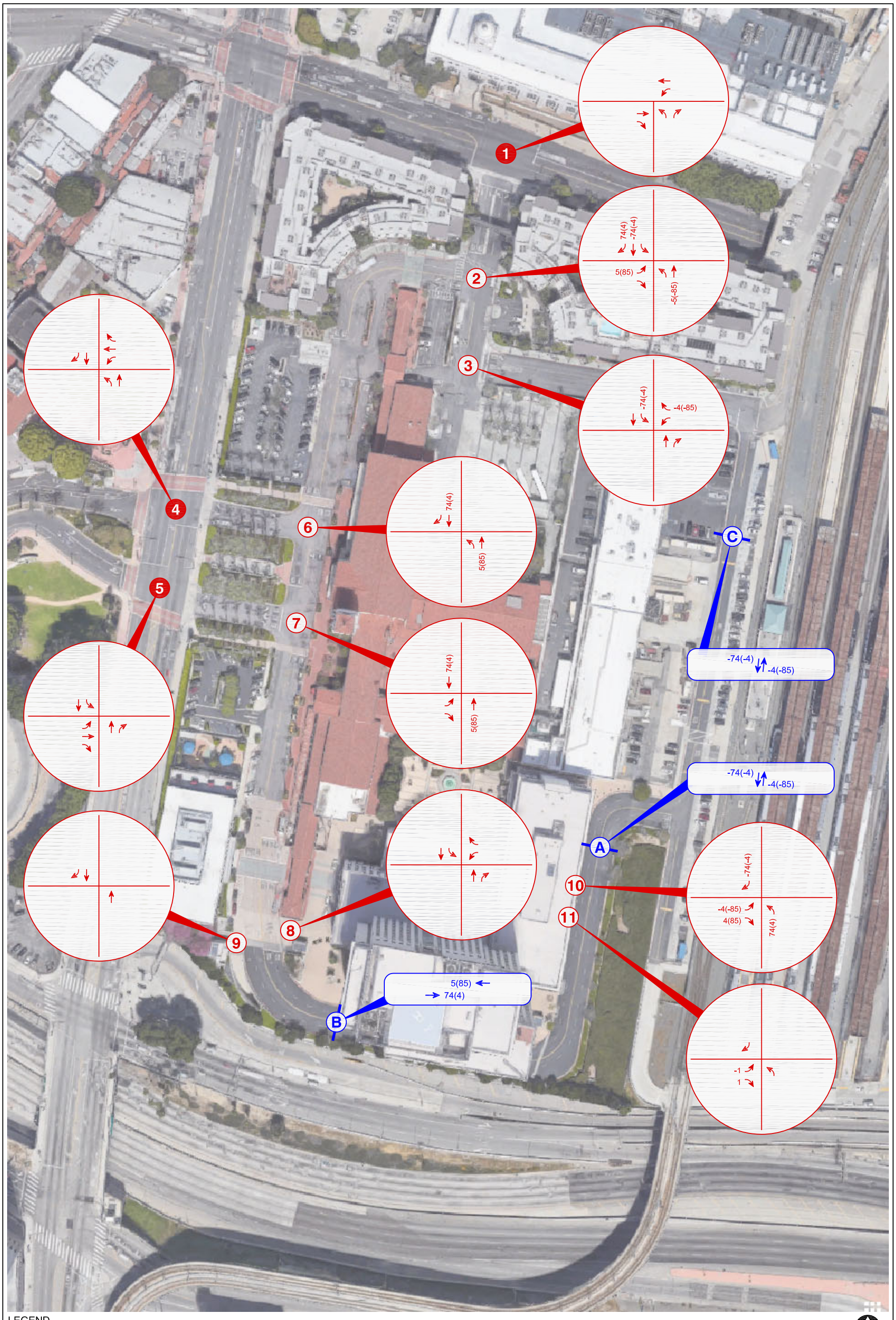
EXISTING CONDITIONS
PEAK HOUR PEDESTRIAN VOLUMES

FIGURE
M-3



EXISTING CONDITIONS, FULLY OCCUPIED (YEAR 2018)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
M-4



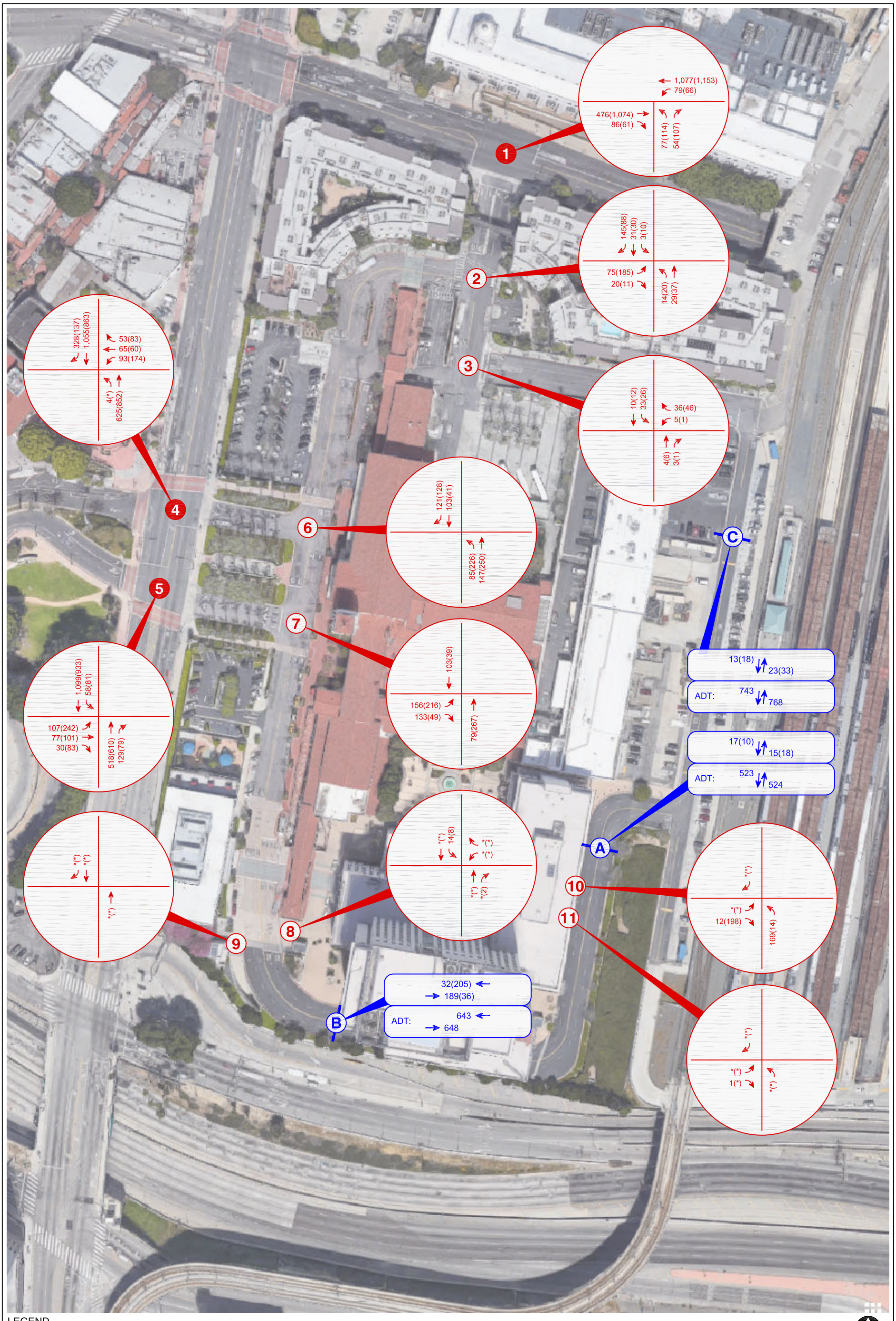
LEGEND

Signalized Intersection
Unsignalized Intersection
X Street Segment
X(X) AM(PM) Peak Hour Traffic Volumes
* Negligible Volume

N
Not to Scale

PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
M-5



LEGEND

Signalized Intersection

Unsignalized Intersection

X Street Segment

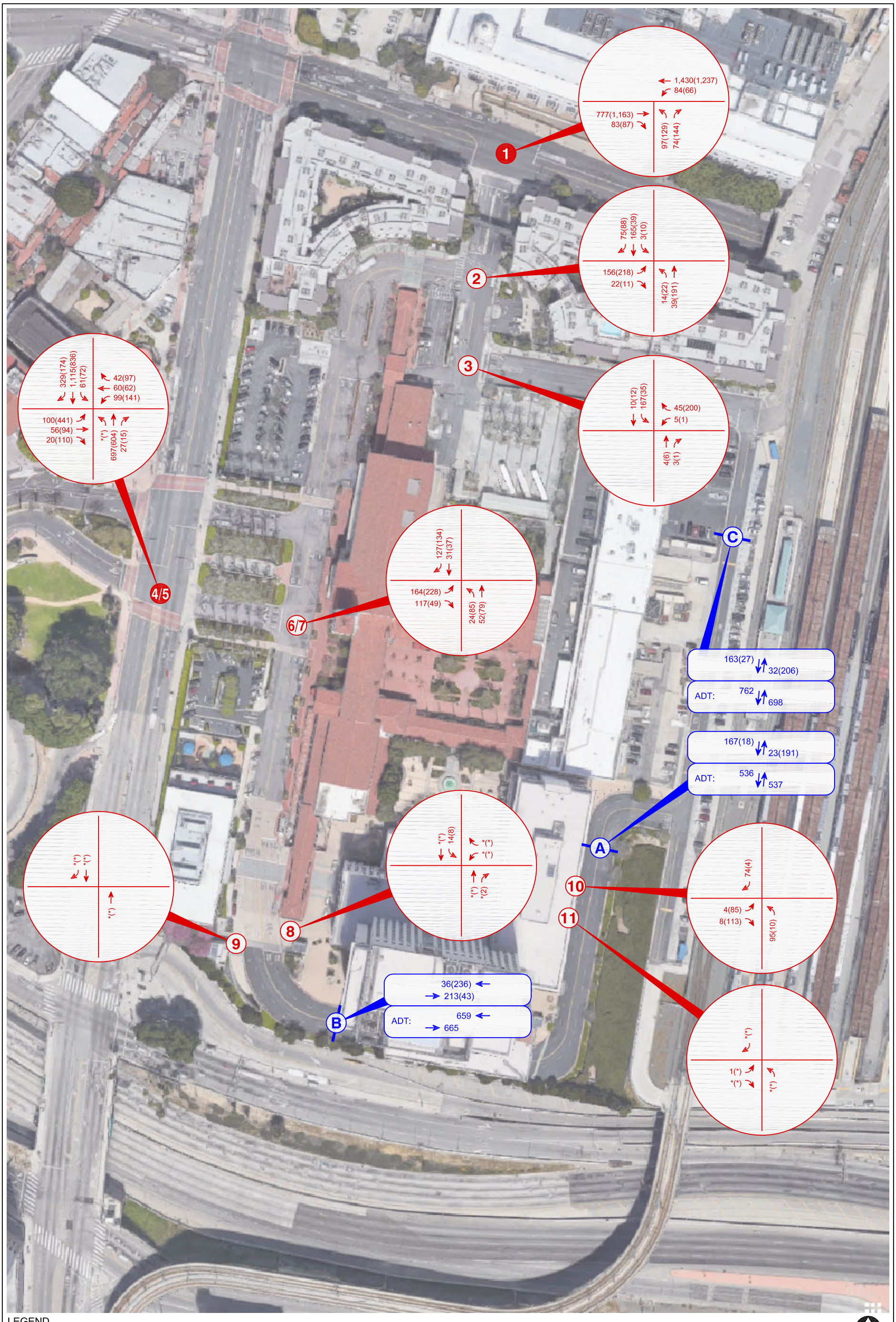
X(X) AM(PM) Peak Hour Traffic Volumes

* Negligible Volume

N
Not to Scale

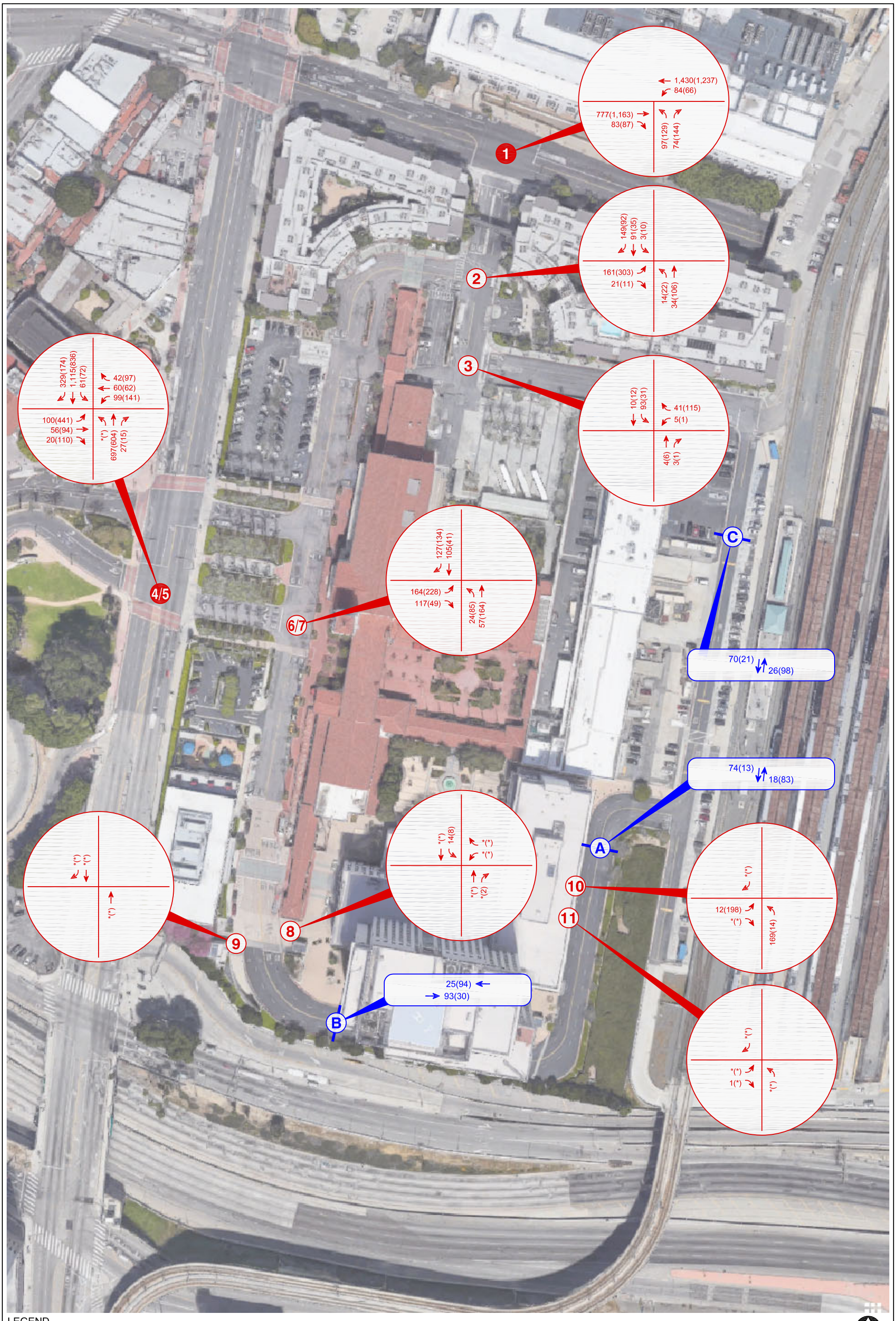
EXISTING WITH PROJECT CONDITIONS (YEAR 2018)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
M-6



FUTURE BASE CONDITIONS, FULLY OCCUPIED (YEAR 2031)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
M-7



LEGEND

Signalized Intersection
Unsignalized Intersection
X Street Segment
X(X) AM(PM) Peak Hour Traffic Volumes
* Negligible Volume

N
Not to Scale

FUTURE WITH PROJECT CONDITIONS (YEAR 2031)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
M-8

Intersection Level Of Service Report
Intersection 102: Union Station North Driveway & North Internal T-Intersection

Control Type:	All-way stop	Delay (sec / veh):	8.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.109

Intersection Setup

Name				Un St								
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name				Un St								
Base Volume Input [veh/h]	14	33	0	3	88	71	70	0	20	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	33	0	3	88	71	70	0	20	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	8	0	1	22	18	18	0	5	0	0	0
Total Analysis Volume [veh/h]	14	33	0	3	88	71	70	0	20	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	749	744	856	653	835	702
Degree of Utilization, x	0.06	0.11	0.09	0.11	0.02	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.20	0.36	0.31	0.36	0.07	0.00
95th-Percentile Queue Length [ft]	5.01	9.12	7.81	8.96	1.84	0.00
Approach Delay [s/veh]	8.13	7.74		8.48		0.00
Approach LOS	A	A		A		A
Intersection Delay [s/veh]	8.02					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 103: Union Station North Driveway & South Internal T-Intersection

Control Type:	All-way stop	Delay (sec / veh):	8.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.128

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	4	3	90	10	0	0	0	0	5	0	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	4	3	90	10	0	0	0	0	5	0	39
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	1	23	3	0	0	0	0	1	0	10
Total Analysis Volume [veh/h]	0	4	3	90	10	0	0	0	0	5	0	39
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	802	701	776	741	678	876
Degree of Utilization, x	0.01	0.13	0.01	0.00	0.01	0.04

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.03	0.44	0.04	0.00	0.02	0.14
95th-Percentile Queue Length [ft]	0.66	10.99	0.98	0.00	0.56	3.49
Approach Delay [s/veh]	7.53	8.47		0.00	7.12	
Approach LOS	A	A		A	A	
Intersection Delay [s/veh]	8.04					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 104: Alameda & Los Angeles St (North)

Control Type:	Signalized	Delay (sec / veh):	17.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.298

Intersection Setup

Name	Alameda St											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No						No	
Crosswalk		Yes			Yes			Yes			Yes	

Volumes

Name	Alameda St											
Base Volume Input [veh/h]	0	625	0	0	1055	328	0	0	0	93	65	53
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	625	0	0	1055	328	0	0	0	93	65	53
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	156	0	0	264	82	0	0	0	23	16	13
Total Analysis Volume [veh/h]	0	625	0	0	1055	328	0	0	0	93	65	53
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	0	180	0	0	180	0	0	0	0	0	60	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No						No	
Maximum Recall		No			No						No	
Pedestrian Recall		No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	C		L	C	R
C, Cycle Length [s]	240	240	240		240	240	240
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	176	176	176		56	56	56
g / C, Green / Cycle	0.73	0.73	0.73		0.23	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.14	0.23	0.24		0.06	0.04	0.04
s, saturation flow rate [veh/h]	4584	4584	1442		1603	1683	1431
c, Capacity [veh/h]	3362	3362	1057		374	393	334
d1, Uniform Delay [s]	9.88	11.03	11.23		74.88	73.37	73.25
k, delay calibration	0.50	0.50	0.50		0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	0.12	0.24	0.83		1.59	0.91	1.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.19	0.31	0.33		0.25	0.17	0.16
d, Delay for Lane Group [s/veh]	10.00	11.27	12.05		76.46	74.27	74.26
Lane Group LOS	B	B	B		E	E	E
Critical Lane Group	No	No	Yes		Yes	No	No
50th-Percentile Queue Length [veh]	3.63	6.73	7.02		4.93	3.36	2.75
50th-Percentile Queue Length [ft]	90.77	168.24	175.41		123.15	83.99	68.71
95th-Percentile Queue Length [veh]	6.54	10.98	11.36		8.57	6.05	4.95
95th-Percentile Queue Length [ft]	163.38	274.60	284.01		214.15	151.18	123.68

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	10.00	0.00	0.00	11.28	12.05	0.00	0.00	0.00	76.46	74.27	74.26
Movement LOS		B			B	B				E	E	E
d_A, Approach Delay [s/veh]	10.00			11.46			0.00			75.24		
Approach LOS	B			B			A			E		
d_I, Intersection Delay [s/veh]	17.12											
Intersection LOS	B											
Intersection V/C	0.298											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	111.17	111.17	111.17
l_p,int, Pedestrian LOS Score for Intersection	2.887	2.927	1.853	2.055
Crosswalk LOS	C	C	A	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1467	1467	0	467
d_b, Bicycle Delay [s]	8.53	8.53	120.00	70.53
l_b,int, Bicycle LOS Score for Intersection	1.903	2.130	4.132	1.908
Bicycle LOS	A	B	D	A

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 105: Alameda & Los Angeles St (South)

Control Type:	Signalized	Delay (sec / veh):	19.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.296

Intersection Setup

Name				Alameda St								
Approach	Northbound			Southbound			Westbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No						No	
Crosswalk		Yes			Yes			Yes			Yes	

Volumes

Name				Alameda St								
Base Volume Input [veh/h]	0	518	129	58	1099	0	0	0	0	107	77	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	518	129	58	1099	0	0	0	0	107	77	30
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	130	32	15	275	0	0	0	0	27	19	8
Total Analysis Volume [veh/h]	0	518	129	58	1099	0	0	0	0	107	77	30
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	6	0	0	0	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	0	0	0	5	0
Maximum Green [s]	0	30	0	30	30	0	0	0	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	0	155	0	36	191	0	0	0	0	0	49	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No	No						No	
Maximum Recall		No		No	No						No	
Pedestrian Recall		No		No	No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C		L	C	R
C, Cycle Length [s]	240	240	240	240		240	240	240
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	151	151	187	187		45	45	45
g / C, Green / Cycle	0.63	0.63	0.78	0.78		0.19	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.13	0.14	0.07	0.24		0.06	0.06	0.02
s, saturation flow rate [veh/h]	3204	1522	868	4584		1603	1668	1431
c, Capacity [veh/h]	2016	958	677	3572		301	313	268
d1, Uniform Delay [s]	19.07	19.23	6.56	7.70		83.97	83.91	80.92
k, delay calibration	0.50	0.50	0.50	0.50		0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	0.24	0.55	0.25	0.22		2.57	2.43	0.84
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.21	0.23	0.09	0.31		0.30	0.30	0.11
d, Delay for Lane Group [s/veh]	19.31	19.77	6.81	7.92		86.54	86.34	81.76
Lane Group LOS	B	B	A	A		F	F	F
Critical Lane Group	No	No	No	Yes		Yes	No	No
50th-Percentile Queue Length [veh]	5.51	5.63	0.76	5.78		5.15	5.28	1.63
50th-Percentile Queue Length [ft]	137.76	140.80	18.98	144.45		128.65	131.94	40.86
95th-Percentile Queue Length [veh]	9.36	9.52	1.37	9.72		8.87	9.05	2.94
95th-Percentile Queue Length [ft]	234.00	238.11	34.16	243.01		221.66	226.13	73.54

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	19.39	19.77	6.81	7.92	0.00	0.00	0.00	0.00	86.51	86.34	81.76
Movement LOS		B	B	A	A					F	F	F
d_A, Approach Delay [s/veh]	19.46			7.87			0.00			85.78		
Approach LOS	B			A			A			F		
d_I, Intersection Delay [s/veh]	19.85											
Intersection LOS	B											
Intersection V/C	0.296											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	111.17	111.17	111.17
l_p,int, Pedestrian LOS Score for Intersection	2.788	2.888	2.125	2.056
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1258	1558	0	375
d_b, Bicycle Delay [s]	16.50	5.85	120.00	79.22
l_b,int, Bicycle LOS Score for Intersection	1.915	2.196	4.132	1.913
Bicycle LOS	A	B	D	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 106: Union Station Driveway & West Internal Circulation Road (North)

Control Type:	All-way stop	Delay (sec / veh):	8.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.156

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	83	142	29	121	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	83	142	29	121	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	36	7	30	0	0
Total Analysis Volume [veh/h]	83	142	29	121	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	721	779	767	901	
Degree of Utilization, x	0.16	0.14	0.04	0.13	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.55	0.50	0.12	0.46	
95th-Percentile Queue Length [ft]	13.76	12.58	2.95	11.58	
Approach Delay [s/veh]	8.35		7.37		0.00
Approach LOS	A		A		A
Intersection Delay [s/veh]	7.96				
Intersection LOS	A				

Intersection Level Of Service Report

Intersection 107: Union Station Driveway & West Internal Circulation Road (South)

Control Type:	All-way stop	Delay (sec / veh):	7.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.130

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	72	29	0	156	111
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	72	29	0	156	111
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	18	7	0	39	28
Total Analysis Volume [veh/h]	0	72	29	0	156	111
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	791	791	786	786	685	726	887
Degree of Utilization, x	0.05	0.05	0.02	0.02	0.13	0.12	0.10

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.14	0.14	0.06	0.06	0.45	0.42	0.33
95th-Percentile Queue Length [ft]	3.57	3.57	1.41	1.41	11.14	10.44	8.34
Approach Delay [s/veh]	7.47		7.37		8.11		
Approach LOS	A		A		A		
Intersection Delay [s/veh]	7.92						
Intersection LOS	A						

Intersection Level Of Service Report

Intersection 108: Union Station Driveway & MWD West Valet Parking Driveway

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	14	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	14	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	4	0	0	0
Total Analysis Volume [veh/h]	0	0	14	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.24	0.00	8.69	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.03	0.01	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.65	0.33	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		7.24		8.51	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	7.24					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 110: MWD East Driveway to Parking Garage

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	73	0	0	57	3	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	73	0	0	57	3	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	0	0	14	1	2
Total Analysis Volume [veh/h]	73	0	0	57	3	6
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	7.44	0.00	0.00	0.00	9.77	8.50
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.15	0.07	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft]	3.71	1.86	0.00	0.00	0.74	0.74
d_A, Approach Delay [s/veh]	7.44		0.00		8.92	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.49					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 111: MWD Truck Dock

Control Type:	Two-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	1	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	1	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	1	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.22	0.00	0.00	0.00	8.52	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.07	0.07
d_A, Approach Delay [s/veh]	3.61		0.00		8.52	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	8.52					
Intersection LOS	A					

J1559- LINK US MWD Analysis

Vistro File: S:\...\Ex 2018.vistro
Report File: S:\...\Ex 2018 PM.pdf
Scenario 2 Existing 2018 PM
7/27/2018

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
101	Union Station North Driveway & E Cesar Chavez	Signalized	HCM 6th Edition	NB Right	0.435	14.8	B
102	Union Station North Driveway & North Internal T-Intersection	All-way stop	HCM 6th Edition	EB Left	0.164	8.5	A
103	Union Station North Driveway & South Internal T-Intersection	All-way stop	HCM 6th Edition	SB Left	0.122	7.5	A
104	Alameda & Los Angeles St (North)	Signalized	HCM 6th Edition	WB Left	0.294	20.7	C
105	Alameda & Los Angeles St (South)	Signalized	HCM 6th Edition	SEB Left	0.309	28.8	C
106	Union Station Driveway & West Internal Circulation Road (North)	All-way stop	HCM 6th Edition	NB Left	0.285	8.8	A
107	Union Station Driveway & West Internal Circulation Road (South)	All-way stop	HCM 6th Edition	EB Left	0.164	8.4	A
108	Union Station Driveway & MWD West Valet Parking Driveway	Two-way stop	HCM 6th Edition	WB Left	0.000	8.6	A
110	MWD East Driveway to Parking Garage	Two-way stop	HCM 6th Edition	EB Left	0.065	9.2	A
111	MWD Truck Dock	Two-way stop	HCM 6th Edition	EB Left	0.000	8.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 101: Union Station North Driveway & E Cesar Chavez

Control Type:	Signalized	Delay (sec / veh):	14.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.435

Intersection Setup

Name	Union Station North Driveway				Cesar E Chavez Ave	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Union Station North Driveway				Cesar E Chavez Ave	
Base Volume Input [veh/h]	114	107	1074	61	66	1153
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	114	107	1074	61	66	1153
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	27	269	15	17	288
Total Analysis Volume [veh/h]	114	107	1074	61	66	1153
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	0	8	0	0	4
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	5	0	5	0	0	5
Maximum Green [s]	30	0	30	0	0	30
Amber [s]	3.0	0.0	3.0	0.0	0.0	3.0
All red [s]	1.0	0.0	1.0	0.0	0.0	1.0
Split [s]	37	0	203	0	0	203
Vehicle Extension [s]	3.0	0.0	3.0	0.0	0.0	3.0
Walk [s]	5	0	5	0	0	5
Pedestrian Clearance [s]	10	0	10	0	0	10
Rest In Walk	No		No			No
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	0.0	0.0	2.0
Minimum Recall	No		No			No
Maximum Recall	No		No			No
Pedestrian Recall	No		No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C	L	C
C, Cycle Length [s]	240	240	240	240	240	240
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	33	33	199	199	199	199
g / C, Green / Cycle	0.14	0.14	0.83	0.83	0.83	0.83
(v / s)_i Volume / Saturation Flow Rate	0.07	0.07	0.34	0.34	0.15	0.36
s, saturation flow rate [veh/h]	1603	1431	1683	1652	446	3204
c, Capacity [veh/h]	220	197	1395	1369	356	2657
d1, Uniform Delay [s]	96.10	96.49	5.28	5.34	10.16	5.47
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.42	10.39	0.88	0.93	1.14	0.52
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.52	0.54	0.41	0.41	0.19	0.43
d, Delay for Lane Group [s/veh]	104.53	106.88	6.16	6.26	11.30	5.99
Lane Group LOS	F	F	A	A	B	A
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh]	7.22	6.88	7.62	7.71	1.28	7.85
50th-Percentile Queue Length [ft]	180.47	172.10	190.59	192.63	31.92	196.25
95th-Percentile Queue Length [veh]	11.62	11.19	12.15	12.26	2.30	12.44
95th-Percentile Queue Length [ft]	290.62	279.67	303.79	306.44	57.46	311.12

Movement, Approach, & Intersection Results

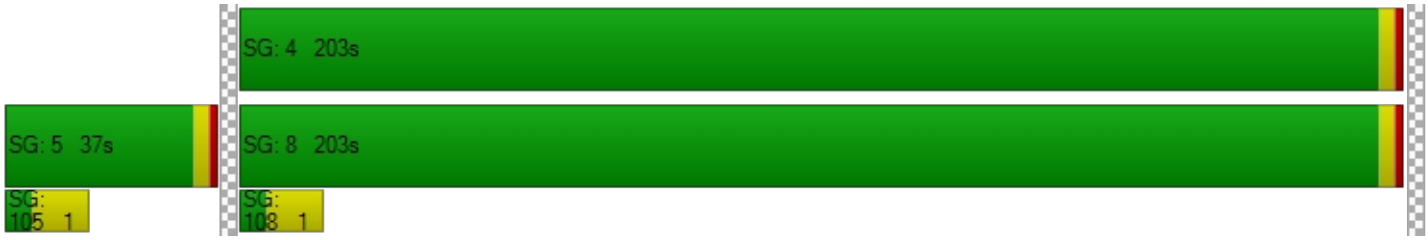
d_M, Delay for Movement [s/veh]	104.53	106.88	6.21	6.26	11.30	5.99
Movement LOS	F	F	A	A	B	A
d_A, Approach Delay [s/veh]	105.67		6.21		6.28	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	14.78					
Intersection LOS	B					
Intersection V/C	0.435					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	111.17	111.17
l_p,int, Pedestrian LOS Score for Intersection	2.356	2.763	2.814
Crosswalk LOS	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	120.00	120.00	120.00
l_b,int, Bicycle LOS Score for Intersection	4.132	5.069	5.138
Bicycle LOS	D	F	F

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 102: Union Station North Driveway & North Internal T-Intersection

Control Type:	All-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.164

Intersection Setup

Name				Un St								
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name				Un St								
Base Volume Input [veh/h]	20	102	0	10	33	84	100	0	11	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	102	0	10	33	84	100	0	11	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	26	0	3	8	21	25	0	3	0	0	0
Total Analysis Volume [veh/h]	20	102	0	10	33	84	100	0	11	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	746	709	846	641	816	681
Degree of Utilization, x	0.16	0.06	0.10	0.16	0.01	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.58	0.19	0.33	0.55	0.04	0.00
95th-Percentile Queue Length [ft]	14.55	4.83	8.25	13.75	1.02	0.00
Approach Delay [s/veh]	8.77	7.66		9.13		0.00
Approach LOS	A	A		A		A
Intersection Delay [s/veh]	8.49					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 103: Union Station North Driveway & South Internal T-Intersection

Control Type:	All-way stop	Delay (sec / veh):	7.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.122

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	1	6	1	29	12	0	1	1	1	1	0	111
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	6	1	29	12	0	1	1	1	1	0	111
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	0	7	3	0	0	0	0	0	0	28
Total Analysis Volume [veh/h]	1	6	1	29	12	0	1	1	1	1	0	111
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	754	683	754	777	698	909
Degree of Utilization, x	0.01	0.04	0.02	0.00	0.00	0.12

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.03	0.13	0.05	0.01	0.00	0.42
95th-Percentile Queue Length [ft]	0.80	3.32	1.21	0.29	0.11	10.39
Approach Delay [s/veh]	7.83	8.02		7.65	7.22	
Approach LOS	A	A		A	A	
Intersection Delay [s/veh]	7.45					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 104: Alameda & Los Angeles St (North)

Control Type:	Signalized	Delay (sec / veh):	20.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.294

Intersection Setup

Name	Alameda St											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No						No	
Crosswalk		Yes			Yes			Yes			Yes	

Volumes

Name	Alameda St											
Base Volume Input [veh/h]	0	852	0	0	863	137	0	0	0	174	60	83
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	852	0	0	863	137	0	0	0	174	60	83
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	213	0	0	216	34	0	0	0	44	15	21
Total Analysis Volume [veh/h]	0	852	0	0	863	137	0	0	0	174	60	83
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	0	180	0	0	180	0	0	0	0	0	60	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No						No	
Maximum Recall		No			No						No	
Pedestrian Recall		No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	C		L	C	R
C, Cycle Length [s]	240	240	240		240	240	240
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	176	176	176		56	56	56
g / C, Green / Cycle	0.73	0.73	0.73		0.23	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.19	0.16	0.16		0.11	0.04	0.06
s, saturation flow rate [veh/h]	4584	4584	1535		1603	1683	1431
c, Capacity [veh/h]	3362	3362	1125		374	393	334
d1, Uniform Delay [s]	10.48	10.20	10.19		79.12	73.14	74.88
k, delay calibration	0.50	0.50	0.50		0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	0.18	0.15	0.46		4.12	0.82	1.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.25	0.22	0.22		0.47	0.15	0.25
d, Delay for Lane Group [s/veh]	10.66	10.36	10.65		83.24	73.97	76.65
Lane Group LOS	B	B	B		F	E	E
Critical Lane Group	Yes	No	No		Yes	No	No
50th-Percentile Queue Length [veh]	5.25	4.50	4.59		9.84	3.09	4.41
50th-Percentile Queue Length [ft]	131.30	112.49	114.77		246.03	77.26	110.35
95th-Percentile Queue Length [veh]	9.01	7.98	8.10		14.99	5.56	7.86
95th-Percentile Queue Length [ft]	225.26	199.46	202.61		374.65	139.08	196.49

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	10.66	0.00	0.00	10.39	10.65	0.00	0.00	0.00	83.24	73.97	76.65
Movement LOS		B			B	B				F	E	E
d_A, Approach Delay [s/veh]	10.66			10.43			0.00			79.76		
Approach LOS	B			B			A			E		
d_I, Intersection Delay [s/veh]	20.65											
Intersection LOS	C											
Intersection V/C	0.294											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	111.17	111.17	111.17
l_p,int, Pedestrian LOS Score for Intersection	2.903	2.910	1.662	2.089
Crosswalk LOS	C	C	A	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1467	1467	0	467
d_b, Bicycle Delay [s]	8.53	8.53	120.00	70.53
l_b,int, Bicycle LOS Score for Intersection	2.028	1.972	4.132	2.083
Bicycle LOS	B	A	D	B

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 105: Alameda & Los Angeles St (South)

Control Type:	Signalized	Delay (sec / veh):	28.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.309

Intersection Setup

Name				Alameda St								
Approach	Northbound			Southbound			Westbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No						No	
Crosswalk		Yes			Yes			Yes			Yes	

Volumes

Name				Alameda St								
Base Volume Input [veh/h]	0	610	79	81	933	0	0	0	0	242	101	83
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	610	79	81	933	0	0	0	0	242	101	83
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	153	20	20	233	0	0	0	0	61	25	21
Total Analysis Volume [veh/h]	0	610	79	81	933	0	0	0	0	242	101	83
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	6	0	0	0	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	0	0	0	5	0
Maximum Green [s]	0	30	0	30	30	0	0	0	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	0	155	0	36	191	0	0	0	0	0	49	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No	No						No	
Maximum Recall		No		No	No						No	
Pedestrian Recall		No		No	No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C		L	C	R
C, Cycle Length [s]	240	240	240	240		240	240	240
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	151	151	187	187		45	45	45
g / C, Green / Cycle	0.63	0.63	0.78	0.78		0.19	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.14	0.14	0.10	0.20		0.11	0.11	0.06
s, saturation flow rate [veh/h]	3204	1587	846	4584		1603	1648	1431
c, Capacity [veh/h]	2016	998	660	3572		301	309	268
d1, Uniform Delay [s]	19.26	19.29	6.70	7.35		88.56	88.56	84.10
k, delay calibration	0.50	0.50	0.50	0.50		0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	0.26	0.54	0.38	0.18		7.43	7.22	2.98
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.23	0.23	0.12	0.26		0.56	0.56	0.31
d, Delay for Lane Group [s/veh]	19.53	19.83	7.08	7.53		95.99	95.78	87.08
Lane Group LOS	B	B	A	A		F	F	F
Critical Lane Group	No	No	No	Yes		Yes	No	No
50th-Percentile Queue Length [veh]	5.93	6.01	1.08	4.68		10.32	10.59	4.74
50th-Percentile Queue Length [ft]	148.21	150.34	26.99	117.03		257.92	264.70	118.51
95th-Percentile Queue Length [veh]	9.92	10.04	1.94	8.23		15.58	15.92	8.31
95th-Percentile Queue Length [ft]	248.04	250.88	48.59	205.74		389.61	398.11	207.78

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	19.60	19.83	7.08	7.53	0.00	0.00	0.00	0.00	95.93	95.78	87.08
Movement LOS		B	B	A	A					F	F	F
d_A, Approach Delay [s/veh]	19.63			7.49			0.00			94.17		
Approach LOS	B			A			A			F		
d_I, Intersection Delay [s/veh]	28.76											
Intersection LOS	C											
Intersection V/C	0.309											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	111.17	111.17	111.17
l_p,int, Pedestrian LOS Score for Intersection	2.776	2.900	2.145	2.125
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1258	1558	0	375
d_b, Bicycle Delay [s]	16.50	5.85	120.00	79.22
l_b,int, Bicycle LOS Score for Intersection	1.939	2.117	4.132	2.263
Bicycle LOS	A	B	D	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 106: Union Station Driveway & West Internal Circulation Road (North)

Control Type:	All-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.285

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	200	165	37	128	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	200	165	37	128	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	50	41	9	32	0	0
Total Analysis Volume [veh/h]	200	165	37	128	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	701	777	747	874	
Degree of Utilization, x	0.29	0.21	0.05	0.15	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.18	0.80	0.16	0.51	
95th-Percentile Queue Length [ft]	29.39	20.02	3.90	12.81	
Approach Delay [s/veh]	9.29		7.58		0.00
Approach LOS	A		A		A
Intersection Delay [s/veh]	8.76				
Intersection LOS	A				

Intersection Level Of Service Report

Intersection 107: Union Station Driveway & West Internal Circulation Road (South)

Control Type:	All-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.164

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	156	35	0	216	47
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	156	35	0	216	47
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	39	9	0	54	12
Total Analysis Volume [veh/h]	0	156	35	0	216	47
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	790	790	776	776	660	660	845
Degree of Utilization, x	0.10	0.10	0.02	0.02	0.16	0.16	0.06

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.33	0.33	0.07	0.07	0.58	0.58	0.18
95th-Percentile Queue Length [ft]	8.19	8.19	1.73	1.73	14.56	14.56	4.41
Approach Delay [s/veh]	7.75		7.44		8.86		
Approach LOS	A		A		A		
Intersection Delay [s/veh]	8.37						
Intersection LOS	A						

Intersection Level Of Service Report
Intersection 108: Union Station Driveway & MWD West Valet Parking Driveway

Control Type:	Two-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	2	8	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	2	8	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	2	0	0	0
Total Analysis Volume [veh/h]	0	2	8	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane					No	
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance					No	
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.23	0.00	8.62	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.01	0.01	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.37	0.19	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		7.23		8.47	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	5.79					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 110: MWD East Driveway to Parking Garage

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.065

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	8	0	0	3	65	87
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	0	0	3	65	87
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	0	1	16	22
Total Analysis Volume [veh/h]	8	0	0	3	65	87
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.07	0.08
d_M, Delay for Movement [s/veh]	7.24	0.00	0.00	0.00	9.22	8.92
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.01	0.01	0.00	0.00	0.51	0.51
95th-Percentile Queue Length [ft]	0.37	0.19	0.00	0.00	12.75	12.75
d_A, Approach Delay [s/veh]	7.24		0.00		9.04	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	8.79					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 111: MWD Truck Dock

Control Type:	Two-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.22	0.00	0.00	0.00	8.52	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	3.61		0.00		8.42	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.01					
Intersection LOS	A					

J1559- LINK US MWD Analysis

Vistro File: S:\...\Ex 2018.vistro
Report File: S:\...\03 AM.pdf

Scenario 3 Existing Fully Occupied AM
8/15/2018

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
101	Union Station North Driveway & E Cesar Chavez	Signalized	HCM 6th Edition	NB Left	0.384	11.9	B
102	Union Station North Driveway & North Internal T-Intersection	All-way stop	HCM 6th Edition	EB Left	0.120	8.1	A
103	Union Station North Driveway & South Internal T-Intersection	All-way stop	HCM 6th Edition	SB Left	0.153	8.2	A
104	Alameda & Los Angeles St (North)	Signalized	HCM 6th Edition	WB Left	0.366	18.2	B
105	Alameda & Los Angeles St (South)	Signalized	HCM 6th Edition	SEB Left	0.400	21.3	C
106	Union Station Driveway & West Internal Circulation Road (North)	All-way stop	HCM 6th Edition	NB Left	0.157	8.0	A
107	Union Station Driveway & West Internal Circulation Road (South)	All-way stop	HCM 6th Edition	EB Left	0.141	7.9	A
108	Union Station Driveway & MWD West Valet Parking Driveway	Two-way stop	HCM 6th Edition	WB Right	0.000	12.4	B
110	MWD East Driveway to Parking Garage	Two-way stop	HCM 6th Edition	EB Left	0.006	10.2	B
111	MWD Truck Dock	Two-way stop	HCM 6th Edition	EB Left	0.001	8.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 101: Union Station North Driveway & E Cesar Chavez

Control Type:	Signalized	Delay (sec / veh):	11.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.384

Intersection Setup

Name	Union Station North Driveway				Cesar E Chavez Ave	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Union Station North Driveway				Cesar E Chavez Ave	
Base Volume Input [veh/h]	77	54	476	86	79	1077
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	77	54	476	86	79	1077
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	14	119	22	20	269
Total Analysis Volume [veh/h]	77	54	476	86	79	1077
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	0	8	0	0	4
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	5	0	5	0	0	5
Maximum Green [s]	30	0	30	0	0	30
Amber [s]	3.0	0.0	3.0	0.0	0.0	3.0
All red [s]	1.0	0.0	1.0	0.0	0.0	1.0
Split [s]	37	0	203	0	0	203
Vehicle Extension [s]	3.0	0.0	3.0	0.0	0.0	3.0
Walk [s]	5	0	5	0	0	5
Pedestrian Clearance [s]	10	0	10	0	0	10
Rest In Walk	No		No			No
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	0.0	0.0	2.0
Minimum Recall	No		No			No
Maximum Recall	No		No			No
Pedestrian Recall	No		No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C	L	C
C, Cycle Length [s]	240	240	240	240	240	240
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	33	33	199	199	199	199
g / C, Green / Cycle	0.14	0.14	0.83	0.83	0.83	0.83
(v / s)_i Volume / Saturation Flow Rate	0.05	0.04	0.17	0.18	0.10	0.34
s, saturation flow rate [veh/h]	1603	1431	1683	1597	763	3204
c, Capacity [veh/h]	220	197	1395	1324	629	2657
d1, Uniform Delay [s]	93.77	92.77	4.20	4.25	6.23	5.28
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.32	3.43	0.32	0.37	0.41	0.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.35	0.27	0.20	0.21	0.13	0.41
d, Delay for Lane Group [s/veh]	98.10	96.20	4.53	4.62	6.64	5.74
Lane Group LOS	F	F	A	A	A	A
Critical Lane Group	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh]	4.68	3.25	2.99	3.03	1.08	7.07
50th-Percentile Queue Length [ft]	117.06	81.30	74.87	75.87	27.11	176.71
95th-Percentile Queue Length [veh]	8.23	5.85	5.39	5.46	1.95	11.43
95th-Percentile Queue Length [ft]	205.77	146.35	134.76	136.57	48.81	285.72

Movement, Approach, & Intersection Results

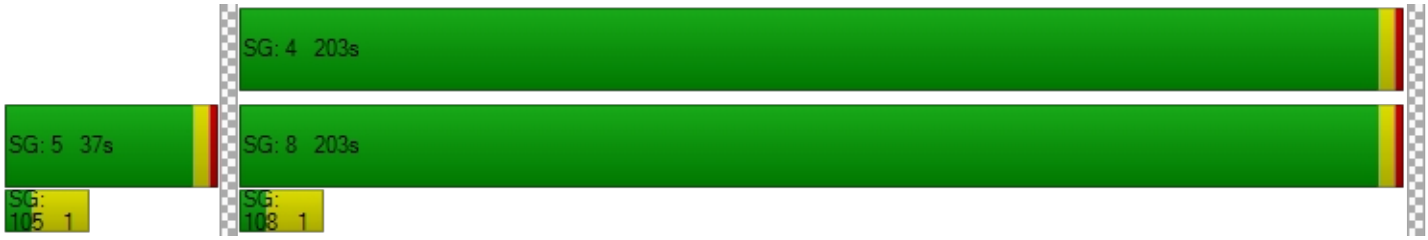
d_M, Delay for Movement [s/veh]	98.10	96.20	4.56	4.62	6.64	5.74
Movement LOS	F	F	A	A	A	A
d_A, Approach Delay [s/veh]	97.31		4.57		5.80	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	11.91					
Intersection LOS	B					
Intersection V/C	0.384					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	111.17	111.17
l_p,int, Pedestrian LOS Score for Intersection	2.362	2.596	2.675
Crosswalk LOS	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	120.00	120.00	120.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.596	5.086
Bicycle LOS	D	E	F

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 102: Union Station North Driveway & North Internal T-Intersection

Control Type:	All-way stop	Delay (sec / veh):	8.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.120

Intersection Setup

Name				Un St								
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name				Un St								
Base Volume Input [veh/h]	14	34	0	3	105	71	70	0	20	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	34	0	3	105	71	70	0	20	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	9	0	1	26	18	18	0	5	0	0	0
Total Analysis Volume [veh/h]	14	34	0	3	105	71	70	0	20	0	0	0
Pedestrian Volume [ped/h]	1			24			30			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	746	744	844	649	827	696
Degree of Utilization, x	0.06	0.12	0.11	0.11	0.02	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.21	0.41	0.35	0.36	0.07	0.00
95th-Percentile Queue Length [ft]	5.15	10.21	8.87	9.03	1.86	0.00
Approach Delay [s/veh]	8.16	7.84		8.53		0.00
Approach LOS	A	A		A		A
Intersection Delay [s/veh]	8.08					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 103: Union Station North Driveway & South Internal T-Intersection

Control Type:	All-way stop	Delay (sec / veh):	8.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.153

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	4	3	107	10	0	0	0	0	5	0	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	4	3	107	10	0	0	0	0	5	0	40
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	1	27	3	0	0	0	0	1	0	10
Total Analysis Volume [veh/h]	0	4	3	107	10	0	0	0	0	5	0	40
Pedestrian Volume [ped/h]	16			1			6			27		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	798	701	776	733	672	866
Degree of Utilization, x	0.01	0.15	0.01	0.00	0.01	0.05

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.03	0.54	0.04	0.00	0.02	0.15
95th-Percentile Queue Length [ft]	0.66	13.43	0.98	0.00	0.56	3.63
Approach Delay [s/veh]	7.55	8.65		0.00	7.17	
Approach LOS	A	A		A	A	
Intersection Delay [s/veh]	8.21					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 104: Alameda & Los Angeles St (North)

Control Type:	Signalized	Delay (sec / veh):	18.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.366

Intersection Setup

Name	Alameda St											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No						No	
Crosswalk		Yes			Yes			Yes			Yes	

Volumes

Name	Alameda St											
Base Volume Input [veh/h]	0	625	0	0	1055	328	0	0	0	93	65	53
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	625	0	0	1055	328	0	0	0	93	65	53
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	156	0	0	264	82	0	0	0	23	16	13
Total Analysis Volume [veh/h]	0	625	0	0	1055	328	0	0	0	93	65	53
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	0	180	0	0	180	0	0	0	0	0	60	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No						No	
Maximum Recall		No			No						No	
Pedestrian Recall		No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	C		L	C	R
C, Cycle Length [s]	240	240	240		240	240	240
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	176	176	176		56	56	56
g / C, Green / Cycle	0.73	0.73	0.73		0.23	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.20	0.29	0.31		0.06	0.04	0.04
s, saturation flow rate [veh/h]	3204	3204	1495		1603	1683	1431
c, Capacity [veh/h]	2350	2350	1097		374	393	334
d1, Uniform Delay [s]	10.60	11.98	12.34		74.88	73.37	73.25
k, delay calibration	0.50	0.50	0.50		0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	0.28	0.49	1.19		1.59	0.91	1.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.27	0.39	0.42		0.25	0.17	0.16
d, Delay for Lane Group [s/veh]	10.88	12.47	13.52		76.46	74.27	74.26
Lane Group LOS	B	B	B		E	E	E
Critical Lane Group	No	No	Yes		Yes	No	No
50th-Percentile Queue Length [veh]	5.87	9.80	10.29		4.93	3.36	2.75
50th-Percentile Queue Length [ft]	146.81	245.02	257.19		123.15	83.99	68.71
95th-Percentile Queue Length [veh]	9.85	14.93	15.55		8.57	6.05	4.95
95th-Percentile Queue Length [ft]	246.17	373.37	388.69		214.15	151.18	123.68

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	10.88	0.00	0.00	12.61	13.52	0.00	0.00	0.00	76.46	74.27	74.26
Movement LOS		B			B	B				E	E	E
d_A, Approach Delay [s/veh]	10.88			12.82			0.00			75.24		
Approach LOS	B			B			A			E		
d_I, Intersection Delay [s/veh]	18.21											
Intersection LOS	B											
Intersection V/C	0.366											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	111.17	111.17	111.17
l_p,int, Pedestrian LOS Score for Intersection	2.692	2.748	1.853	2.055
Crosswalk LOS	B	B	A	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1467	1467	0	467
d_b, Bicycle Delay [s]	8.53	8.53	120.00	70.53
l_b,int, Bicycle LOS Score for Intersection	2.075	2.320	4.132	1.908
Bicycle LOS	B	B	D	A

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 105: Alameda & Los Angeles St (South)

Control Type:	Signalized	Delay (sec / veh):	21.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.400

Intersection Setup

Name				Alameda St								
Approach	Northbound			Southbound			Westbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No						No	
Crosswalk		Yes			Yes			Yes			Yes	

Volumes

Name				Alameda St								
Base Volume Input [veh/h]	0	518	129	58	1099	0	0	0	0	107	77	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	518	129	58	1099	0	0	0	0	107	77	30
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	130	32	15	275	0	0	0	0	27	19	8
Total Analysis Volume [veh/h]	0	518	129	58	1099	0	0	0	0	107	77	30
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	6	0	0	0	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	0	0	0	5	0
Maximum Green [s]	0	30	0	30	30	0	0	0	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	0	155	0	36	191	0	0	0	0	0	49	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No	No						No	
Maximum Recall		No		No	No						No	
Pedestrian Recall		No		No	No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C		L	C	R
C, Cycle Length [s]	240	240	240	240		240	240	240
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	151	151	187	187		45	45	45
g / C, Green / Cycle	0.63	0.63	0.78	0.78		0.19	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.19	0.21	0.07	0.34		0.06	0.06	0.02
s, saturation flow rate [veh/h]	1683	1572	868	3204		1603	1668	1431
c, Capacity [veh/h]	1059	989	652	2497		301	313	268
d1, Uniform Delay [s]	20.43	20.78	7.28	8.91		83.97	83.91	80.92
k, delay calibration	0.50	0.50	0.50	0.50		0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	0.75	0.88	0.27	0.57		2.57	2.43	0.84
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.31	0.33	0.09	0.44		0.30	0.30	0.11
d, Delay for Lane Group [s/veh]	21.17	21.66	7.55	9.47		86.54	86.34	81.76
Lane Group LOS	C	C	A	A		F	F	F
Critical Lane Group	No	No	No	Yes		Yes	No	No
50th-Percentile Queue Length [veh]	8.97	9.14	0.76	10.10		5.15	5.28	1.63
50th-Percentile Queue Length [ft]	224.13	228.42	19.03	252.42		128.65	131.94	40.86
95th-Percentile Queue Length [veh]	13.88	14.09	1.37	15.31		8.87	9.05	2.94
95th-Percentile Queue Length [ft]	346.89	352.35	34.25	382.70		221.66	226.13	73.54

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	21.36	21.66	7.55	9.47	0.00	0.00	0.00	0.00	86.51	86.34	81.76
Movement LOS		C	C	A	A					F	F	F
d_A, Approach Delay [s/veh]	21.42			9.38			0.00			85.78		
Approach LOS	C			A			A			F		
d_I, Intersection Delay [s/veh]	21.34											
Intersection LOS	C											
Intersection V/C	0.400											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	111.17	111.17	111.17
l_p,int, Pedestrian LOS Score for Intersection	2.610	2.694	2.125	2.056
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1258	1558	0	375
d_b, Bicycle Delay [s]	16.50	5.85	120.00	79.22
l_b,int, Bicycle LOS Score for Intersection	2.093	2.514	4.132	1.913
Bicycle LOS	B	B	D	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 106: Union Station Driveway & West Internal Circulation Road (North)

Control Type:	All-way stop	Delay (sec / veh):	8.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.157

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	85	142	29	121	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	85	142	29	121	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	36	7	30	0	0
Total Analysis Volume [veh/h]	85	142	29	121	0	0
Pedestrian Volume [ped/h]	1		326		5	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	721	779	766	901	
Degree of Utilization, x	0.16	0.15	0.04	0.13	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.56	0.51	0.12	0.46	
95th-Percentile Queue Length [ft]	13.92	12.71	2.95	11.59	
Approach Delay [s/veh]	8.37		7.37		0.00
Approach LOS	A		A		A
Intersection Delay [s/veh]	7.97				
Intersection LOS	A				

Intersection Level Of Service Report

Intersection 107: Union Station Driveway & West Internal Circulation Road (South)

Control Type:	All-way stop	Delay (sec / veh):	7.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.141

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	74	29	0	156	133
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	74	29	0	156	133
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	19	7	0	39	33
Total Analysis Volume [veh/h]	0	74	29	0	156	133
Pedestrian Volume [ped/h]	194		6		4	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	791	791	786	786	684	749	886
Degree of Utilization, x	0.05	0.05	0.02	0.02	0.14	0.13	0.11

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.15	0.15	0.06	0.06	0.49	0.44	0.36
95th-Percentile Queue Length [ft]	3.68	3.68	1.41	1.41	12.22	11.02	9.12
Approach Delay [s/veh]	7.48		7.37		8.10		
Approach LOS	A		A		A		
Intersection Delay [s/veh]	7.93						
Intersection LOS	A						

Intersection Level Of Service Report

Intersection 108: Union Station Driveway & MWD West Valet Parking Driveway

Control Type:	Two-way stop	Delay (sec / veh):	12.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	14	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	14	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	4	0	0	0
Total Analysis Volume [veh/h]	0	0	14	0	0	0
Pedestrian Volume [ped/h]	0		305		2	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.25	0.00	8.71	12.38
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh]	0.00	0.00	0.03	0.01	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.66	0.33	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		7.25		10.55	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	7.25					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 110: MWD East Driveway to Parking Garage

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	95	0	0	74	4	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	95	0	0	74	4	8
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	0	0	19	1	2
Total Analysis Volume [veh/h]	95	0	0	74	4	8
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.00	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	7.52	0.00	0.00	0.00	10.24	8.56
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh]	0.20	0.10	0.00	0.00	0.04	0.04
95th-Percentile Queue Length [ft]	4.98	2.49	0.00	0.00	1.03	1.03
d_A, Approach Delay [s/veh]	7.52		0.00		9.12	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.55					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 111: MWD Truck Dock

Control Type:	Two-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	1	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	1	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	1	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.22	0.00	0.00	0.00	8.52	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.07	0.07
d_A, Approach Delay [s/veh]	3.61		0.00		8.52	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	8.52					
Intersection LOS	A					

J1559- LINK US MWD Analysis

Vistro File: S:\...\Ex 2018.vistro
Report File: S:\...\04 PM.pdf

Scenario 4 Existing Fully Occupied PM
8/15/2018

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
101	Union Station North Driveway & E Cesar Chavez	Signalized	HCM 6th Edition	NB Right	0.435	14.8	B
102	Union Station North Driveway & North Internal T-Intersection	All-way stop	HCM 6th Edition	EB Left	0.190	8.6	A
103	Union Station North Driveway & South Internal T-Intersection	All-way stop	HCM 6th Edition	SB Left	0.144	7.5	A
104	Alameda & Los Angeles St (North)	Signalized	HCM 6th Edition	WB Left	0.374	21.6	C
105	Alameda & Los Angeles St (South)	Signalized	HCM 6th Edition	SEB Left	0.397	30.0	C
106	Union Station Driveway & West Internal Circulation Road (North)	All-way stop	HCM 6th Edition	NB Left	0.322	9.0	A
107	Union Station Driveway & West Internal Circulation Road (South)	All-way stop	HCM 6th Edition	EB Left	0.165	8.4	A
108	Union Station Driveway & MWD West Valet Parking Driveway	Two-way stop	HCM 6th Edition	WB Right	0.000	12.2	B
110	MWD East Driveway to Parking Garage	Two-way stop	HCM 6th Edition	EB Left	0.086	9.5	A
111	MWD Truck Dock	Two-way stop	HCM 6th Edition	EB Left	0.000	8.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 101: Union Station North Driveway & E Cesar Chavez

Control Type:	Signalized	Delay (sec / veh):	14.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.435

Intersection Setup

Name	Union Station North Driveway				Cesar E Chavez Ave	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Union Station North Driveway				Cesar E Chavez Ave	
Base Volume Input [veh/h]	114	107	1074	61	66	1153
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	114	107	1074	61	66	1153
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	27	269	15	17	288
Total Analysis Volume [veh/h]	114	107	1074	61	66	1153
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	0	8	0	0	4
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	5	0	5	0	0	5
Maximum Green [s]	30	0	30	0	0	30
Amber [s]	3.0	0.0	3.0	0.0	0.0	3.0
All red [s]	1.0	0.0	1.0	0.0	0.0	1.0
Split [s]	37	0	203	0	0	203
Vehicle Extension [s]	3.0	0.0	3.0	0.0	0.0	3.0
Walk [s]	5	0	5	0	0	5
Pedestrian Clearance [s]	10	0	10	0	0	10
Rest In Walk	No		No			No
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	0.0	0.0	2.0
Minimum Recall	No		No			No
Maximum Recall	No		No			No
Pedestrian Recall	No		No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C	L	C
C, Cycle Length [s]	240	240	240	240	240	240
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	33	33	199	199	199	199
g / C, Green / Cycle	0.14	0.14	0.83	0.83	0.83	0.83
(v / s)_i Volume / Saturation Flow Rate	0.07	0.07	0.34	0.34	0.15	0.36
s, saturation flow rate [veh/h]	1603	1431	1683	1652	446	3204
c, Capacity [veh/h]	220	197	1395	1369	356	2657
d1, Uniform Delay [s]	96.10	96.49	5.28	5.34	10.16	5.47
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.42	10.39	0.88	0.93	1.14	0.52
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.52	0.54	0.41	0.41	0.19	0.43
d, Delay for Lane Group [s/veh]	104.53	106.88	6.16	6.26	11.30	5.99
Lane Group LOS	F	F	A	A	B	A
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh]	7.22	6.88	7.62	7.71	1.28	7.85
50th-Percentile Queue Length [ft]	180.47	172.10	190.59	192.63	31.92	196.25
95th-Percentile Queue Length [veh]	11.62	11.19	12.15	12.26	2.30	12.44
95th-Percentile Queue Length [ft]	290.62	279.67	303.79	306.44	57.46	311.12

Movement, Approach, & Intersection Results

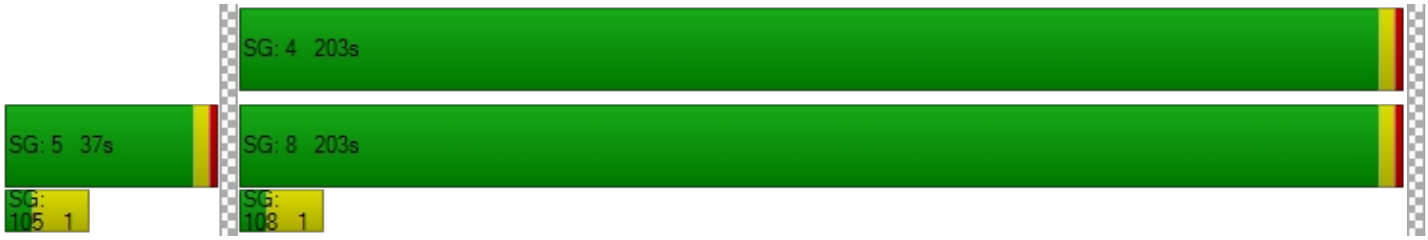
d_M, Delay for Movement [s/veh]	104.53	106.88	6.21	6.26	11.30	5.99
Movement LOS	F	F	A	A	B	A
d_A, Approach Delay [s/veh]	105.67		6.21		6.28	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	14.78					
Intersection LOS	B					
Intersection V/C	0.435					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	111.17	111.17
l_p,int, Pedestrian LOS Score for Intersection	2.356	2.763	2.814
Crosswalk LOS	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	120.00	120.00	120.00
l_b,int, Bicycle LOS Score for Intersection	4.132	5.069	5.138
Bicycle LOS	D	F	F

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 102: Union Station North Driveway & North Internal T-Intersection

Control Type:	All-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.190

Intersection Setup

Name				Un St								
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name				Un St								
Base Volume Input [veh/h]	20	122	0	10	34	84	100	0	11	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	122	0	10	34	84	100	0	11	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	31	0	3	9	21	25	0	3	0	0	0
Total Analysis Volume [veh/h]	20	122	0	10	34	84	100	0	11	0	0	0
Pedestrian Volume [ped/h]	3			21			64			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	746	707	841	636	806	674
Degree of Utilization, x	0.19	0.06	0.10	0.16	0.01	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.70	0.20	0.33	0.56	0.04	0.00
95th-Percentile Queue Length [ft]	17.47	4.97	8.29	13.89	1.04	0.00
Approach Delay [s/veh]	8.96	7.69		9.20		0.00
Approach LOS	A	A		A		A
Intersection Delay [s/veh]	8.60					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 103: Union Station North Driveway & South Internal T-Intersection

Control Type:	All-way stop	Delay (sec / veh):	7.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.144

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	1	6	1	30	12	0	1	1	1	1	0	131
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	6	1	30	12	0	1	1	1	1	0	131
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	0	8	3	0	0	0	0	0	0	33
Total Analysis Volume [veh/h]	1	6	1	30	12	0	1	1	1	1	0	131
Pedestrian Volume [ped/h]	11			0			9			20		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	747	677	747	774	697	908
Degree of Utilization, x	0.01	0.04	0.02	0.00	0.00	0.14

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.03	0.14	0.05	0.01	0.00	0.50
95th-Percentile Queue Length [ft]	0.81	3.47	1.22	0.29	0.11	12.58
Approach Delay [s/veh]	7.87	8.08		7.67	7.33	
Approach LOS	A	A		A	A	
Intersection Delay [s/veh]	7.53					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 104: Alameda & Los Angeles St (North)

Control Type:	Signalized	Delay (sec / veh):	21.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.374

Intersection Setup

Name	Alameda St											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No						No	
Crosswalk		Yes			Yes			Yes			Yes	

Volumes

Name	Alameda St											
Base Volume Input [veh/h]	0	852	0	0	863	137	0	0	0	174	60	83
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	852	0	0	863	137	0	0	0	174	60	83
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	213	0	0	216	34	0	0	0	44	15	21
Total Analysis Volume [veh/h]	0	852	0	0	863	137	0	0	0	174	60	83
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	0	180	0	0	180	0	0	0	0	0	60	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No						No	
Maximum Recall		No			No						No	
Pedestrian Recall		No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	C		L	C	R
C, Cycle Length [s]	240	240	240		240	240	240
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	176	176	176		56	56	56
g / C, Green / Cycle	0.73	0.73	0.73		0.23	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.27	0.21	0.21		0.11	0.04	0.06
s, saturation flow rate [veh/h]	3204	3204	1569		1603	1683	1431
c, Capacity [veh/h]	2350	2350	1151		374	393	334
d1, Uniform Delay [s]	11.62	10.78	10.83		79.12	73.14	74.88
k, delay calibration	0.50	0.50	0.50		0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	0.44	0.30	0.64		4.12	0.82	1.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.36	0.28	0.29		0.47	0.15	0.25
d, Delay for Lane Group [s/veh]	12.06	11.08	11.47		83.24	73.97	76.65
Lane Group LOS	B	B	B		F	E	E
Critical Lane Group	Yes	No	No		Yes	No	No
50th-Percentile Queue Length [veh]	8.78	6.37	6.51		9.84	3.09	4.41
50th-Percentile Queue Length [ft]	219.61	159.19	162.68		246.03	77.26	110.35
95th-Percentile Queue Length [veh]	13.65	10.51	10.69		14.99	5.56	7.86
95th-Percentile Queue Length [ft]	341.13	262.65	267.26		374.65	139.08	196.49

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	12.06	0.00	0.00	11.17	11.47	0.00	0.00	0.00	83.24	73.97	76.65
Movement LOS		B			B	B				F	E	E
d_A, Approach Delay [s/veh]	12.06			11.21			0.00			79.76		
Approach LOS	B			B			A			E		
d_I, Intersection Delay [s/veh]	21.56											
Intersection LOS	C											
Intersection V/C	0.374											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	111.17	111.17	111.17
l_p,int, Pedestrian LOS Score for Intersection	2.714	2.723	1.662	2.089
Crosswalk LOS	B	B	A	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1467	1467	0	467
d_b, Bicycle Delay [s]	8.53	8.53	120.00	70.53
l_b,int, Bicycle LOS Score for Intersection	2.263	2.110	4.132	2.083
Bicycle LOS	B	B	D	B

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 105: Alameda & Los Angeles St (South)

Control Type:	Signalized	Delay (sec / veh):	30.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.397

Intersection Setup

Name				Alameda St								
Approach	Northbound			Southbound			Westbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No						No	
Crosswalk		Yes			Yes			Yes			Yes	

Volumes

Name				Alameda St								
Base Volume Input [veh/h]	0	610	79	81	933	0	0	0	0	242	101	83
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	610	79	81	933	0	0	0	0	242	101	83
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	153	20	20	233	0	0	0	0	61	25	21
Total Analysis Volume [veh/h]	0	610	79	81	933	0	0	0	0	242	101	83
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	6	0	0	0	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	0	0	0	5	0
Maximum Green [s]	0	30	0	30	30	0	0	0	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	0	155	0	36	191	0	0	0	0	0	49	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No	No						No	
Maximum Recall		No		No	No						No	
Pedestrian Recall		No		No	No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C		L	C	R
C, Cycle Length [s]	240	240	240	240		240	240	240
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	151	151	187	187		45	45	45
g / C, Green / Cycle	0.63	0.63	0.78	0.78		0.19	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.20	0.21	0.10	0.29		0.11	0.11	0.06
s, saturation flow rate [veh/h]	1683	1618	846	3204		1603	1648	1431
c, Capacity [veh/h]	1059	1018	635	2497		301	309	268
d1, Uniform Delay [s]	20.75	20.97	7.54	8.26		88.56	88.56	84.10
k, delay calibration	0.50	0.50	0.50	0.50		0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	0.82	0.90	0.41	0.43		7.43	7.22	2.98
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.33	0.34	0.13	0.37		0.56	0.56	0.31
d, Delay for Lane Group [s/veh]	21.57	21.87	7.95	8.69		95.99	95.78	87.08
Lane Group LOS	C	C	A	A		F	F	F
Critical Lane Group	No	No	No	Yes		Yes	No	No
50th-Percentile Queue Length [veh]	9.70	9.81	1.08	7.94		10.32	10.59	4.74
50th-Percentile Queue Length [ft]	242.50	245.35	27.07	198.49		257.92	264.70	118.51
95th-Percentile Queue Length [veh]	14.81	14.95	1.95	12.56		15.58	15.92	8.31
95th-Percentile Queue Length [ft]	370.19	373.80	48.73	314.02		389.61	398.11	207.78

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	21.70	21.87	7.95	8.69	0.00	0.00	0.00	0.00	95.93	95.78	87.08
Movement LOS		C	C	A	A					F	F	F
d_A, Approach Delay [s/veh]	21.72			8.63			0.00			94.17		
Approach LOS	C			A			A			F		
d_I, Intersection Delay [s/veh]	29.98											
Intersection LOS	C											
Intersection V/C	0.397											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	111.17	111.17	111.17
l_p,int, Pedestrian LOS Score for Intersection	2.593	2.710	2.145	2.125
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1258	1558	0	375
d_b, Bicycle Delay [s]	16.50	5.85	120.00	79.22
l_b,int, Bicycle LOS Score for Intersection	2.128	2.396	4.132	2.263
Bicycle LOS	B	B	D	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 106: Union Station Driveway & West Internal Circulation Road (North)

Control Type:	All-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.322

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	226	165	37	128	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	226	165	37	128	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	41	9	32	0	0
Total Analysis Volume [veh/h]	226	165	37	128	0	0
Pedestrian Volume [ped/h]	2		643		3	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	701	777	743	869	
Degree of Utilization, x	0.32	0.21	0.05	0.15	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.39	0.80	0.16	0.52	
95th-Percentile Queue Length [ft]	34.87	20.03	3.92	12.89	
Approach Delay [s/veh]	9.55		7.61		0.00
Approach LOS	A		A		A
Intersection Delay [s/veh]	8.98				
Intersection LOS	A				

Intersection Level Of Service Report

Intersection 107: Union Station Driveway & West Internal Circulation Road (South)

Control Type:	All-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.165

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	182	35	0	216	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	182	35	0	216	49
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	46	9	0	54	12
Total Analysis Volume [veh/h]	0	182	35	0	216	49
Pedestrian Volume [ped/h]	240		4		2	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	790	790	773	773	653	653	834
Degree of Utilization, x	0.12	0.12	0.02	0.02	0.17	0.17	0.06

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.39	0.39	0.07	0.07	0.59	0.59	0.19
95th-Percentile Queue Length [ft]	9.72	9.72	1.74	1.74	14.74	14.74	4.67
Approach Delay [s/veh]	7.85		7.46		8.93		
Approach LOS	A		A		A		
Intersection Delay [s/veh]	8.42						
Intersection LOS	A						

Intersection Level Of Service Report

Intersection 108: Union Station Driveway & MWD West Valet Parking Driveway

Control Type:	Two-way stop	Delay (sec / veh):	12.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	2	8	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	2	8	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	2	0	0	0
Total Analysis Volume [veh/h]	0	2	8	0	0	0
Pedestrian Volume [ped/h]	0		296		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.23	0.00	8.62	12.17
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh]	0.00	0.00	0.01	0.01	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.37	0.19	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		7.23		10.40	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	5.79					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 110: MWD East Driveway to Parking Garage

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.086

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	10	0	0	4	85	113
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	0	0	4	85	113
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	0	1	21	28
Total Analysis Volume [veh/h]	10	0	0	4	85	113
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.09	0.10
d_M, Delay for Movement [s/veh]	7.24	0.00	0.00	0.00	9.47	9.15
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.02	0.01	0.00	0.00	0.70	0.70
95th-Percentile Queue Length [ft]	0.47	0.23	0.00	0.00	17.56	17.56
d_A, Approach Delay [s/veh]	7.24		0.00		9.28	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	9.01					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 111: MWD Truck Dock

Control Type:	Two-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.22	0.00	0.00	0.00	8.52	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	3.61		0.00		8.42	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.01					
Intersection LOS	A					

J1559- LINK US MWD Analysis

Vistro File: S:\...\Ex 2018.vistro
Report File: S:\...\05 AM.pdf

Scenario 5 Existing with Project AM (Fully Occupied)
8/15/2018

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
101	Union Station North Driveway & E Cesar Chavez	Signalized	HCM 6th Edition	NB Left	0.384	11.9	B
102	Union Station North Driveway & North Internal T-Intersection	All-way stop	HCM 6th Edition	EB Left	0.166	8.0	A
103	Union Station North Driveway & South Internal T-Intersection	All-way stop	HCM 6th Edition	SB Left	0.047	7.4	A
104	Alameda & Los Angeles St (North)	Signalized	HCM 6th Edition	WB Left	0.366	18.2	B
105	Alameda & Los Angeles St (South)	Signalized	HCM 6th Edition	SEB Left	0.400	21.3	C
106	Union Station Driveway & West Internal Circulation Road (North)	All-way stop	HCM 6th Edition	NB Left	0.163	8.1	A
107	Union Station Driveway & West Internal Circulation Road (South)	All-way stop	HCM 6th Edition	EB Left	0.145	8.0	A
108	Union Station Driveway & MWD West Valet Parking Driveway	Two-way stop	HCM 6th Edition	WB Right	0.000	12.4	B
110	MWD East Driveway to Parking Garage	Two-way stop	HCM 6th Edition	EB Left	0.000	11.4	B
111	MWD Truck Dock	Two-way stop	HCM 6th Edition	EB Left	0.000	8.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 101: Union Station North Driveway & E Cesar Chavez

Control Type:	Signalized	Delay (sec / veh):	11.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.384

Intersection Setup

Name	Union Station North Driveway				Cesar E Chavez Ave	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Union Station North Driveway				Cesar E Chavez Ave	
Base Volume Input [veh/h]	77	54	476	86	79	1077
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	77	54	476	86	79	1077
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	14	119	22	20	269
Total Analysis Volume [veh/h]	77	54	476	86	79	1077
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	0	8	0	0	4
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	5	0	5	0	0	5
Maximum Green [s]	30	0	30	0	0	30
Amber [s]	3.0	0.0	3.0	0.0	0.0	3.0
All red [s]	1.0	0.0	1.0	0.0	0.0	1.0
Split [s]	37	0	203	0	0	203
Vehicle Extension [s]	3.0	0.0	3.0	0.0	0.0	3.0
Walk [s]	5	0	5	0	0	5
Pedestrian Clearance [s]	10	0	10	0	0	10
Rest In Walk	No		No			No
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	0.0	0.0	2.0
Minimum Recall	No		No			No
Maximum Recall	No		No			No
Pedestrian Recall	No		No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C	L	C
C, Cycle Length [s]	240	240	240	240	240	240
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	33	33	199	199	199	199
g / C, Green / Cycle	0.14	0.14	0.83	0.83	0.83	0.83
(v / s)_i Volume / Saturation Flow Rate	0.05	0.04	0.17	0.18	0.10	0.34
s, saturation flow rate [veh/h]	1603	1431	1683	1597	763	3204
c, Capacity [veh/h]	220	197	1395	1324	629	2657
d1, Uniform Delay [s]	93.77	92.77	4.20	4.25	6.23	5.28
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.32	3.43	0.32	0.37	0.41	0.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.35	0.27	0.20	0.21	0.13	0.41
d, Delay for Lane Group [s/veh]	98.10	96.20	4.53	4.62	6.64	5.74
Lane Group LOS	F	F	A	A	A	A
Critical Lane Group	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh]	4.68	3.25	2.99	3.03	1.08	7.07
50th-Percentile Queue Length [ft]	117.06	81.30	74.87	75.87	27.11	176.71
95th-Percentile Queue Length [veh]	8.23	5.85	5.39	5.46	1.95	11.43
95th-Percentile Queue Length [ft]	205.77	146.35	134.76	136.57	48.81	285.72

Movement, Approach, & Intersection Results

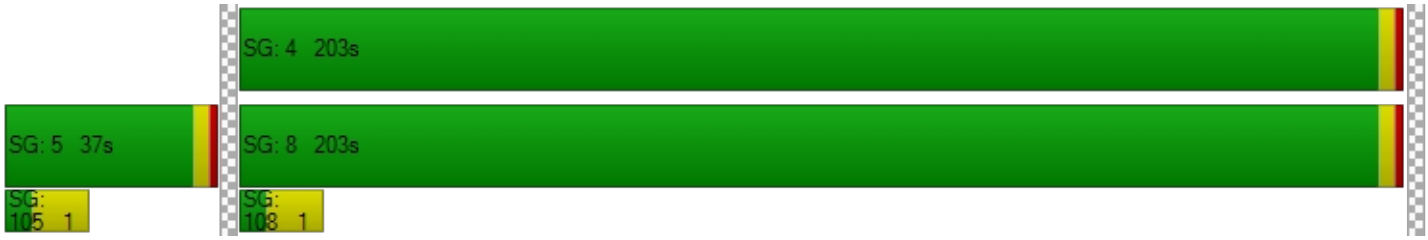
d_M, Delay for Movement [s/veh]	98.10	96.20	4.56	4.62	6.64	5.74
Movement LOS	F	F	A	A	A	A
d_A, Approach Delay [s/veh]	97.31		4.57		5.80	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	11.91					
Intersection LOS	B					
Intersection V/C	0.384					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	111.17	111.17
I_p,int, Pedestrian LOS Score for Intersection	2.362	2.596	2.675
Crosswalk LOS	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	120.00	120.00	120.00
I_b,int, Bicycle LOS Score for Intersection	4.132	4.596	5.086
Bicycle LOS	D	E	F

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 102: Union Station North Driveway & North Internal T-Intersection

Control Type:	All-way stop	Delay (sec / veh):	8.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.166

Intersection Setup

Name				Un St								
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name				Un St								
Base Volume Input [veh/h]	14	29	0	3	31	145	75	0	20	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	29	0	3	31	145	75	0	20	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	7	0	1	8	36	19	0	5	0	0	0
Total Analysis Volume [veh/h]	14	29	0	3	31	145	75	0	20	0	0	0
Pedestrian Volume [ped/h]	1			24			30			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	744	739	871	652	833	699
Degree of Utilization, x	0.06	0.05	0.17	0.12	0.02	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.18	0.14	0.59	0.39	0.07	0.00
95th-Percentile Queue Length [ft]	4.59	3.61	14.87	9.70	1.84	0.00
Approach Delay [s/veh]	8.14	7.68		8.56		0.00
Approach LOS	A	A		A		A
Intersection Delay [s/veh]	8.01					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 103: Union Station North Driveway & South Internal T-Intersection

Control Type:	All-way stop	Delay (sec / veh):	7.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.047

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	4	3	33	10	0	0	0	0	5	0	36
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	4	3	33	10	0	0	0	0	5	0	36
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	1	8	3	0	0	0	0	1	0	9
Total Analysis Volume [veh/h]	0	4	3	33	10	0	0	0	0	5	0	36
Pedestrian Volume [ped/h]	16			1			6			27		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	816	702	778	766	698	909
Degree of Utilization, x	0.01	0.05	0.01	0.00	0.01	0.04

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.03	0.15	0.04	0.00	0.02	0.12
95th-Percentile Queue Length [ft]	0.65	3.69	0.98	0.00	0.54	3.09
Approach Delay [s/veh]	7.45	7.92		0.00	6.95	
Approach LOS	A	A		A	A	
Intersection Delay [s/veh]	7.45					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 104: Alameda & Los Angeles St (North)

Control Type:	Signalized	Delay (sec / veh):	18.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.366

Intersection Setup

Name	Alameda St											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No						No	
Crosswalk		Yes			Yes			Yes			Yes	

Volumes

Name	Alameda St											
Base Volume Input [veh/h]	0	625	0	0	1055	328	0	0	0	93	65	53
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	625	0	0	1055	328	0	0	0	93	65	53
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	156	0	0	264	82	0	0	0	23	16	13
Total Analysis Volume [veh/h]	0	625	0	0	1055	328	0	0	0	93	65	53
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	0	180	0	0	180	0	0	0	0	0	60	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No						No	
Maximum Recall		No			No						No	
Pedestrian Recall		No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	C		L	C	R
C, Cycle Length [s]	240	240	240		240	240	240
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	176	176	176		56	56	56
g / C, Green / Cycle	0.73	0.73	0.73		0.23	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.20	0.29	0.31		0.06	0.04	0.04
s, saturation flow rate [veh/h]	3204	3204	1495		1603	1683	1431
c, Capacity [veh/h]	2350	2350	1097		374	393	334
d1, Uniform Delay [s]	10.60	11.98	12.34		74.88	73.37	73.25
k, delay calibration	0.50	0.50	0.50		0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	0.28	0.49	1.19		1.59	0.91	1.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.27	0.39	0.42		0.25	0.17	0.16
d, Delay for Lane Group [s/veh]	10.88	12.47	13.52		76.46	74.27	74.26
Lane Group LOS	B	B	B		E	E	E
Critical Lane Group	No	No	Yes		Yes	No	No
50th-Percentile Queue Length [veh]	5.87	9.80	10.29		4.93	3.36	2.75
50th-Percentile Queue Length [ft]	146.81	245.02	257.19		123.15	83.99	68.71
95th-Percentile Queue Length [veh]	9.85	14.93	15.55		8.57	6.05	4.95
95th-Percentile Queue Length [ft]	246.17	373.37	388.69		214.15	151.18	123.68

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	10.88	0.00	0.00	12.61	13.52	0.00	0.00	0.00	76.46	74.27	74.26
Movement LOS		B			B	B				E	E	E
d_A, Approach Delay [s/veh]	10.88			12.82			0.00			75.24		
Approach LOS	B			B			A			E		
d_I, Intersection Delay [s/veh]	18.21											
Intersection LOS	B											
Intersection V/C	0.366											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	111.17	111.17	111.17
l_p,int, Pedestrian LOS Score for Intersection	2.692	2.748	1.853	2.055
Crosswalk LOS	B	B	A	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1467	1467	0	467
d_b, Bicycle Delay [s]	8.53	8.53	120.00	70.53
l_b,int, Bicycle LOS Score for Intersection	2.075	2.320	4.132	1.908
Bicycle LOS	B	B	D	A

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 105: Alameda & Los Angeles St (South)

Control Type:	Signalized	Delay (sec / veh):	21.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.400

Intersection Setup

Name				Alameda St								
Approach	Northbound			Southbound			Westbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No						No	
Crosswalk		Yes			Yes			Yes			Yes	

Volumes

Name				Alameda St								
Base Volume Input [veh/h]	0	518	129	58	1099	0	0	0	0	107	77	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	518	129	58	1099	0	0	0	0	107	77	30
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	130	32	15	275	0	0	0	0	27	19	8
Total Analysis Volume [veh/h]	0	518	129	58	1099	0	0	0	0	107	77	30
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	6	0	0	0	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	0	0	0	5	0
Maximum Green [s]	0	30	0	30	30	0	0	0	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	0	155	0	36	191	0	0	0	0	0	49	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No	No						No	
Maximum Recall		No		No	No						No	
Pedestrian Recall		No		No	No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C		L	C	R
C, Cycle Length [s]	240	240	240	240		240	240	240
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	151	151	187	187		45	45	45
g / C, Green / Cycle	0.63	0.63	0.78	0.78		0.19	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.19	0.21	0.07	0.34		0.06	0.06	0.02
s, saturation flow rate [veh/h]	1683	1572	868	3204		1603	1668	1431
c, Capacity [veh/h]	1059	989	652	2497		301	313	268
d1, Uniform Delay [s]	20.43	20.78	7.28	8.91		83.97	83.91	80.92
k, delay calibration	0.50	0.50	0.50	0.50		0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	0.75	0.88	0.27	0.57		2.57	2.43	0.84
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.31	0.33	0.09	0.44		0.30	0.30	0.11
d, Delay for Lane Group [s/veh]	21.17	21.66	7.55	9.47		86.54	86.34	81.76
Lane Group LOS	C	C	A	A		F	F	F
Critical Lane Group	No	No	No	Yes		Yes	No	No
50th-Percentile Queue Length [veh]	8.97	9.14	0.76	10.10		5.15	5.28	1.63
50th-Percentile Queue Length [ft]	224.13	228.42	19.03	252.42		128.65	131.94	40.86
95th-Percentile Queue Length [veh]	13.88	14.09	1.37	15.31		8.87	9.05	2.94
95th-Percentile Queue Length [ft]	346.89	352.35	34.25	382.70		221.66	226.13	73.54

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	21.36	21.66	7.55	9.47	0.00	0.00	0.00	0.00	86.51	86.34	81.76
Movement LOS		C	C	A	A					F	F	F
d_A, Approach Delay [s/veh]	21.42			9.38			0.00			85.78		
Approach LOS	C			A			A			F		
d_I, Intersection Delay [s/veh]	21.34											
Intersection LOS	C											
Intersection V/C	0.400											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	111.17	111.17	111.17
l_p,int, Pedestrian LOS Score for Intersection	2.610	2.694	2.125	2.056
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1258	1558	0	375
d_b, Bicycle Delay [s]	16.50	5.85	120.00	79.22
l_b,int, Bicycle LOS Score for Intersection	2.093	2.514	4.132	1.913
Bicycle LOS	B	B	D	A

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 106: Union Station Driveway & West Internal Circulation Road (North)

Control Type:	All-way stop	Delay (sec / veh):	8.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.163

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	85	147	103	121	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	85	147	103	121	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	37	26	30	0	0
Total Analysis Volume [veh/h]	85	147	103	121	0	0
Pedestrian Volume [ped/h]	1		326		5	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	714	770	765	899	
Degree of Utilization, x	0.16	0.15	0.13	0.13	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.58	0.53	0.46	0.46	
95th-Percentile Queue Length [ft]	14.44	13.22	11.60	11.61	
Approach Delay [s/veh]	8.46		7.70		0.00
Approach LOS	A		A		A
Intersection Delay [s/veh]	8.09				
Intersection LOS	A				

Intersection Level Of Service Report
Intersection 107: Union Station Driveway & West Internal Circulation Road (South)

Control Type:	All-way stop	Delay (sec / veh):	8.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.145

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	79	103	0	156	133
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	79	103	0	156	133
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	20	26	0	39	33
Total Analysis Volume [veh/h]	0	79	103	0	156	133
Pedestrian Volume [ped/h]	194		6		4	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	783	783	785	785	663	723	850
Degree of Utilization, x	0.05	0.05	0.07	0.07	0.15	0.13	0.11

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.16	0.16	0.21	0.21	0.51	0.46	0.38
95th-Percentile Queue Length [ft]	3.98	3.98	5.25	5.25	12.68	11.46	9.56
Approach Delay [s/veh]	7.55		7.61		8.33		
Approach LOS	A		A		A		
Intersection Delay [s/veh]	8.04						
Intersection LOS	A						

Intersection Level Of Service Report
Intersection 108: Union Station Driveway & MWD West Valet Parking Driveway

Control Type:	Two-way stop	Delay (sec / veh):	12.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	14	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	14	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	4	0	0	0
Total Analysis Volume [veh/h]	0	0	14	0	0	0
Pedestrian Volume [ped/h]	0		305		2	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.25	0.00	8.71	12.38
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh]	0.00	0.00	0.03	0.01	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.66	0.33	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		7.25		10.55	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	7.25					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 110: MWD East Driveway to Parking Garage

Control Type:	Two-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	169	0	0	0	0	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	169	0	0	0	0	12
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	0	0	0	0	3
Total Analysis Volume [veh/h]	169	0	0	0	0	12
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	7.48	0.00	0.00	0.00	11.40	8.36
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh]	0.35	0.17	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft]	8.71	4.35	0.00	0.00	0.84	0.84
d_A, Approach Delay [s/veh]	7.48		0.00		8.36	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	7.54					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 111: MWD Truck Dock

Control Type:	Two-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.22	0.00	0.00	0.00	8.52	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.07	0.07
d_A, Approach Delay [s/veh]	3.61		0.00		8.32	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	8.32					
Intersection LOS	A					

J1559- LINK US MWD Analysis

Vistro File: S:\...\Ex 2018.vistro
Report File: S:\...\06 PM.pdf

Scenario 6 Existing with Project PM (Fully Occupied)
8/15/2018

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
101	Union Station North Driveway & E Cesar Chavez	Signalized	HCM 6th Edition	NB Right	0.435	14.8	B
102	Union Station North Driveway & North Internal T-Intersection	All-way stop	HCM 6th Edition	EB Left	0.282	9.1	A
103	Union Station North Driveway & South Internal T-Intersection	All-way stop	HCM 6th Edition	SB Left	0.050	7.3	A
104	Alameda & Los Angeles St (North)	Signalized	HCM 6th Edition	WB Left	0.374	21.6	C
105	Alameda & Los Angeles St (South)	Signalized	HCM 6th Edition	SEB Left	0.397	30.0	C
106	Union Station Driveway & West Internal Circulation Road (North)	All-way stop	HCM 6th Edition	NB Left	0.338	9.3	A
107	Union Station Driveway & West Internal Circulation Road (South)	All-way stop	HCM 6th Edition	EB Left	0.171	8.6	A
108	Union Station Driveway & MWD West Valet Parking Driveway	Two-way stop	HCM 6th Edition	WB Right	0.000	12.2	B
110	MWD East Driveway to Parking Garage	Two-way stop	HCM 6th Edition	EB Left	0.000	9.4	A
111	MWD Truck Dock	Two-way stop	HCM 6th Edition	EB Left	0.000	8.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 101: Union Station North Driveway & E Cesar Chavez

Control Type:	Signalized	Delay (sec / veh):	14.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.435

Intersection Setup

Name	Union Station North Driveway				Cesar E Chavez Ave	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Union Station North Driveway				Cesar E Chavez Ave	
Base Volume Input [veh/h]	114	107	1074	61	66	1153
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	114	107	1074	61	66	1153
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	27	269	15	17	288
Total Analysis Volume [veh/h]	114	107	1074	61	66	1153
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	0	8	0	0	4
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	5	0	5	0	0	5
Maximum Green [s]	30	0	30	0	0	30
Amber [s]	3.0	0.0	3.0	0.0	0.0	3.0
All red [s]	1.0	0.0	1.0	0.0	0.0	1.0
Split [s]	37	0	203	0	0	203
Vehicle Extension [s]	3.0	0.0	3.0	0.0	0.0	3.0
Walk [s]	5	0	5	0	0	5
Pedestrian Clearance [s]	10	0	10	0	0	10
Rest In Walk	No		No			No
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	0.0	0.0	2.0
Minimum Recall	No		No			No
Maximum Recall	No		No			No
Pedestrian Recall	No		No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C	L	C
C, Cycle Length [s]	240	240	240	240	240	240
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	33	33	199	199	199	199
g / C, Green / Cycle	0.14	0.14	0.83	0.83	0.83	0.83
(v / s)_i Volume / Saturation Flow Rate	0.07	0.07	0.34	0.34	0.15	0.36
s, saturation flow rate [veh/h]	1603	1431	1683	1652	446	3204
c, Capacity [veh/h]	220	197	1395	1369	356	2657
d1, Uniform Delay [s]	96.10	96.49	5.28	5.34	10.16	5.47
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.42	10.39	0.88	0.93	1.14	0.52
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.52	0.54	0.41	0.41	0.19	0.43
d, Delay for Lane Group [s/veh]	104.53	106.88	6.16	6.26	11.30	5.99
Lane Group LOS	F	F	A	A	B	A
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh]	7.22	6.88	7.62	7.71	1.28	7.85
50th-Percentile Queue Length [ft]	180.47	172.10	190.59	192.63	31.92	196.25
95th-Percentile Queue Length [veh]	11.62	11.19	12.15	12.26	2.30	12.44
95th-Percentile Queue Length [ft]	290.62	279.67	303.79	306.44	57.46	311.12

Movement, Approach, & Intersection Results

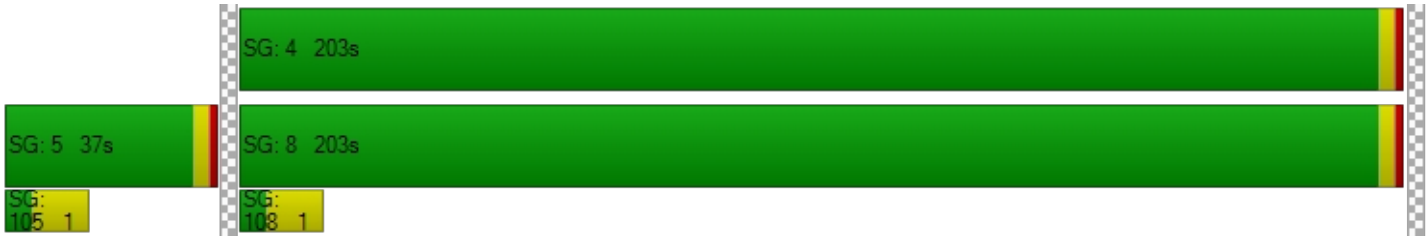
d_M, Delay for Movement [s/veh]	104.53	106.88	6.21	6.26	11.30	5.99
Movement LOS	F	F	A	A	B	A
d_A, Approach Delay [s/veh]	105.67		6.21		6.28	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	14.78					
Intersection LOS	B					
Intersection V/C	0.435					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	111.17	111.17
l_p,int, Pedestrian LOS Score for Intersection	2.356	2.763	2.814
Crosswalk LOS	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	120.00	120.00	120.00
l_b,int, Bicycle LOS Score for Intersection	4.132	5.069	5.138
Bicycle LOS	D	F	F

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 102: Union Station North Driveway & North Internal T-Intersection

Control Type:	All-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.282

Intersection Setup

Name				Un St								
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name				Un St								
Base Volume Input [veh/h]	20	37	0	10	30	88	185	0	11	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	37	0	10	30	88	185	0	11	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	9	0	3	8	22	46	0	3	0	0	0
Total Analysis Volume [veh/h]	20	37	0	10	30	88	185	0	11	0	0	0
Pedestrian Volume [ped/h]	3			21			64			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	704	682	809	657	841	686
Degree of Utilization, x	0.08	0.06	0.11	0.28	0.01	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.26	0.19	0.36	1.15	0.04	0.00
95th-Percentile Queue Length [ft]	6.59	4.66	9.11	28.84	0.99	0.00
Approach Delay [s/veh]	8.57	7.88		10.13		0.00
Approach LOS	A	A		B		A
Intersection Delay [s/veh]	9.14					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 103: Union Station North Driveway & South Internal T-Intersection

Control Type:	All-way stop	Delay (sec / veh):	7.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.050

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	1	6	1	26	12	0	1	1	1	1	0	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	6	1	26	12	0	1	1	1	1	0	46
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	0	7	3	0	0	0	0	0	0	12
Total Analysis Volume [veh/h]	1	6	1	26	12	0	1	1	1	1	0	46
Pedestrian Volume [ped/h]	11			0			9			20		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	777	700	776	789	699	912
Degree of Utilization, x	0.01	0.04	0.02	0.00	0.00	0.05

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.03	0.12	0.05	0.01	0.00	0.16
95th-Percentile Queue Length [ft]	0.78	2.89	1.18	0.29	0.11	3.98
Approach Delay [s/veh]	7.68	7.84		7.58	6.88	
Approach LOS	A	A		A	A	
Intersection Delay [s/veh]	7.35					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 104: Alameda & Los Angeles St (North)

Control Type:	Signalized	Delay (sec / veh):	21.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.374

Intersection Setup

Name	Alameda St											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No						No	
Crosswalk		Yes			Yes			Yes			Yes	

Volumes

Name	Alameda St											
Base Volume Input [veh/h]	0	852	0	0	863	137	0	0	0	174	60	83
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	852	0	0	863	137	0	0	0	174	60	83
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	213	0	0	216	34	0	0	0	44	15	21
Total Analysis Volume [veh/h]	0	852	0	0	863	137	0	0	0	174	60	83
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	0	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	0	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	0	180	0	0	180	0	0	0	0	0	60	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No						No	
Maximum Recall		No			No						No	
Pedestrian Recall		No			No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	C		L	C	R
C, Cycle Length [s]	240	240	240		240	240	240
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	176	176	176		56	56	56
g / C, Green / Cycle	0.73	0.73	0.73		0.23	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.27	0.21	0.21		0.11	0.04	0.06
s, saturation flow rate [veh/h]	3204	3204	1569		1603	1683	1431
c, Capacity [veh/h]	2350	2350	1151		374	393	334
d1, Uniform Delay [s]	11.62	10.78	10.83		79.12	73.14	74.88
k, delay calibration	0.50	0.50	0.50		0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	0.44	0.30	0.64		4.12	0.82	1.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.36	0.28	0.29		0.47	0.15	0.25
d, Delay for Lane Group [s/veh]	12.06	11.08	11.47		83.24	73.97	76.65
Lane Group LOS	B	B	B		F	E	E
Critical Lane Group	Yes	No	No		Yes	No	No
50th-Percentile Queue Length [veh]	8.78	6.37	6.51		9.84	3.09	4.41
50th-Percentile Queue Length [ft]	219.61	159.19	162.68		246.03	77.26	110.35
95th-Percentile Queue Length [veh]	13.65	10.51	10.69		14.99	5.56	7.86
95th-Percentile Queue Length [ft]	341.13	262.65	267.26		374.65	139.08	196.49

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	12.06	0.00	0.00	11.17	11.47	0.00	0.00	0.00	83.24	73.97	76.65
Movement LOS		B			B	B				F	E	E
d_A, Approach Delay [s/veh]	12.06			11.21			0.00			79.76		
Approach LOS	B			B			A			E		
d_I, Intersection Delay [s/veh]	21.56											
Intersection LOS	C											
Intersection V/C	0.374											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	111.17	111.17	111.17
l_p,int, Pedestrian LOS Score for Intersection	2.714	2.723	1.662	2.089
Crosswalk LOS	B	B	A	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1467	1467	0	467
d_b, Bicycle Delay [s]	8.53	8.53	120.00	70.53
l_b,int, Bicycle LOS Score for Intersection	2.263	2.110	4.132	2.083
Bicycle LOS	B	B	D	B

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 105: Alameda & Los Angeles St (South)

Control Type:	Signalized	Delay (sec / veh):	30.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.397

Intersection Setup

Name				Alameda St								
Approach	Northbound			Southbound			Westbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Curb Present		No			No						No	
Crosswalk		Yes			Yes			Yes			Yes	

Volumes

Name				Alameda St								
Base Volume Input [veh/h]	0	610	79	81	933	0	0	0	0	242	101	83
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	610	79	81	933	0	0	0	0	242	101	83
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	153	20	20	233	0	0	0	0	61	25	21
Total Analysis Volume [veh/h]	0	610	79	81	933	0	0	0	0	242	101	83
Presence of On-Street Parking	No		No	No		No				No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	6	0	0	0	0	0	8	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	5	5	0	0	0	0	0	5	0
Maximum Green [s]	0	30	0	30	30	0	0	0	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	0	155	0	36	191	0	0	0	0	0	49	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	0	0	0	10	0
Rest In Walk		No			No						No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No	No						No	
Maximum Recall		No		No	No						No	
Pedestrian Recall		No		No	No						No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C		L	C	R
C, Cycle Length [s]	240	240	240	240		240	240	240
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	0.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	151	151	187	187		45	45	45
g / C, Green / Cycle	0.63	0.63	0.78	0.78		0.19	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.20	0.21	0.10	0.29		0.11	0.11	0.06
s, saturation flow rate [veh/h]	1683	1618	846	3204		1603	1648	1431
c, Capacity [veh/h]	1059	1018	635	2497		301	309	268
d1, Uniform Delay [s]	20.75	20.97	7.54	8.26		88.56	88.56	84.10
k, delay calibration	0.50	0.50	0.50	0.50		0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	0.82	0.90	0.41	0.43		7.43	7.22	2.98
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.33	0.34	0.13	0.37		0.56	0.56	0.31
d, Delay for Lane Group [s/veh]	21.57	21.87	7.95	8.69		95.99	95.78	87.08
Lane Group LOS	C	C	A	A		F	F	F
Critical Lane Group	No	No	No	Yes		Yes	No	No
50th-Percentile Queue Length [veh]	9.70	9.81	1.08	7.94		10.32	10.59	4.74
50th-Percentile Queue Length [ft]	242.50	245.35	27.07	198.49		257.92	264.70	118.51
95th-Percentile Queue Length [veh]	14.81	14.95	1.95	12.56		15.58	15.92	8.31
95th-Percentile Queue Length [ft]	370.19	373.80	48.73	314.02		389.61	398.11	207.78

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	21.70	21.87	7.95	8.69	0.00	0.00	0.00	0.00	95.93	95.78	87.08
Movement LOS		C	C	A	A					F	F	F
d_A, Approach Delay [s/veh]	21.72			8.63			0.00			94.17		
Approach LOS	C			A			A			F		
d_I, Intersection Delay [s/veh]	29.98											
Intersection LOS	C											
Intersection V/C	0.397											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	111.17	111.17	111.17
l_p,int, Pedestrian LOS Score for Intersection	2.593	2.710	2.145	2.125
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1258	1558	0	375
d_b, Bicycle Delay [s]	16.50	5.85	120.00	79.22
l_b,int, Bicycle LOS Score for Intersection	2.128	2.396	4.132	2.263
Bicycle LOS	B	B	D	B

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 106: Union Station Driveway & West Internal Circulation Road (North)

Control Type:	All-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.338

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	226	250	41	128	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	226	250	41	128	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	63	10	32	0	0
Total Analysis Volume [veh/h]	226	250	41	128	0	0
Pedestrian Volume [ped/h]	2		643		3	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	704	776	732	852	
Degree of Utilization, x	0.34	0.31	0.06	0.15	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.49	1.30	0.18	0.53	
95th-Percentile Queue Length [ft]	37.37	32.57	4.45	13.18	
Approach Delay [s/veh]	9.90		7.73		0.00
Approach LOS	A		A		A
Intersection Delay [s/veh]	9.33				
Intersection LOS	A				

Intersection Level Of Service Report

Intersection 107: Union Station Driveway & West Internal Circulation Road (South)

Control Type:	All-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.171

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	267	39	0	216	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	267	39	0	216	49
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	67	10	0	54	12
Total Analysis Volume [veh/h]	0	267	39	0	216	49
Pedestrian Volume [ped/h]	240		4		2	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	789	789	763	763	631	631	799
Degree of Utilization, x	0.17	0.17	0.03	0.03	0.17	0.17	0.06

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.61	0.61	0.08	0.08	0.61	0.61	0.20
95th-Percentile Queue Length [ft]	15.15	15.15	1.97	1.97	15.33	15.33	4.89
Approach Delay [s/veh]	8.19		7.54		9.19		
Approach LOS	A		A		A		
Intersection Delay [s/veh]	8.61						
Intersection LOS	A						

Intersection Level Of Service Report

Intersection 108: Union Station Driveway & MWD West Valet Parking Driveway

Control Type:	Two-way stop	Delay (sec / veh):	12.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	2	8	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	2	8	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	2	0	0	0
Total Analysis Volume [veh/h]	0	2	8	0	0	0
Pedestrian Volume [ped/h]	0		296		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.23	0.00	8.62	12.17
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh]	0.00	0.00	0.01	0.01	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.37	0.19	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		7.23		10.40	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	5.79					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 110: MWD East Driveway to Parking Garage

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	14	0	0	0	0	198
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	0	0	0	0	198
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	0	0	0	50
Total Analysis Volume [veh/h]	14	0	0	0	0	198
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.18
d_M, Delay for Movement [s/veh]	7.24	0.00	0.00	0.00	9.43	9.06
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.03	0.01	0.00	0.00	0.67	0.67
95th-Percentile Queue Length [ft]	0.65	0.33	0.00	0.00	16.65	16.65
d_A, Approach Delay [s/veh]	7.24		0.00		9.06	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	8.94					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 111: MWD Truck Dock

Control Type:	Two-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.22	0.00	0.00	0.00	8.52	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	3.61		0.00		8.42	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.01					
Intersection LOS	A					

J1559- LINK US MWD Analysis

Vistro File: S:\...\Future.vistro
Report File: S:\...\07 FB AM.pdf

Scenario 1 Future Base 2031 AM
1/7/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
101	Union Station North Driveway & E Cesar Chavez	Signalized	HCM 6th Edition	NB Left	0.507	12.8	B
102	Union Station North Driveway & North Internal T-Intersectio	All-way stop	HCM 6th Edition	EB Left	0.234	8.8	A
103	Union Station North Driveway & South Internal T-Intersection	All-way stop	HCM 6th Edition	SB Left	0.130	8.0	A
104	Alameda & Los Angeles St (North)	Signalized	HCM 6th Edition	EB Thru	0.649	27.7	C
106	Union Station Driveway & West Internal Circulation Road (North)	All-way stop	HCM 6th Edition	EB Left	0.248	8.8	A
108	Union Station Driveway & MWD West Valet Parking Driveway	Two-way stop	HCM 6th Edition	WB Right	0.000	12.4	B
110	MWD East Driveway to Parking Garage	Two-way stop	HCM 6th Edition	EB Left	0.004	9.8	A
111	MWD Truck Dock	Two-way stop	HCM 6th Edition	EB Left	0.001	8.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 101: Union Station North Driveway & E Cesar Chavez

Control Type:	Signalized	Delay (sec / veh):	12.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.507

Intersection Setup

Name	Union Station North Driveway				Cesar E Chavez Ave	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Union Station North Driveway				Cesar E Chavez Ave	
Base Volume Input [veh/h]	97	74	777	83	84	1430
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	97	74	777	83	84	1430
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	19	194	21	21	358
Total Analysis Volume [veh/h]	97	74	777	83	84	1430
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	0	8	0	0	4
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	5	0	5	0	0	5
Maximum Green [s]	30	0	30	0	0	30
Amber [s]	3.0	0.0	3.0	0.0	0.0	3.0
All red [s]	1.0	0.0	1.0	0.0	0.0	1.0
Split [s]	37	0	203	0	0	203
Vehicle Extension [s]	3.0	0.0	3.0	0.0	0.0	3.0
Walk [s]	5	0	5	0	0	5
Pedestrian Clearance [s]	10	0	10	0	0	10
Rest In Walk	No		No			No
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	0.0	0.0	2.0
Minimum Recall	No		No			No
Maximum Recall	No		No			No
Pedestrian Recall	No		No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C	L	C
C, Cycle Length [s]	240	240	240	240	240	240
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	33	33	199	199	199	199
g / C, Green / Cycle	0.14	0.14	0.83	0.83	0.83	0.83
(v / s)_i Volume / Saturation Flow Rate	0.06	0.05	0.26	0.26	0.15	0.45
s, saturation flow rate [veh/h]	1603	1431	1683	1628	578	3204
c, Capacity [veh/h]	220	197	1395	1350	469	2657
d1, Uniform Delay [s]	95.02	94.14	4.70	4.76	8.12	6.32
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.26	5.41	0.57	0.62	0.83	0.79
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.44	0.38	0.31	0.32	0.18	0.54
d, Delay for Lane Group [s/veh]	101.28	99.55	5.28	5.38	8.96	7.11
Lane Group LOS	F	F	A	A	A	A
Critical Lane Group	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh]	6.02	4.56	5.13	5.20	1.40	11.27
50th-Percentile Queue Length [ft]	150.56	113.95	128.36	130.09	35.03	281.79
95th-Percentile Queue Length [veh]	10.05	8.06	8.85	8.94	2.52	16.78
95th-Percentile Queue Length [ft]	251.18	201.48	221.26	223.61	63.05	419.44

Movement, Approach, & Intersection Results

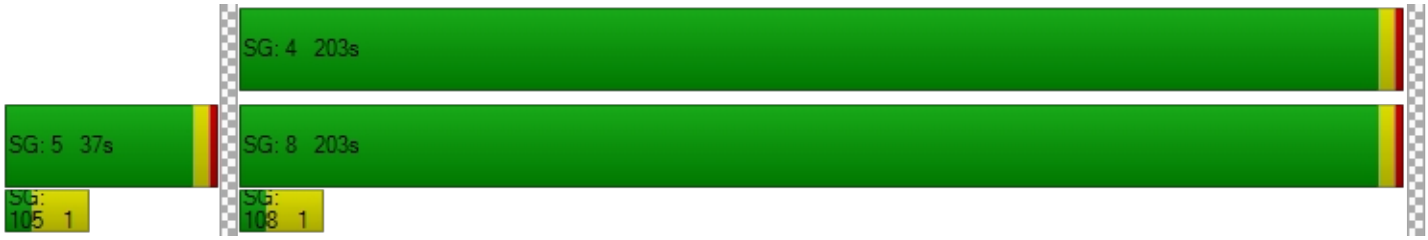
d_M, Delay for Movement [s/veh]	101.28	99.55	5.32	5.38	8.96	7.11
Movement LOS	F	F	A	A	A	A
d_A, Approach Delay [s/veh]	100.53		5.33		7.21	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	12.85					
Intersection LOS	B					
Intersection V/C	0.507					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	111.17	111.17
l_p,int, Pedestrian LOS Score for Intersection	2.379	2.759	2.807
Crosswalk LOS	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	120.00	120.00	120.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.842	5.381
Bicycle LOS	D	E	F

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 102: Union Station North Driveway & North Internal T-Intersection

Control Type:	All-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.234

Intersection Setup

Name				Un St								
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name				Un St								
Base Volume Input [veh/h]	14	34	0	3	89	73	152	0	21	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	34	0	3	89	73	152	0	21	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	9	0	1	22	18	38	0	5	0	0	0
Total Analysis Volume [veh/h]	14	34	0	3	89	73	152	0	21	0	0	0
Pedestrian Volume [ped/h]	1			24			30			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	710	708	809	649	829	682
Degree of Utilization, x	0.07	0.12	0.10	0.23	0.03	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.22	0.39	0.34	0.90	0.08	0.00
95th-Percentile Queue Length [ft]	5.43	9.85	8.48	22.59	1.95	0.00
Approach Delay [s/veh]	8.44	8.06		9.59		0.00
Approach LOS	A	A		A		A
Intersection Delay [s/veh]	8.79					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 103: Union Station North Driveway & South Internal T-Intersection

Control Type:	All-way stop	Delay (sec / veh):	8.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.130

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	4	3	91	10	0	0	0	0	5	0	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	4	3	91	10	0	0	0	0	5	0	40
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	1	23	3	0	0	0	0	1	0	10
Total Analysis Volume [veh/h]	0	4	3	91	10	0	0	0	0	5	0	40
Pedestrian Volume [ped/h]	16			1			6			27		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	801	701	776	740	678	875
Degree of Utilization, x	0.01	0.13	0.01	0.00	0.01	0.05

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.03	0.45	0.04	0.00	0.02	0.14
95th-Percentile Queue Length [ft]	0.66	11.13	0.98	0.00	0.56	3.59
Approach Delay [s/veh]	7.53	8.49		0.00	7.13	
Approach LOS	A	A		A	A	
Intersection Delay [s/veh]	8.04					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 104: Alameda & Los Angeles St (North)

Control Type:	Signalized	Delay (sec / veh):	27.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.649

Intersection Setup

Name	Alameda St											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Alameda St											
Base Volume Input [veh/h]	0	697	40	61	1115	329	100	56	20	111	60	42
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	697	40	61	1115	329	100	56	20	111	60	42
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	174	10	15	279	82	25	14	5	28	15	11
Total Analysis Volume [veh/h]	0	697	40	61	1115	329	100	56	20	111	60	42
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	230
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	171	0	0	171	0	0	59	0	0	59	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	C	L	C	C	R
C, Cycle Length [s]	230	230	230	230	230	230	230	230	230
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	167	167	167	167	167	55	55	55	55
g / C, Green / Cycle	0.73	0.73	0.73	0.73	0.73	0.24	0.24	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.22	0.03	0.09	0.44	0.45	0.04	0.20	0.15	0.03
s, saturation flow rate [veh/h]	3204	1431	673	1683	1554	1163	649	1147	1431
c, Capacity [veh/h]	2327	1039	463	1222	1129	144	177	300	342
d1, Uniform Delay [s]	11.03	8.88	16.28	15.44	15.73	97.90	95.16	78.10	68.59
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.33	0.07	0.59	2.25	2.58	6.16	22.40	7.65	0.74
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.30	0.04	0.13	0.61	0.62	0.33	0.72	0.57	0.12
d, Delay for Lane Group [s/veh]	11.36	8.95	16.86	17.69	18.31	104.06	117.56	85.75	69.32
Lane Group LOS	B	A	B	B	B	F	F	F	E
Critical Lane Group	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	6.62	0.62	1.42	20.18	19.50	2.99	8.70	9.83	2.05
50th-Percentile Queue Length [ft]	165.41	15.54	35.49	504.43	487.58	74.77	217.45	245.78	51.21
95th-Percentile Queue Length [veh]	10.83	1.12	2.56	27.54	26.75	5.38	13.53	14.97	3.69
95th-Percentile Queue Length [ft]	270.87	27.97	63.89	688.59	668.64	134.59	338.37	374.33	92.18

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	11.36	8.95	16.86	17.90	18.31	107.66	117.56	117.56	85.75	85.75	69.32
Movement LOS		B	A	B	B	B	F	F	F	F	F	E
d_A, Approach Delay [s/veh]		11.23			17.94			113.88			82.51	
Approach LOS		B			B			F			F	
d_I, Intersection Delay [s/veh]					27.71							
Intersection LOS					C							
Intersection V/C					0.649							

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	106.18	106.18	106.18	106.18
l_p,int, Pedestrian LOS Score for Intersection	2.889	3.000	2.168	2.352
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1452	1452	478	478
d_b, Bicycle Delay [s]	8.63	8.63	66.58	66.58
l_b,int, Bicycle LOS Score for Intersection	2.168	2.801	1.850	1.911
Bicycle LOS	B	C	A	A

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 106: Union Station Driveway & West Internal Circulation Road (North)

Control Type:	All-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.248

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	23	51	30	124	160	114
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	23	51	30	124	160	114
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	13	8	31	40	29
Total Analysis Volume [veh/h]	23	51	30	124	160	114
Pedestrian Volume [ped/h]	327		201		9	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	631	668	675	779	645	822
Degree of Utilization, x	0.06	0.06	0.04	0.16	0.25	0.14

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.19	0.18	0.14	0.56	0.97	0.48
95th-Percentile Queue Length [ft]	4.66	4.39	3.48	14.11	24.33	12.02
Approach Delay [s/veh]	8.59		8.21		9.14	
Approach LOS	A		A		A	
Intersection Delay [s/veh]	8.77					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 108: Union Station Driveway & MWD West Valet Parking Driveway

Control Type:	Two-way stop	Delay (sec / veh):	12.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	14	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	14	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	4	0	0	0
Total Analysis Volume [veh/h]	0	0	14	0	0	0
Pedestrian Volume [ped/h]	0		305		2	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.25	0.00	8.71	12.38
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh]	0.00	0.00	0.03	0.01	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.66	0.33	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		7.25		10.55	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	7.25					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 110: MWD East Driveway to Parking Garage

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	73	0	0	57	3	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	73	0	0	57	3	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	0	0	14	1	2
Total Analysis Volume [veh/h]	73	0	0	57	3	6
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	7.44	0.00	0.00	0.00	9.77	8.50
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.15	0.07	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft]	3.71	1.86	0.00	0.00	0.74	0.74
d_A, Approach Delay [s/veh]	7.44		0.00		8.92	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.49					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 111: MWD Truck Dock

Control Type:	Two-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	1	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	1	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	1	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.22	0.00	0.00	0.00	8.52	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.07	0.07
d_A, Approach Delay [s/veh]	3.61		0.00		8.52	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	8.52					
Intersection LOS	A					

J1559- LINK US MWD Analysis

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Report File: S:\...\08 FB PM.pdf

Scenario 2 Future Base 2031 PM
1/7/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
101	Union Station North Driveway & E Cesar Chavez	Signalized	HCM 6th Edition	NB Right	0.487	17.1	B
102	Union Station North Driveway & North Internal T-Intersectio	All-way stop	HCM 6th Edition	EB Left	0.335	9.8	A
103	Union Station North Driveway & South Internal T-Intersection	All-way stop	HCM 6th Edition	SB Left	0.123	7.5	A
104	Alameda & Los Angeles St (North)	Signalized	HCM 6th Edition	WB Left	0.125	83.3	F
106	Union Station Driveway & West Internal Circulation Road (North)	All-way stop	HCM 6th Edition	EB Left	0.360	9.9	A
108	Union Station Driveway & MWD West Valet Parking Driveway	Two-way stop	HCM 6th Edition	WB Right	0.000	12.2	B
110	MWD East Driveway to Parking Garage	Two-way stop	HCM 6th Edition	EB Left	0.065	9.2	A
111	MWD Truck Dock	Two-way stop	HCM 6th Edition	EB Left	0.000	8.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 101: Union Station North Driveway & E Cesar Chavez

Control Type:	Signalized	Delay (sec / veh):	17.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.487

Intersection Setup

Name	Union Station North Driveway				Cesar E Chavez Ave	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Union Station North Driveway				Cesar E Chavez Ave	
Base Volume Input [veh/h]	129	144	1163	87	66	1237
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	129	144	1163	87	66	1237
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	36	291	22	17	309
Total Analysis Volume [veh/h]	129	144	1163	87	66	1237
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	0	8	0	0	4
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	5	0	5	0	0	5
Maximum Green [s]	30	0	30	0	0	30
Amber [s]	3.0	0.0	3.0	0.0	0.0	3.0
All red [s]	1.0	0.0	1.0	0.0	0.0	1.0
Split [s]	37	0	203	0	0	203
Vehicle Extension [s]	3.0	0.0	3.0	0.0	0.0	3.0
Walk [s]	5	0	5	0	0	5
Pedestrian Clearance [s]	10	0	10	0	0	10
Rest In Walk	No		No			No
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	0.0	0.0	2.0
Minimum Recall	No		No			No
Maximum Recall	No		No			No
Pedestrian Recall	No		No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C	L	C
C, Cycle Length [s]	240	240	240	240	240	240
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	33	33	199	199	199	199
g / C, Green / Cycle	0.14	0.14	0.83	0.83	0.83	0.83
(v / s)_i Volume / Saturation Flow Rate	0.08	0.10	0.37	0.38	0.17	0.39
s, saturation flow rate [veh/h]	1603	1431	1683	1643	400	3204
c, Capacity [veh/h]	220	197	1395	1362	316	2657
d1, Uniform Delay [s]	97.08	99.26	5.57	5.65	11.60	5.70
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.89	21.26	1.04	1.12	1.49	0.59
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.59	0.73	0.45	0.46	0.21	0.47
d, Delay for Lane Group [s/veh]	107.97	120.52	6.61	6.77	13.09	6.29
Lane Group LOS	F	F	A	A	B	A
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh]	8.33	9.91	8.86	9.00	1.40	8.78
50th-Percentile Queue Length [ft]	208.22	247.66	221.49	225.05	35.01	219.62
95th-Percentile Queue Length [veh]	13.06	15.07	13.74	13.92	2.52	13.65
95th-Percentile Queue Length [ft]	326.55	376.71	343.52	348.07	63.01	341.14

Movement, Approach, & Intersection Results

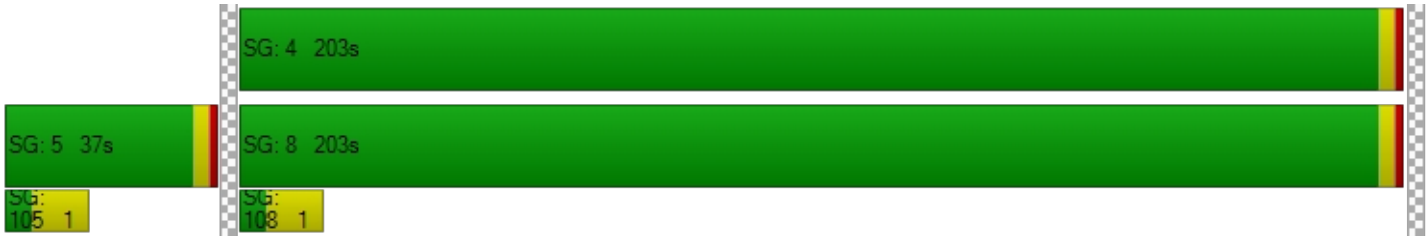
d_M, Delay for Movement [s/veh]	107.97	120.52	6.68	6.77	13.09	6.29
Movement LOS	F	F	A	A	B	A
d_A, Approach Delay [s/veh]	114.59		6.69		6.64	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	17.09					
Intersection LOS	B					
Intersection V/C	0.487					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	111.17	111.17
l_p,int, Pedestrian LOS Score for Intersection	2.375	2.815	2.855
Crosswalk LOS	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	120.00	120.00	120.00
l_b,int, Bicycle LOS Score for Intersection	4.132	5.164	5.207
Bicycle LOS	D	F	F

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 102: Union Station North Driveway & North Internal T-Intersection

Control Type:	All-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.335

Intersection Setup

Name				Un St								
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name				Un St								
Base Volume Input [veh/h]	21	103	0	10	34	86	213	0	11	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	103	0	10	34	86	213	0	11	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	26	0	3	9	22	53	0	3	0	0	0
Total Analysis Volume [veh/h]	21	103	0	10	34	86	213	0	11	0	0	0
Pedestrian Volume [ped/h]	3			21			64			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	693	661	777	635	806	653
Degree of Utilization, x	0.18	0.07	0.11	0.34	0.01	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.65	0.21	0.37	1.47	0.04	0.00
95th-Percentile Queue Length [ft]	16.20	5.34	9.29	36.82	1.04	0.00
Approach Delay [s/veh]	9.33	8.12		11.01		0.00
Approach LOS	A	A		B		A
Intersection Delay [s/veh]	9.79					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 103: Union Station North Driveway & South Internal T-Intersection

Control Type:	All-way stop	Delay (sec / veh):	7.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.123

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	1	6	1	30	12	0	1	1	1	1	0	112
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	6	1	30	12	0	1	1	1	1	0	112
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	0	8	3	0	0	0	0	0	0	28
Total Analysis Volume [veh/h]	1	6	1	30	12	0	1	1	1	1	0	112
Pedestrian Volume [ped/h]	11			0			9			20		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	754	682	754	777	697	908
Degree of Utilization, x	0.01	0.04	0.02	0.00	0.00	0.12

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.03	0.14	0.05	0.01	0.00	0.42
95th-Percentile Queue Length [ft]	0.80	3.45	1.21	0.29	0.11	10.50
Approach Delay [s/veh]	7.83	8.03		7.65	7.22	
Approach LOS	A	A		A	A	
Intersection Delay [s/veh]	7.47					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 104: Alameda & Los Angeles St (North)

Control Type:	Signalized	Delay (sec / veh):	83.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.125

Intersection Setup

Name	Alameda St											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Alameda St											
Base Volume Input [veh/h]	0	604	15	72	836	174	441	94	110	141	62	97
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	604	15	72	836	174	441	94	110	141	62	97
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	151	4	18	209	44	110	24	28	35	16	24
Total Analysis Volume [veh/h]	0	604	15	72	836	174	441	94	110	141	62	97
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	0	0	0	0	0	0	0	5	0
Maximum Green [s]	0	0	0	0	0	0	0	0	0	0	30	0
Amber [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	60	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	10	0
Rest In Walk											No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall											No	
Maximum Recall											No	
Pedestrian Recall											No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group				C	R
C, Cycle Length [s]				240	240
L, Total Lost Time per Cycle [s]				4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]				0.00	0.00
l2, Clearance Lost Time [s]				2.00	2.00
g_i, Effective Green Time [s]				56	56
g / C, Green / Cycle				0.23	0.23
(v / s)_i Volume / Saturation Flow Rate				0.12	0.07
s, saturation flow rate [veh/h]				1626	1431
c, Capacity [veh/h]				380	334
d1, Uniform Delay [s]				80.59	75.66
k, delay calibration				0.50	0.50
I, Upstream Filtering Factor				1.00	1.00
d2, Incremental Delay [s]				5.32	2.19
d3, Initial Queue Delay [s]				0.00	0.00
Rp, platoon ratio				1.00	1.00
PF, progression factor				1.00	1.00

Lane Group Results

X, volume / capacity				0.53	0.29
d, Delay for Lane Group [s/veh]				85.91	77.86
Lane Group LOS				F	E
Critical Lane Group				Yes	No
50th-Percentile Queue Length [veh]				11.75	5.22
50th-Percentile Queue Length [ft]				293.67	130.54
95th-Percentile Queue Length [veh]				17.37	8.97
95th-Percentile Queue Length [ft]				434.20	224.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	85.91	85.91	77.86
Movement LOS										F	F	E
d_A, Approach Delay [s/veh]	0.00			0.00			0.00			83.31		
Approach LOS	A			A			A			F		
d_I, Intersection Delay [s/veh]	83.31											
Intersection LOS	F											
Intersection V/C	0.125											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	111.17	120.00	120.00
l_p,int, Pedestrian LOS Score for Intersection	2.374	2.365	2.010	2.253
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0	467
d_b, Bicycle Delay [s]	120.00	120.00	120.00	70.53
l_b,int, Bicycle LOS Score for Intersection	1.560	1.560	1.560	2.055
Bicycle LOS	A	A	A	B

Intersection Level Of Service Report
Intersection 106: Union Station Driveway & West Internal Circulation Road (North)

Control Type:	All-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.360

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	83	77	36	131	222	48
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	83	77	36	131	222	48
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	19	9	33	56	12
Total Analysis Volume [veh/h]	83	77	36	131	222	48
Pedestrian Volume [ped/h]	246		645		5	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	600	654	652	748	616	775
Degree of Utilization, x	0.14	0.12	0.06	0.18	0.36	0.06

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.48	0.40	0.17	0.63	1.64	0.20
95th-Percentile Queue Length [ft]	11.97	9.95	4.37	15.81	40.90	4.94
Approach Delay [s/veh]	9.32		8.54		11.06	
Approach LOS	A		A		B	
Intersection Delay [s/veh]	9.89					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 108: Union Station Driveway & MWD West Valet Parking Driveway

Control Type:	Two-way stop	Delay (sec / veh):	12.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	2	8	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	2	8	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	2	0	0	0
Total Analysis Volume [veh/h]	0	2	8	0	0	0
Pedestrian Volume [ped/h]	0		296		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.23	0.00	8.62	12.17
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh]	0.00	0.00	0.01	0.01	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.37	0.19	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		7.23		10.40	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	5.79					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 110: MWD East Driveway to Parking Garage

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.065

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	8	0	0	3	65	87
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	0	0	3	65	87
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	0	1	16	22
Total Analysis Volume [veh/h]	8	0	0	3	65	87
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.07	0.08
d_M, Delay for Movement [s/veh]	7.24	0.00	0.00	0.00	9.22	8.92
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.01	0.01	0.00	0.00	0.51	0.51
95th-Percentile Queue Length [ft]	0.37	0.19	0.00	0.00	12.75	12.75
d_A, Approach Delay [s/veh]	7.24		0.00		9.04	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	8.79					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 111: MWD Truck Dock

Control Type:	Two-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.22	0.00	0.00	0.00	8.52	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	3.61		0.00		8.42	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.01					
Intersection LOS	A					

J1559- LINK US MWD Analysis

Vistro File: S:\...\Future.vistro
Report File: S:\...\09 FB Full AM.pdf

Scenario 3 FB 2031 (Fully Occupied) AM
1/7/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
101	Union Station North Driveway & E Cesar Chavez	Signalized	HCM 6th Edition	NB Left	0.507	12.8	B
102	Union Station North Driveway & North Internal T-Intersectio	All-way stop	HCM 6th Edition	EB Left	0.249	9.1	A
103	Union Station North Driveway & South Internal T-Intersection	All-way stop	HCM 6th Edition	SB Left	0.239	8.9	A
104	Alameda & Los Angeles St (North)	Signalized	HCM 6th Edition	EB Thru	0.645	28.7	C
106	Union Station Driveway & West Internal Circulation Road (North)	All-way stop	HCM 6th Edition	EB Left	0.255	8.8	A
108	Union Station Driveway & MWD West Valet Parking Driveway	Two-way stop	HCM 6th Edition	WB Right	0.000	12.4	B
110	MWD East Driveway to Parking Garage	Two-way stop	HCM 6th Edition	EB Left	0.006	10.2	B
111	MWD Truck Dock	Two-way stop	HCM 6th Edition	EB Left	0.001	8.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 101: Union Station North Driveway & E Cesar Chavez

Control Type:	Signalized	Delay (sec / veh):	12.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.507

Intersection Setup

Name	Union Station North Driveway				Cesar E Chavez Ave	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Union Station North Driveway				Cesar E Chavez Ave	
Base Volume Input [veh/h]	97	74	777	83	84	1430
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	97	74	777	83	84	1430
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	19	194	21	21	358
Total Analysis Volume [veh/h]	97	74	777	83	84	1430
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	0	8	0	0	4
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	5	0	5	0	0	5
Maximum Green [s]	30	0	30	0	0	30
Amber [s]	3.0	0.0	3.0	0.0	0.0	3.0
All red [s]	1.0	0.0	1.0	0.0	0.0	1.0
Split [s]	37	0	203	0	0	203
Vehicle Extension [s]	3.0	0.0	3.0	0.0	0.0	3.0
Walk [s]	5	0	5	0	0	5
Pedestrian Clearance [s]	10	0	10	0	0	10
Rest In Walk	No		No			No
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	0.0	0.0	2.0
Minimum Recall	No		No			No
Maximum Recall	No		No			No
Pedestrian Recall	No		No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C	L	C
C, Cycle Length [s]	240	240	240	240	240	240
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	33	33	199	199	199	199
g / C, Green / Cycle	0.14	0.14	0.83	0.83	0.83	0.83
(v / s)_i Volume / Saturation Flow Rate	0.06	0.05	0.26	0.26	0.15	0.45
s, saturation flow rate [veh/h]	1603	1431	1683	1628	578	3204
c, Capacity [veh/h]	220	197	1395	1350	469	2657
d1, Uniform Delay [s]	95.02	94.14	4.70	4.76	8.12	6.32
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.26	5.41	0.57	0.62	0.83	0.79
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.44	0.38	0.31	0.32	0.18	0.54
d, Delay for Lane Group [s/veh]	101.28	99.55	5.28	5.38	8.96	7.11
Lane Group LOS	F	F	A	A	A	A
Critical Lane Group	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh]	6.02	4.56	5.13	5.20	1.40	11.27
50th-Percentile Queue Length [ft]	150.56	113.95	128.36	130.09	35.03	281.79
95th-Percentile Queue Length [veh]	10.05	8.06	8.85	8.94	2.52	16.78
95th-Percentile Queue Length [ft]	251.18	201.48	221.26	223.61	63.05	419.44

Movement, Approach, & Intersection Results

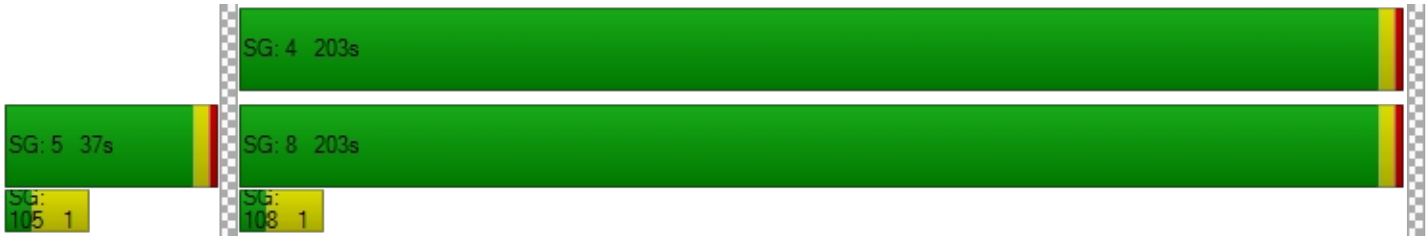
d_M, Delay for Movement [s/veh]	101.28	99.55	5.32	5.38	8.96	7.11
Movement LOS	F	F	A	A	A	A
d_A, Approach Delay [s/veh]	100.53		5.33		7.21	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	12.85					
Intersection LOS	B					
Intersection V/C	0.507					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	111.17	111.17
l_p,int, Pedestrian LOS Score for Intersection	2.379	2.759	2.807
Crosswalk LOS	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	120.00	120.00	120.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.842	5.381
Bicycle LOS	D	E	F

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 102: Union Station North Driveway & North Internal T-Intersection

Control Type:	All-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.249

Intersection Setup

Name				Un St								
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name				Un St								
Base Volume Input [veh/h]	14	39	0	3	165	75	156	0	22	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	39	0	3	165	75	156	0	22	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	10	0	1	41	19	39	0	6	0	0	0
Total Analysis Volume [veh/h]	14	39	0	3	165	75	156	0	22	0	0	0
Pedestrian Volume [ped/h]	1			24			30			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	694	703	771	627	792	654
Degree of Utilization, x	0.08	0.17	0.16	0.25	0.03	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.25	0.62	0.56	0.98	0.09	0.00
95th-Percentile Queue Length [ft]	6.18	15.53	13.95	24.46	2.14	0.00
Approach Delay [s/veh]	8.62	8.57		9.97		0.00
Approach LOS	A	A		A		A
Intersection Delay [s/veh]	9.10					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 103: Union Station North Driveway & South Internal T-Intersection

Control Type:	All-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.239

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	4	3	167	10	0	0	0	0	5	0	45
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	4	3	167	10	0	0	0	0	5	0	45
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	1	42	3	0	0	0	0	1	0	11
Total Analysis Volume [veh/h]	0	4	3	167	10	0	0	0	0	5	0	45
Pedestrian Volume [ped/h]	16			1			6			27		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	783	698	773	709	653	834
Degree of Utilization, x	0.01	0.24	0.01	0.00	0.01	0.05

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.03	0.93	0.04	0.00	0.02	0.17
95th-Percentile Queue Length [ft]	0.68	23.25	0.98	0.00	0.58	4.27
Approach Delay [s/veh]	7.64	9.35		0.00	7.36	
Approach LOS	A	A		A	A	
Intersection Delay [s/veh]	8.88					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 104: Alameda & Los Angeles St (North)

Control Type:	Signalized	Delay (sec / veh):	28.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.645

Intersection Setup

Name	Alameda St											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Alameda St											
Base Volume Input [veh/h]	0	697	40	61	1115	329	100	56	20	111	60	42
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	697	40	61	1115	329	100	56	20	111	60	42
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	174	10	15	279	82	25	14	5	28	15	11
Total Analysis Volume [veh/h]	0	697	40	61	1115	329	100	56	20	111	60	42
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	178	0	0	178	0	0	62	0	0	62	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	C	L	C	C	R
C, Cycle Length [s]	240	240	240	240	240	240	240	240	240
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	174	174	174	174	174	58	58	58	58
g / C, Green / Cycle	0.73	0.73	0.73	0.73	0.73	0.24	0.24	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.22	0.03	0.09	0.44	0.45	0.04	0.19	0.15	0.03
s, saturation flow rate [veh/h]	3204	1431	673	1683	1554	1163	658	1149	1431
c, Capacity [veh/h]	2323	1037	461	1220	1127	146	180	302	346
d1, Uniform Delay [s]	11.60	9.34	17.08	16.24	16.54	101.53	98.72	81.00	71.10
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.33	0.07	0.59	2.26	2.60	6.07	20.78	7.47	0.72
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.30	0.04	0.13	0.61	0.62	0.33	0.71	0.57	0.12
d, Delay for Lane Group [s/veh]	11.93	9.41	17.67	18.50	19.14	107.60	119.50	88.47	71.81
Lane Group LOS	B	A	B	B	B	F	F	F	E
Critical Lane Group	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	6.99	0.66	1.49	21.29	20.57	3.15	8.91	10.21	2.13
50th-Percentile Queue Length [ft]	174.69	16.39	37.29	532.17	514.30	78.84	222.64	255.37	53.29
95th-Percentile Queue Length [veh]	11.32	1.18	2.68	28.85	28.01	5.68	13.80	15.46	3.84
95th-Percentile Queue Length [ft]	283.07	29.51	67.12	721.33	700.26	141.91	344.99	386.41	95.93

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	11.93	9.41	17.67	18.71	19.14	110.72	119.50	119.50	88.47	88.47	71.81
Movement LOS		B	A	B	B	B	F	F	F	F	F	E
d_A, Approach Delay [s/veh]		11.79			18.76			116.20			85.19	
Approach LOS		B			B			F			F	
d_I, Intersection Delay [s/veh]						28.71						
Intersection LOS						C						
Intersection V/C						0.645						

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	111.17	111.17	111.17
l_p,int, Pedestrian LOS Score for Intersection	2.891	3.001	2.170	2.354
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1450	1450	483	483
d_b, Bicycle Delay [s]	9.08	9.08	69.01	69.01
l_b,int, Bicycle LOS Score for Intersection	2.168	2.801	1.850	1.911
Bicycle LOS	B	C	A	A

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 106: Union Station Driveway & West Internal Circulation Road (North)

Control Type:	All-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.255

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	24	52	31	127	164	117
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	24	52	31	127	164	117
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	13	8	32	41	29
Total Analysis Volume [veh/h]	24	52	31	127	164	117
Pedestrian Volume [ped/h]	327		201		9	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	627	664	672	775	643	819
Degree of Utilization, x	0.06	0.06	0.05	0.16	0.25	0.14

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.19	0.18	0.14	0.58	1.01	0.50
95th-Percentile Queue Length [ft]	4.82	4.54	3.62	14.60	25.23	12.43
Approach Delay [s/veh]	8.63		8.26		9.21	
Approach LOS	A		A		A	
Intersection Delay [s/veh]	8.83					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 108: Union Station Driveway & MWD West Valet Parking Driveway

Control Type:	Two-way stop	Delay (sec / veh):	12.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	14	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	14	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	4	0	0	0
Total Analysis Volume [veh/h]	0	0	14	0	0	0
Pedestrian Volume [ped/h]	0		305		2	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.25	0.00	8.71	12.38
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh]	0.00	0.00	0.03	0.01	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.66	0.33	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		7.25		10.55	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	7.25					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 110: MWD East Driveway to Parking Garage

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	95	0	0	74	4	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	95	0	0	74	4	8
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	0	0	19	1	2
Total Analysis Volume [veh/h]	95	0	0	74	4	8
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.00	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	7.52	0.00	0.00	0.00	10.24	8.56
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh]	0.20	0.10	0.00	0.00	0.04	0.04
95th-Percentile Queue Length [ft]	4.98	2.49	0.00	0.00	1.03	1.03
d_A, Approach Delay [s/veh]	7.52		0.00		9.12	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.55					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 111: MWD Truck Dock

Control Type:	Two-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	1	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	1	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	1	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.22	0.00	0.00	0.00	8.52	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.07	0.07
d_A, Approach Delay [s/veh]	3.61		0.00		8.52	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	8.52					
Intersection LOS	A					

J1559- LINK US MWD Analysis

Vistro File: S:\...\Future.vistro
Report File: S:\...\10 FB Full PM.pdf

Scenario 4 FB 2031 (Fully Occupied) PM
1/7/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
101	Union Station North Driveway & E Cesar Chavez	Signalized	HCM 6th Edition	NB Right	0.487	17.1	B
102	Union Station North Driveway & North Internal T-Intersectio	All-way stop	HCM 6th Edition	EB Left	0.359	10.5	B
103	Union Station North Driveway & South Internal T-Intersection	All-way stop	HCM 6th Edition	SB Left	0.221	7.9	A
104	Alameda & Los Angeles St (North)	Signalized	HCM 6th Edition	WB Left	0.125	83.3	F
106	Union Station Driveway & West Internal Circulation Road (North)	All-way stop	HCM 6th Edition	EB Left	0.372	10.0	B
108	Union Station Driveway & MWD West Valet Parking Driveway	Two-way stop	HCM 6th Edition	WB Right	0.000	12.2	B
110	MWD East Driveway to Parking Garage	Two-way stop	HCM 6th Edition	EB Left	0.086	9.5	A
111	MWD Truck Dock	Two-way stop	HCM 6th Edition	EB Left	0.000	8.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 101: Union Station North Driveway & E Cesar Chavez

Control Type:	Signalized	Delay (sec / veh):	17.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.487

Intersection Setup

Name	Union Station North Driveway				Cesar E Chavez Ave	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Union Station North Driveway				Cesar E Chavez Ave	
Base Volume Input [veh/h]	129	144	1163	87	66	1237
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	129	144	1163	87	66	1237
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	36	291	22	17	309
Total Analysis Volume [veh/h]	129	144	1163	87	66	1237
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	0	8	0	0	4
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	5	0	5	0	0	5
Maximum Green [s]	30	0	30	0	0	30
Amber [s]	3.0	0.0	3.0	0.0	0.0	3.0
All red [s]	1.0	0.0	1.0	0.0	0.0	1.0
Split [s]	37	0	203	0	0	203
Vehicle Extension [s]	3.0	0.0	3.0	0.0	0.0	3.0
Walk [s]	5	0	5	0	0	5
Pedestrian Clearance [s]	10	0	10	0	0	10
Rest In Walk	No		No			No
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	0.0	0.0	2.0
Minimum Recall	No		No			No
Maximum Recall	No		No			No
Pedestrian Recall	No		No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C	L	C
C, Cycle Length [s]	240	240	240	240	240	240
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	33	33	199	199	199	199
g / C, Green / Cycle	0.14	0.14	0.83	0.83	0.83	0.83
(v / s)_i Volume / Saturation Flow Rate	0.08	0.10	0.37	0.38	0.17	0.39
s, saturation flow rate [veh/h]	1603	1431	1683	1643	400	3204
c, Capacity [veh/h]	220	197	1395	1362	316	2657
d1, Uniform Delay [s]	97.08	99.26	5.57	5.65	11.60	5.70
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.89	21.26	1.04	1.12	1.49	0.59
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.59	0.73	0.45	0.46	0.21	0.47
d, Delay for Lane Group [s/veh]	107.97	120.52	6.61	6.77	13.09	6.29
Lane Group LOS	F	F	A	A	B	A
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh]	8.33	9.91	8.86	9.00	1.40	8.78
50th-Percentile Queue Length [ft]	208.22	247.66	221.49	225.05	35.01	219.62
95th-Percentile Queue Length [veh]	13.06	15.07	13.74	13.92	2.52	13.65
95th-Percentile Queue Length [ft]	326.55	376.71	343.52	348.07	63.01	341.14

Movement, Approach, & Intersection Results

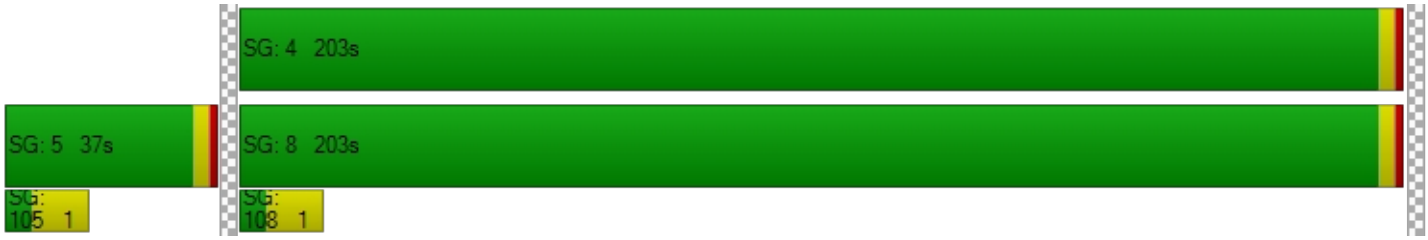
d_M, Delay for Movement [s/veh]	107.97	120.52	6.68	6.77	13.09	6.29
Movement LOS	F	F	A	A	B	A
d_A, Approach Delay [s/veh]	114.59		6.69		6.64	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	17.09					
Intersection LOS	B					
Intersection V/C	0.487					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	111.17	111.17
l_p,int, Pedestrian LOS Score for Intersection	2.375	2.815	2.855
Crosswalk LOS	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	120.00	120.00	120.00
l_b,int, Bicycle LOS Score for Intersection	4.132	5.164	5.207
Bicycle LOS	D	F	F

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 102: Union Station North Driveway & North Internal T-Intersection

Control Type:	All-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.359

Intersection Setup

Name				Un St								
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name				Un St								
Base Volume Input [veh/h]	22	191	0	10	39	88	218	0	11	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	191	0	10	39	88	218	0	11	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	48	0	3	10	22	55	0	3	0	0	0
Total Analysis Volume [veh/h]	22	191	0	10	39	88	218	0	11	0	0	0
Pedestrian Volume [ped/h]	3			21			64			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	687	645	753	608	763	618
Degree of Utilization, x	0.31	0.08	0.12	0.36	0.01	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.32	0.25	0.40	1.62	0.04	0.00
95th-Percentile Queue Length [ft]	32.97	6.15	9.88	40.59	1.10	0.00
Approach Delay [s/veh]	10.58	8.34		11.69		0.00
Approach LOS	B	A		B		A
Intersection Delay [s/veh]	10.49					
Intersection LOS	B					

Intersection Level Of Service Report

Intersection 103: Union Station North Driveway & South Internal T-Intersection

Control Type:	All-way stop	Delay (sec / veh):	7.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.221

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	1	6	1	35	12	0	1	1	1	1	0	200
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	6	1	35	12	0	1	1	1	1	0	200
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	0	9	3	0	0	0	0	0	0	50
Total Analysis Volume [veh/h]	1	6	1	35	12	0	1	1	1	1	0	200
Pedestrian Volume [ped/h]	11			0			9			20		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	722	657	724	760	695	904
Degree of Utilization, x	0.01	0.05	0.02	0.00	0.00	0.22

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.03	0.17	0.05	0.01	0.00	0.84
95th-Percentile Queue Length [ft]	0.84	4.21	1.26	0.30	0.11	21.11
Approach Delay [s/veh]	8.04	8.30		7.76	7.81	
Approach LOS	A	A		A	A	
Intersection Delay [s/veh]	7.91					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 104: Alameda & Los Angeles St (North)

Control Type:	Signalized	Delay (sec / veh):	83.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.125

Intersection Setup

Name	Alameda St											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Alameda St											
Base Volume Input [veh/h]	0	604	15	72	836	174	441	94	110	141	62	97
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	604	15	72	836	174	441	94	110	141	62	97
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	151	4	18	209	44	110	24	28	35	16	24
Total Analysis Volume [veh/h]	0	604	15	72	836	174	441	94	110	141	62	97
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	0	0	0	0	0	0	0	5	0
Maximum Green [s]	0	0	0	0	0	0	0	0	0	0	30	0
Amber [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	60	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	10	0
Rest In Walk											No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall											No	
Maximum Recall											No	
Pedestrian Recall											No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group				C	R
C, Cycle Length [s]				240	240
L, Total Lost Time per Cycle [s]				4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]				0.00	0.00
l2, Clearance Lost Time [s]				2.00	2.00
g_i, Effective Green Time [s]				56	56
g / C, Green / Cycle				0.23	0.23
(v / s)_i Volume / Saturation Flow Rate				0.12	0.07
s, saturation flow rate [veh/h]				1626	1431
c, Capacity [veh/h]				380	334
d1, Uniform Delay [s]				80.59	75.66
k, delay calibration				0.50	0.50
I, Upstream Filtering Factor				1.00	1.00
d2, Incremental Delay [s]				5.32	2.19
d3, Initial Queue Delay [s]				0.00	0.00
Rp, platoon ratio				1.00	1.00
PF, progression factor				1.00	1.00

Lane Group Results

X, volume / capacity				0.53	0.29
d, Delay for Lane Group [s/veh]				85.91	77.86
Lane Group LOS				F	E
Critical Lane Group				Yes	No
50th-Percentile Queue Length [veh]				11.75	5.22
50th-Percentile Queue Length [ft]				293.67	130.54
95th-Percentile Queue Length [veh]				17.37	8.97
95th-Percentile Queue Length [ft]				434.20	224.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	85.91	85.91	77.86
Movement LOS										F	F	E
d_A, Approach Delay [s/veh]	0.00			0.00			0.00			83.31		
Approach LOS	A			A			A			F		
d_I, Intersection Delay [s/veh]	83.31											
Intersection LOS	F											
Intersection V/C	0.125											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	111.17	120.00	120.00
l_p,int, Pedestrian LOS Score for Intersection	2.374	2.365	2.010	2.253
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0	467
d_b, Bicycle Delay [s]	120.00	120.00	120.00	70.53
l_b,int, Bicycle LOS Score for Intersection	1.560	1.560	1.560	2.055
Bicycle LOS	A	A	A	B

Intersection Level Of Service Report

Intersection 106: Union Station Driveway & West Internal Circulation Road (North)

Control Type:	All-way stop	Delay (sec / veh):	10.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.372

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	85	79	37	134	228	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	85	79	37	134	228	49
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	20	9	34	57	12
Total Analysis Volume [veh/h]	85	79	37	134	228	49
Pedestrian Volume [ped/h]	246		645		5	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	597	651	649	743	614	771
Degree of Utilization, x	0.14	0.12	0.06	0.18	0.37	0.06

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.49	0.41	0.18	0.65	1.71	0.20
95th-Percentile Queue Length [ft]	12.37	10.30	4.53	16.37	42.83	5.08
Approach Delay [s/veh]	9.38		8.61		11.23	
Approach LOS	A		A		B	
Intersection Delay [s/veh]	10.00					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 108: Union Station Driveway & MWD West Valet Parking Driveway

Control Type:	Two-way stop	Delay (sec / veh):	12.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	2	8	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	2	8	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	2	0	0	0
Total Analysis Volume [veh/h]	0	2	8	0	0	0
Pedestrian Volume [ped/h]	0		296		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.23	0.00	8.62	12.17
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh]	0.00	0.00	0.01	0.01	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.37	0.19	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		7.23		10.40	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	5.79					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 110: MWD East Driveway to Parking Garage

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.086

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	10	0	0	4	85	113
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	0	0	4	85	113
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	0	1	21	28
Total Analysis Volume [veh/h]	10	0	0	4	85	113
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.09	0.10
d_M, Delay for Movement [s/veh]	7.24	0.00	0.00	0.00	9.47	9.15
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.02	0.01	0.00	0.00	0.70	0.70
95th-Percentile Queue Length [ft]	0.47	0.23	0.00	0.00	17.56	17.56
d_A, Approach Delay [s/veh]	7.24		0.00		9.28	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	9.01					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 111: MWD Truck Dock

Control Type:	Two-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.22	0.00	0.00	0.00	8.52	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	3.61		0.00		8.42	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.01					
Intersection LOS	A					

J1559- LINK US MWD Analysis

Vistro File: S:\...\Future.vistro
Report File: S:\...\11 FP Full AM.pdf

Scenario 5 FP 2031 (Fully Occupied) AM
1/7/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
101	Union Station North Driveway & E Cesar Chavez	Signalized	HCM 6th Edition	NB Left	0.507	12.8	B
102	Union Station North Driveway & North Internal T-Intersectio	All-way stop	HCM 6th Edition	EB Left	0.255	9.0	A
103	Union Station North Driveway & South Internal T-Intersection	All-way stop	HCM 6th Edition	SB Left	0.133	8.1	A
104	Alameda & Los Angeles St (North)	Signalized	HCM 6th Edition	EB Thru	0.645	28.8	C
106	Union Station Driveway & West Internal Circulation Road (North)	All-way stop	HCM 6th Edition	EB Left	0.263	9.1	A
108	Union Station Driveway & MWD West Valet Parking Driveway	Two-way stop	HCM 6th Edition	WB Right	0.000	12.4	B
110	MWD East Driveway to Parking Garage	Two-way stop	HCM 6th Edition	EB Left	0.000	11.4	B
111	MWD Truck Dock	Two-way stop	HCM 6th Edition	EB Left	0.000	8.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 101: Union Station North Driveway & E Cesar Chavez

Control Type:	Signalized	Delay (sec / veh):	12.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.507

Intersection Setup

Name	Union Station North Driveway				Cesar E Chavez Ave	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Union Station North Driveway				Cesar E Chavez Ave	
Base Volume Input [veh/h]	97	74	777	83	84	1430
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	97	74	777	83	84	1430
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	19	194	21	21	358
Total Analysis Volume [veh/h]	97	74	777	83	84	1430
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	0	8	0	0	4
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	5	0	5	0	0	5
Maximum Green [s]	30	0	30	0	0	30
Amber [s]	3.0	0.0	3.0	0.0	0.0	3.0
All red [s]	1.0	0.0	1.0	0.0	0.0	1.0
Split [s]	37	0	203	0	0	203
Vehicle Extension [s]	3.0	0.0	3.0	0.0	0.0	3.0
Walk [s]	5	0	5	0	0	5
Pedestrian Clearance [s]	10	0	10	0	0	10
Rest In Walk	No		No			No
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	0.0	0.0	2.0
Minimum Recall	No		No			No
Maximum Recall	No		No			No
Pedestrian Recall	No		No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C	L	C
C, Cycle Length [s]	240	240	240	240	240	240
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	33	33	199	199	199	199
g / C, Green / Cycle	0.14	0.14	0.83	0.83	0.83	0.83
(v / s)_i Volume / Saturation Flow Rate	0.06	0.05	0.26	0.26	0.15	0.45
s, saturation flow rate [veh/h]	1603	1431	1683	1628	578	3204
c, Capacity [veh/h]	220	197	1395	1350	469	2657
d1, Uniform Delay [s]	95.02	94.14	4.70	4.76	8.12	6.32
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.26	5.41	0.57	0.62	0.83	0.79
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.44	0.38	0.31	0.32	0.18	0.54
d, Delay for Lane Group [s/veh]	101.28	99.55	5.28	5.38	8.96	7.11
Lane Group LOS	F	F	A	A	A	A
Critical Lane Group	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh]	6.02	4.56	5.13	5.20	1.40	11.27
50th-Percentile Queue Length [ft]	150.56	113.95	128.36	130.09	35.03	281.79
95th-Percentile Queue Length [veh]	10.05	8.06	8.85	8.94	2.52	16.78
95th-Percentile Queue Length [ft]	251.18	201.48	221.26	223.61	63.05	419.44

Movement, Approach, & Intersection Results

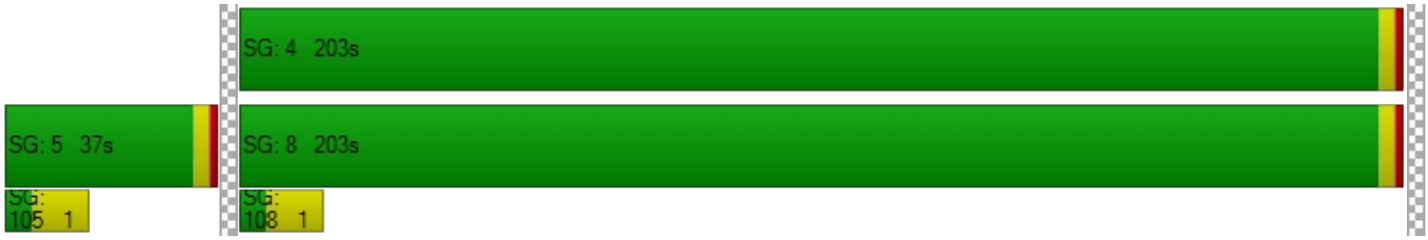
d_M, Delay for Movement [s/veh]	101.28	99.55	5.32	5.38	8.96	7.11
Movement LOS	F	F	A	A	A	A
d_A, Approach Delay [s/veh]	100.53		5.33		7.21	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	12.85					
Intersection LOS	B					
Intersection V/C	0.507					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	111.17	111.17
l_p,int, Pedestrian LOS Score for Intersection	2.379	2.759	2.807
Crosswalk LOS	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	120.00	120.00	120.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.842	5.381
Bicycle LOS	D	E	F

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 102: Union Station North Driveway & North Internal T-Intersection

Control Type:	All-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.255

Intersection Setup

Name				Un St								
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name				Un St								
Base Volume Input [veh/h]	14	34	0	3	91	149	161	0	22	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	34	0	3	91	149	161	0	22	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	9	0	1	23	37	40	0	6	0	0	0
Total Analysis Volume [veh/h]	14	34	0	3	91	149	161	0	22	0	0	0
Pedestrian Volume [ped/h]	1			24			30			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	693	702	816	630	798	658
Degree of Utilization, x	0.07	0.13	0.18	0.26	0.03	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.22	0.46	0.66	1.01	0.08	0.00
95th-Percentile Queue Length [ft]	5.57	11.53	16.62	25.29	2.12	0.00
Approach Delay [s/veh]	8.58	8.30		10.00		0.00
Approach LOS	A	A		A		A
Intersection Delay [s/veh]	8.98					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 103: Union Station North Driveway & South Internal T-Intersection

Control Type:	All-way stop	Delay (sec / veh):	8.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.133

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	4	3	93	10	0	0	0	0	5	0	41
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	4	3	93	10	0	0	0	0	5	0	41
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	1	23	3	0	0	0	0	1	0	10
Total Analysis Volume [veh/h]	0	4	3	93	10	0	0	0	0	5	0	41
Pedestrian Volume [ped/h]	16			1			6			27		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	800	700	776	739	677	874
Degree of Utilization, x	0.01	0.13	0.01	0.00	0.01	0.05

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.03	0.46	0.04	0.00	0.02	0.15
95th-Percentile Queue Length [ft]	0.66	11.42	0.98	0.00	0.56	3.69
Approach Delay [s/veh]	7.54	8.51		0.00	7.13	
Approach LOS	A	A		A	A	
Intersection Delay [s/veh]	8.06					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 104: Alameda & Los Angeles St (North)

Control Type:	Signalized	Delay (sec / veh):	28.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.645

Intersection Setup

Name	Alameda St											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Alameda St											
Base Volume Input [veh/h]	0	697	27	61	1115	329	100	56	20	111	60	42
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	697	27	61	1115	329	100	56	20	111	60	42
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	174	7	15	279	82	25	14	5	28	15	11
Total Analysis Volume [veh/h]	0	697	27	61	1115	329	100	56	20	111	60	42
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	178	0	0	178	0	0	62	0	0	62	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	L	C	C	L	C	C	R
C, Cycle Length [s]	240	240	240	240	240	240	240	240	240
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	174	174	174	174	174	58	58	58	58
g / C, Green / Cycle	0.73	0.73	0.73	0.73	0.73	0.24	0.24	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.22	0.02	0.09	0.44	0.45	0.04	0.19	0.15	0.03
s, saturation flow rate [veh/h]	3204	1431	673	1683	1554	1163	658	1149	1431
c, Capacity [veh/h]	2323	1037	461	1220	1127	146	180	302	346
d1, Uniform Delay [s]	11.60	9.25	17.08	16.24	16.54	101.53	98.72	81.00	71.10
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.33	0.05	0.59	2.26	2.60	6.07	20.78	7.47	0.72
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.30	0.03	0.13	0.61	0.62	0.33	0.71	0.57	0.12
d, Delay for Lane Group [s/veh]	11.93	9.30	17.67	18.50	19.14	107.60	119.50	88.47	71.81
Lane Group LOS	B	A	B	B	B	F	F	F	E
Critical Lane Group	No	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	6.99	0.44	1.49	21.29	20.57	3.15	8.91	10.21	2.13
50th-Percentile Queue Length [ft]	174.69	10.96	37.29	532.17	514.30	78.84	222.64	255.37	53.29
95th-Percentile Queue Length [veh]	11.32	0.79	2.68	28.85	28.01	5.68	13.80	15.46	3.84
95th-Percentile Queue Length [ft]	283.07	19.73	67.12	721.33	700.26	141.91	344.99	386.41	95.93

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	11.93	9.30	17.67	18.71	19.14	110.72	119.50	119.50	88.47	88.47	71.81
Movement LOS		B	A	B	B	B	F	F	F	F	F	E
d_A, Approach Delay [s/veh]		11.83			18.76			116.20			85.19	
Approach LOS		B			B			F			F	
d_I, Intersection Delay [s/veh]						28.80						
Intersection LOS						C						
Intersection V/C						0.645						

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	111.17	111.17	111.17
l_p,int, Pedestrian LOS Score for Intersection	2.888	3.001	2.170	2.351
Crosswalk LOS	C	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1450	1450	483	483
d_b, Bicycle Delay [s]	9.08	9.08	69.01	69.01
l_b,int, Bicycle LOS Score for Intersection	2.157	2.801	1.850	1.911
Bicycle LOS	B	C	A	A

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report

Intersection 106: Union Station Driveway & West Internal Circulation Road (North)

Control Type:	All-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.263

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	24	57	105	127	164	117
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	24	57	105	127	164	117
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	14	26	32	41	29
Total Analysis Volume [veh/h]	24	57	105	127	164	117
Pedestrian Volume [ped/h]	327		201		9	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	618	651	669	770	623	785
Degree of Utilization, x	0.07	0.06	0.16	0.17	0.26	0.15

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.21	0.20	0.55	0.59	1.05	0.52
95th-Percentile Queue Length [ft]	5.25	4.96	13.86	14.71	26.35	13.06
Approach Delay [s/veh]	8.77		8.65		9.52	
Approach LOS	A		A		A	
Intersection Delay [s/veh]	9.08					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 108: Union Station Driveway & MWD West Valet Parking Driveway

Control Type:	Two-way stop	Delay (sec / veh):	12.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	14	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	14	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	4	0	0	0
Total Analysis Volume [veh/h]	0	0	14	0	0	0
Pedestrian Volume [ped/h]	0		305		2	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.25	0.00	8.71	12.38
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh]	0.00	0.00	0.03	0.01	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.66	0.33	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		7.25		10.55	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	7.25					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 110: MWD East Driveway to Parking Garage

Control Type:	Two-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	169	0	0	0	0	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	169	0	0	0	0	12
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	0	0	0	0	3
Total Analysis Volume [veh/h]	169	0	0	0	0	12
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	7.48	0.00	0.00	0.00	11.40	8.36
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh]	0.35	0.17	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft]	8.71	4.35	0.00	0.00	0.84	0.84
d_A, Approach Delay [s/veh]	7.48		0.00		8.36	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	7.54					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 111: MWD Truck Dock

Control Type:	Two-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.22	0.00	0.00	0.00	8.52	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.07	0.07
d_A, Approach Delay [s/veh]	3.61		0.00		8.32	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	8.32					
Intersection LOS	A					

J1559- LINK US MWD Analysis

Vistro File: S:\...\Future.vistro
Report File: S:\...\12 FP Full PM.pdf

Scenario 6 FP 2031 (Fully Occupied) PM
1/7/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
101	Union Station North Driveway & E Cesar Chavez	Signalized	HCM 6th Edition	NB Right	0.487	17.1	B
102	Union Station North Driveway & North Internal T-Intersectio	All-way stop	HCM 6th Edition	EB Left	0.482	11.5	B
103	Union Station North Driveway & South Internal T-Intersection	All-way stop	HCM 6th Edition	SB Left	0.127	7.5	A
104	Alameda & Los Angeles St (North)	Signalized	HCM 6th Edition	WB Left	0.125	83.3	F
106	Union Station Driveway & West Internal Circulation Road (North)	All-way stop	HCM 6th Edition	EB Left	0.385	10.3	B
108	Union Station Driveway & MWD West Valet Parking Driveway	Two-way stop	HCM 6th Edition	WB Right	0.000	12.2	B
110	MWD East Driveway to Parking Garage	Two-way stop	HCM 6th Edition	EB Left	0.000	9.4	A
111	MWD Truck Dock	Two-way stop	HCM 6th Edition	EB Left	0.000	8.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 101: Union Station North Driveway & E Cesar Chavez

Control Type:	Signalized	Delay (sec / veh):	17.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.487

Intersection Setup

Name	Union Station North Driveway				Cesar E Chavez Ave	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Union Station North Driveway				Cesar E Chavez Ave	
Base Volume Input [veh/h]	129	144	1163	87	66	1237
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	129	144	1163	87	66	1237
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	36	291	22	17	309
Total Analysis Volume [veh/h]	129	144	1163	87	66	1237
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	0	8	0	0	4
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	5	0	5	0	0	5
Maximum Green [s]	30	0	30	0	0	30
Amber [s]	3.0	0.0	3.0	0.0	0.0	3.0
All red [s]	1.0	0.0	1.0	0.0	0.0	1.0
Split [s]	37	0	203	0	0	203
Vehicle Extension [s]	3.0	0.0	3.0	0.0	0.0	3.0
Walk [s]	5	0	5	0	0	5
Pedestrian Clearance [s]	10	0	10	0	0	10
Rest In Walk	No		No			No
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	0.0	0.0	2.0
Minimum Recall	No		No			No
Maximum Recall	No		No			No
Pedestrian Recall	No		No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C	L	C
C, Cycle Length [s]	240	240	240	240	240	240
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	33	33	199	199	199	199
g / C, Green / Cycle	0.14	0.14	0.83	0.83	0.83	0.83
(v / s)_i Volume / Saturation Flow Rate	0.08	0.10	0.37	0.38	0.17	0.39
s, saturation flow rate [veh/h]	1603	1431	1683	1643	400	3204
c, Capacity [veh/h]	220	197	1395	1362	316	2657
d1, Uniform Delay [s]	97.08	99.26	5.57	5.65	11.60	5.70
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.89	21.26	1.04	1.12	1.49	0.59
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.59	0.73	0.45	0.46	0.21	0.47
d, Delay for Lane Group [s/veh]	107.97	120.52	6.61	6.77	13.09	6.29
Lane Group LOS	F	F	A	A	B	A
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh]	8.33	9.91	8.86	9.00	1.40	8.78
50th-Percentile Queue Length [ft]	208.22	247.66	221.49	225.05	35.01	219.62
95th-Percentile Queue Length [veh]	13.06	15.07	13.74	13.92	2.52	13.65
95th-Percentile Queue Length [ft]	326.55	376.71	343.52	348.07	63.01	341.14

Movement, Approach, & Intersection Results

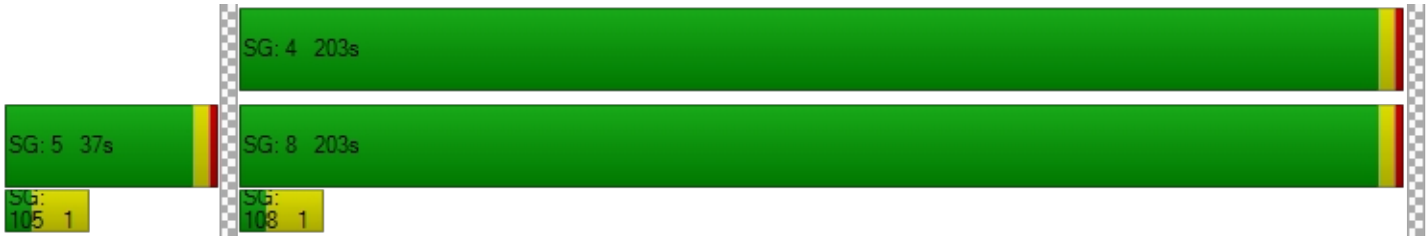
d_M, Delay for Movement [s/veh]	107.97	120.52	6.68	6.77	13.09	6.29
Movement LOS	F	F	A	A	B	A
d_A, Approach Delay [s/veh]	114.59		6.69		6.64	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	17.09					
Intersection LOS	B					
Intersection V/C	0.487					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	111.17	111.17
l_p,int, Pedestrian LOS Score for Intersection	2.375	2.815	2.855
Crosswalk LOS	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	120.00	120.00	120.00
l_b,int, Bicycle LOS Score for Intersection	4.132	5.164	5.207
Bicycle LOS	D	F	F

Sequence

Ring 1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 102: Union Station North Driveway & North Internal T-Intersection

Control Type:	All-way stop	Delay (sec / veh):	11.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.482

Intersection Setup

Name				Un St								
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name				Un St								
Base Volume Input [veh/h]	22	106	0	10	35	92	303	0	11	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	106	0	10	35	92	303	0	11	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	27	0	3	9	23	76	0	3	0	0	0
Total Analysis Volume [veh/h]	22	106	0	10	35	92	303	0	11	0	0	0
Pedestrian Volume [ped/h]	3			21			64			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	654	626	730	628	795	629
Degree of Utilization, x	0.20	0.07	0.13	0.48	0.01	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.72	0.23	0.43	2.63	0.04	0.00
95th-Percentile Queue Length [ft]	18.06	5.79	10.77	65.65	1.05	0.00
Approach Delay [s/veh]	9.84	8.53		13.43		0.00
Approach LOS	A	A		B		A
Intersection Delay [s/veh]	11.48					
Intersection LOS	B					

Intersection Level Of Service Report

Intersection 103: Union Station North Driveway & South Internal T-Intersection

Control Type:	All-way stop	Delay (sec / veh):	7.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.127

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	1	6	1	31	12	0	1	1	1	1	0	115
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	6	1	31	12	0	1	1	1	1	0	115
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	0	8	3	0	0	0	0	0	0	29
Total Analysis Volume [veh/h]	1	6	1	31	12	0	1	1	1	1	0	115
Pedestrian Volume [ped/h]	11			0			9			20		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	752	681	752	776	697	908
Degree of Utilization, x	0.01	0.05	0.02	0.00	0.00	0.13

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.03	0.14	0.05	0.01	0.00	0.43
95th-Percentile Queue Length [ft]	0.81	3.57	1.22	0.29	0.11	10.83
Approach Delay [s/veh]	7.84	8.05		7.66	7.25	
Approach LOS	A	A		A	A	
Intersection Delay [s/veh]	7.48					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 104: Alameda & Los Angeles St (North)

Control Type:	Signalized	Delay (sec / veh):	83.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.125

Intersection Setup

Name	Alameda St											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Alameda St											
Base Volume Input [veh/h]	0	604	15	72	836	174	441	94	110	141	62	97
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	604	15	72	836	174	441	94	110	141	62	97
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	151	4	18	209	44	110	24	28	35	16	24
Total Analysis Volume [veh/h]	0	604	15	72	836	174	441	94	110	141	62	97
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	0	0	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	0	0	0	0	0	0	0	0	0	5	0
Maximum Green [s]	0	0	0	0	0	0	0	0	0	0	30	0
Amber [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
All red [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	60	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	0	0	0	10	0
Rest In Walk											No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Minimum Recall											No	
Maximum Recall											No	
Pedestrian Recall											No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group				C	R
C, Cycle Length [s]				240	240
L, Total Lost Time per Cycle [s]				4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]				0.00	0.00
l2, Clearance Lost Time [s]				2.00	2.00
g_i, Effective Green Time [s]				56	56
g / C, Green / Cycle				0.23	0.23
(v / s)_i Volume / Saturation Flow Rate				0.12	0.07
s, saturation flow rate [veh/h]				1626	1431
c, Capacity [veh/h]				380	334
d1, Uniform Delay [s]				80.59	75.66
k, delay calibration				0.50	0.50
I, Upstream Filtering Factor				1.00	1.00
d2, Incremental Delay [s]				5.32	2.19
d3, Initial Queue Delay [s]				0.00	0.00
Rp, platoon ratio				1.00	1.00
PF, progression factor				1.00	1.00

Lane Group Results

X, volume / capacity				0.53	0.29
d, Delay for Lane Group [s/veh]				85.91	77.86
Lane Group LOS				F	E
Critical Lane Group				Yes	No
50th-Percentile Queue Length [veh]				11.75	5.22
50th-Percentile Queue Length [ft]				293.67	130.54
95th-Percentile Queue Length [veh]				17.37	8.97
95th-Percentile Queue Length [ft]				434.20	224.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	85.91	85.91	77.86
Movement LOS										F	F	E
d_A, Approach Delay [s/veh]	0.00			0.00			0.00			83.31		
Approach LOS	A			A			A			F		
d_I, Intersection Delay [s/veh]	83.31											
Intersection LOS	F											
Intersection V/C	0.125											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	111.17	120.00	120.00
l_p,int, Pedestrian LOS Score for Intersection	2.374	2.365	2.010	2.253
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0	467
d_b, Bicycle Delay [s]	120.00	120.00	120.00	70.53
l_b,int, Bicycle LOS Score for Intersection	1.560	1.560	1.560	2.055
Bicycle LOS	A	A	A	B

Intersection Level Of Service Report

Intersection 106: Union Station Driveway & West Internal Circulation Road (North)

Control Type:	All-way stop	Delay (sec / veh):	10.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.385

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	85	164	41	134	228	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	85	164	41	134	228	49
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	41	10	34	57	12
Total Analysis Volume [veh/h]	85	164	41	134	228	49
Pedestrian Volume [ped/h]	246		645		5	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	608	646	633	723	592	737
Degree of Utilization, x	0.20	0.19	0.06	0.19	0.39	0.07

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.76	0.71	0.21	0.68	1.81	0.21
95th-Percentile Queue Length [ft]	19.05	17.71	5.18	16.92	45.21	5.33
Approach Delay [s/veh]	9.86		8.81		11.73	
Approach LOS	A		A		B	
Intersection Delay [s/veh]	10.34					
Intersection LOS	B					

Intersection Level Of Service Report

Intersection 108: Union Station Driveway & MWD West Valet Parking Driveway

Control Type:	Two-way stop	Delay (sec / veh):	12.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	2	8	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	2	8	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	2	0	0	0
Total Analysis Volume [veh/h]	0	2	8	0	0	0
Pedestrian Volume [ped/h]	0		296		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.23	0.00	8.62	12.17
Movement LOS	A	A	A	A	A	B
95th-Percentile Queue Length [veh]	0.00	0.00	0.01	0.01	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.37	0.19	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		7.23		10.40	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	5.79					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 110: MWD East Driveway to Parking Garage

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	14	0	0	0	0	198
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	14	0	0	0	0	198
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	0	0	0	50
Total Analysis Volume [veh/h]	14	0	0	0	0	198
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.18
d_M, Delay for Movement [s/veh]	7.24	0.00	0.00	0.00	9.43	9.06
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.03	0.01	0.00	0.00	0.67	0.67
95th-Percentile Queue Length [ft]	0.65	0.33	0.00	0.00	16.65	16.65
d_A, Approach Delay [s/veh]	7.24		0.00		9.06	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	8.94					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 111: MWD Truck Dock

Control Type:	Two-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.22	0.00	0.00	0.00	8.52	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	3.61		0.00		8.42	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.01					
Intersection LOS	A					

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Appendix O:
Technical Memorandum: Anticipated Traffic Condition Changes Using Year 2015 or Post-Pandemic New Traffic Counts

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Technical Memorandum

Date: Wednesday, May 24, 2023

Project: Link Union Station (Link US) Project

Subject: **Anticipated Traffic Condition Changes using Year 2015 or Post-Pandemic New Traffic Counts**

The purpose of this memorandum is to document the potential traffic condition changes and resulting conclusions under the Build conditions for the Link Union Station Project (Project) if a new set of post-pandemic traffic counts, instead of the year 2015 traffic counts, will be conducted and applied to the Project.

In the administrative draft Environmental Impact Statement/Supplemental Environmental Impact Report (EIS/SEIR), the existing traffic analysis year is year 2016 when the Notice of Intent (NOI) was released. The Traffic Impact Assessment (TIA) has begun in 2015. Majority of the traffic counts were conducted in year 2015. The TIA has proposed mitigation measure LU-1 to enhance neighborhood connectivity.

Anticipated Traffic Condition Changes within Project Limits

The data used to conduct the analysis in the TIA was from 2015 which was before the impacts of the pandemic on the transportation system and travel behavior. At one of the study intersections, Vignes Street and 1st Street, November 2015 traffic count data were extracted from the TIA. In the meantime, the raw traffic count data conducted in November 2014 (pre-pandemic) and May 2022 (post-pandemic) were also extracted from the Los Angeles County NavigateLA program which uses the Los Angeles Department of Transportation (LADOT) traffic data. Table 1 illustrates the total traffic volumes approaching the intersection during the AM and PM peak periods (3 hours in each peak period). As shown in the table, the differences of the intersection total volumes in years 2014 and 2015 are within 8% ranges during the AM and PM peak periods. Compared to the year 2015 traffic counts, the year 2022 traffic counts contain less traffic trips, 15% and 7% less during the AM and PM peak periods respectively. Detailed raw traffic counts are contained in Appendix A.

As assumed in the *Link US Traffic Impact Analysis – Proposed Closures of US-101 During Construction, HDR, Oct 2020*, the volumes along major arterials were reduced by approximately 35-40 percent due to the pandemic lockdown when compared to the pre-pandemic volume levels. It will take some time in the post-pandemic to get the volume levels up to the pre-pandemic era. The raw traffic counts at the intersection of Vignes Street and 1st Street demonstrate this statement. Hence, the volumes in the TIA would be a conservative estimate of the analysis and the impacts on the intersections would be the worst-case scenario.

Table 1. Comparisons of Intersection Traffic Count Volumes under Years 2014, 2015, and 2022 at Vignes Street and 1st Street

Count Date& Resource	Intersection Traffic Volumes		Change% Compared to 2015 Counts	
	AM Peak Periods	PM Peak Periods	AM Peak Periods	PM Peak Periods
Nov 5, 2015, Thursday Counts extracted from Link US Project Traffic Impact Assessment Report, March 2023	3,769	3,832	--	--
Nov 6, 2014, Thursday Counts extracted from NavigateLA	3,482	3,947	-7.61%	3.00%
May 25, 2022 Wednesday Counts extracted from NavigateLA	3,191	3,573	-15.34%	-6.76%

The traffic effect of the Project depends on the increased Project trips to be added to the local area within the Project limits. Although the Project generated trips remain the same and the traffic data used in the analysis were conservative, the travel patterns for the local areas within the Project limits might change due to the pandemic effects. Therefore, the adverse effects might occur at different local intersections if the new set of traffic counts will be applied to the study intersections. Consequently, the intersections requiring mitigation might vary if a new set of traffic counts would be applied. However, consistent with LADOT Guidelines, recommendation of Mitigation Measure LU-1 would remain. Mitigation Measure LU-1 includes provisions for new active transportation infrastructure south of Los Angeles Union Station (LAUS) to improve neighborhood connectivity, reduce vehicular travel, and encourage the use of non-motorized travel in the Project study area. These active transportation improvements would mitigate the adverse operational effects identified at the various local intersections pursuant to LADOT Guidelines.

During construction, the construction-related trips to be added to the local roads remain the same with either of the year 2015 traffic count or the post-pandemic new traffic count data. Similarly, the travel patterns for the local areas within the Project limits might change due to the pandemic effects. Therefore, the adverse effects might occur at different local intersections if the new set of traffic counts will be applied to the study intersections. However, a traffic demand management program and a comprehensive construction transportation management plan would be prepared to minimize potential adverse construction-related transportation effect at these intersections.

Anticipated Regional Traffic Condition Changes

Senate Bill 743 (SB 743) was approved in 2013 and the Office of Planning and Research (OPR) published a revised Technical Advisory in April 2018 which identified Vehicle Miles Traveled (VMT) as the primary metric for evaluating transportation impacts. Metro prepared a California

Environmental Quality Act (CEQA) Addendum in 2021 to address the latest traffic impact analysis requirements of SB 743.

The Southern California Association of Governments (SCAG) 2016 Regional Transportation Plan/ Sustainable Communities Strategy (RTP/SCS) model was used for the Project's analysis. This existing travel demand model is a trip-based model and has been used to define and evaluate the 2016-2040 RTP/SCS. The newer SCAG 2020 RTP/SCS model is an activity-based model (ABM) and has adopted the 2020-2045 RTP/SCS network. Compared to the 2020-2045 RTP/SCS model, the SCAG 2016 RTP/SCS model generates higher VMT, which would provide more conservative estimates on VMT effects.

Based on the results of the *Final Traffic Impact Assessment with Vehicle Miles Traveled Analysis, HDR, Oct 2021*, no operational related adverse effects would occur. The Project is consistent with SCAG RTP/SCS and would not change the existing land use of LAUS resulting in no cumulative VMT impacts or unmitigated significant VMT impacts.

Conclusion

Based on above discussions, the regional traffic conditions are not expected to be affected by the application of either the year 2015 traffic counts or the new post-pandemic traffic counts. Although construction and operational-related traffic delay may cause unsatisfactory LOS at some local intersections, the regional traffic conditions are not expected to be affected by the application of either the year 2015 traffic counts or post-pandemic traffic counts. Furthermore, a traffic demand management program as well as a comprehensive construction transportation management plan, and Mitigation Measure LU-1 would both remain applicable to reduce any potential adverse construction and operational-related effects pursuant to LADOT Guidelines, respectively.

Appendix A - LADOT Raw Traffic Counts

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South N Vignes St

East/West E 1st St

Day: Thursday Date: November 5, 2015 Weather: SUNNY

Hours: 6-9 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	26	21	56	77
BIKES	21	15	39	66
BUSES	0	10	8	19

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	22	7.45	30	8.30	48	8.15	310	6.45
PM PK 15 MIN	92	17.45	40	17.30	194	17.15	120	17.15
AM PK HOUR	78	7.45	91	7.45	153	6.45	1105	6.45
PM PK HOUR	306	17.00	144	16.45	665	17.00	449	16.45

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	2	15	16	33
7-8	5	17	39	61
8-9	6	29	43	78
15-16	10	26	66	102
16-17	5	33	116	154
17-18	6	76	224	306
TOTAL	34	196	504	734

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	11	19	12	42
7-8	30	28	24	82
8-9	32	34	23	89
15-16	63	27	22	112
16-17	79	21	34	134
17-18	79	27	29	135
TOTAL	294	156	144	594

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
75	4	0	11	1
143	3	0	5	1
167	5	0	13	0
214	10	0	11	0
288	14	2	4	0
441	6	0	18	2
1328	42	2	62	4

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	23	77	11	111
7-8	25	117	11	153
8-9	29	100	8	137
15-16	38	385	36	459
16-17	58	539	46	643
17-18	69	574	22	665
TOTAL	242	1792	134	2168

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
6-7	93	544	253	890
7-8	184	505	349	1038
8-9	222	481	352	1055
15-16	58	211	41	310
16-17	67	248	49	364
17-18	77	302	69	448
TOTAL	701	2291	1113	4105

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
1001	9	0	0	0
1191	11	0	0	0
1192	11	2	0	0
769	19	0	1	0
1007	12	4	0	0
1113	23	3	0	0
6273	85	9	1	0

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Vignes St

East/West 1st St

Day: Thursday Date: November 6, 2014 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	8	18	34	60
BIKES	10	18	40	59
BUSES	3	16	14	33

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	23	9.15	30	9.15	43	7.15	297	7.00
PM PK 15 MIN	51	17.30	44	17.00	231	17.00	128	17.45
AM PK HOUR	71	8.45	100	8.45	139	7.00	1047	7.00
PM PK HOUR	180	16.45	147	16.15	872	16.30	440	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	5	19	24	48
8-9	3	24	28	55
9-10	6	26	38	70
15-16	4	19	59	82
16-17	4	23	100	127
17-18	8	41	126	175
TOTAL	30	152	375	557

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	26	17	21	64
8-9	29	26	30	85
9-10	36	39	24	99
15-16	64	23	19	106
16-17	61	25	39	125
17-18	62	26	32	120
TOTAL	278	156	165	599

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
112	8	0	10	0
140	8	0	9	0
169	9	0	8	0
188	16	0	9	0
252	20	0	13	0
295	13	0	5	0
1156	74	0	54	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	21	113	5	139
8-9	19	79	4	102
9-10	15	69	8	92
15-16	40	425	33	498
16-17	40	722	23	785
17-18	88	752	17	857
TOTAL	223	2160	90	2473

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	84	798	165	1047
8-9	119	663	150	932
9-10	66	588	95	749
15-16	41	195	54	290
16-17	57	244	41	342
17-18	52	332	56	440
TOTAL	419	2820	561	3800

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
1186	12	0	0	0
1034	10	0	0	0
841	10	0	0	0
788	9	0	1	0
1127	10	0	1	0
1297	11	0	0	0
6273	62	0	2	0

City Of Los Angeles
Department Of Transportation
MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Vignes Street

East/West 1st Street

Day: Wednesday **Date:** May 25, 2022 **Weather:** CLEAR

Hours: 7-10AM 3-6PM **Staff:** CUI

School Day: YES **District:** Central I/S CODE 9928

	N/B	S/B	E/B	W/B
DUAL-WHEELED	9	26	57	59
BIKES	9	18	33	50
BUSES	1	73	13	96

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	23	7.45	31	9.45	56	8.30	230	7.00
PM PK 15 MIN	40	5.00	36	4.30	207	5.15	114	5.45
AM PK HOUR	74	7.00	103	9.00	207	8.15	803	7.00
PM PK HOUR	142	4.30	121	3.45	734	4.30	404	5.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	8	18	48	74
8-9	2	24	29	55
9-10	5	18	23	46
3-4	7	24	54	85
4-5	6	37	81	124
5-6	7	40	83	130
TOTAL	35	161	318	514

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	31	19	8	58
8-9	46	22	16	84
9-10	33	44	26	103
3-4	69	29	13	111
4-5	81	25	13	119
5-6	64	23	15	102
TOTAL	324	162	91	577

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
132	8	2	1	0
139	3	0	0	0
149	3	4	3	0
196	9	0	2	0
243	1	7	2	1
232	4	2	5	0
1091	28	15	13	1

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	45	123	9	177
8-9	36	147	15	198
9-10	54	119	21	194
3-4	73	422	31	526
4-5	97	524	28	649
5-6	107	548	37	692
TOTAL	412	1883	141	2436

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	75	351	377	803
8-9	116	346	286	748
9-10	83	314	254	651
3-4	46	179	79	304
4-5	55	184	88	327
5-6	69	217	118	404
TOTAL	444	1591	1202	3237

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
980	9	0	2	0
946	6	1	1	0
845	4	1	0	0
830	19	2	4	0
976	13	1	1	1
1096	22	0	1	0
5673	73	5	9	1

(Rev Oct 06)

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