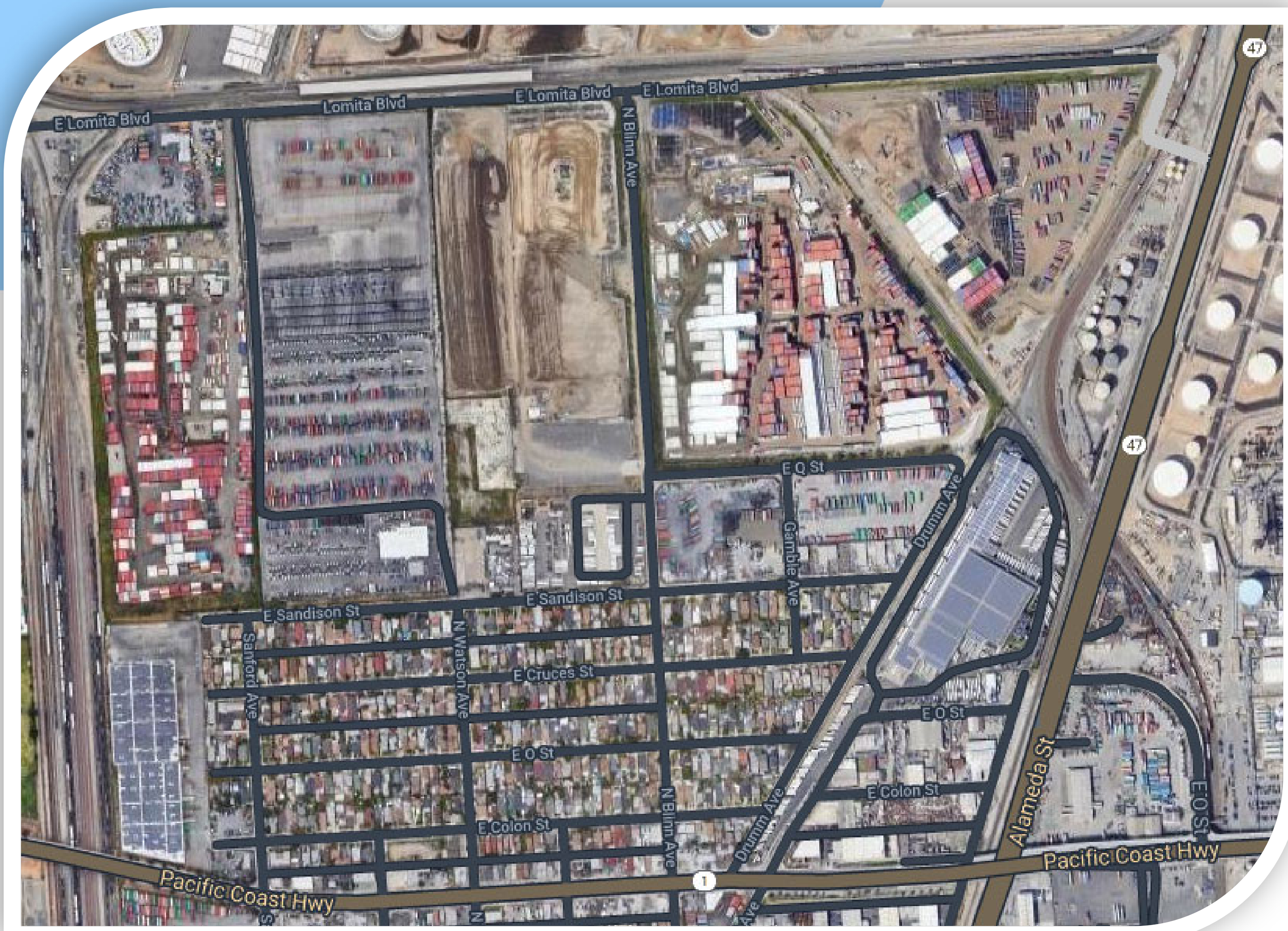
WILMINGTON FREIGHT MITIGATION STUDY

FINAL REPORT AND RECOMMENED NEXT STEPS



SCAG
SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

COUNCILMAN @JOEBUSCAINO LA15TH.com

THE PORT OF LOS ANGELES

Caltrans

January 2021

PREPARED BY:

Defining the cities of tomorrow

IBI GROUP, A CALIFORNIA PARTERNSHIP
18401 VON KARMAN AVENUE, STE 300
IRVINE, CA 90745

KATHERINE PADILLA & ASSOCIATES, INC.

KATHERINE PADILLA AND ASSOCIATES, INC.
440 TAMARAC DRIVE
PASADENA, CA 91105

translutions
the transportation solutions company...

TRANSLUTIONS, INC.
17632 IRVINE BOULEVARD, STE 200
TUSTIN

CONTENTS

EXECUTIVE SUMMARY

The Southern California Association of Governments (SCAG), in collaboration with the City of Los Angeles, Port of Los Angeles, and Caltrans commissioned this transportation planning study to achieve two primary objectives: (1) assess the impacts of increased truck travel on a disadvantaged community in the Wilmington area of Los Angeles and (2) recommend both traffic and general land use mitigations to improve the quality of life for residents in this community.

The Wilmington Freight Mitigation Study ("Study") focused on the traffic impacts associated with the permanent closure of two private railroad crossings at Lomita Boulevard between Eubank Avenue and Alameda Street in the City of Wilmington, California. The study area, bounded by Lomita Boulevard to the north, Drumm Avenue to the east, Pacific Coast Highway to the south, and Sanford Avenue to the west already experiences high truck traffic due to the surrounding industrial land uses and proximity to the Ports of Los Angeles and Long Beach. The closure of the rail crossings potentially further exacerbates this condition as a result of changing the truck travel patterns from a direct connection to Lomita from Alameda to various alternative routes.

The Study process was driven by data, literature review, and stakeholder involvement, which informed Study goals and performance measures and identified opportunities and vulnerabilities. The Study was developed using extensive stakeholder input through two rounds of one-on-one stakeholder interviews, two rounds of focus groups, a community meeting, an online briefing, a pop-up event, two technical working group meetings and email and phone communications with trucking companies, local and regional agencies, businesses and community stakeholders, and representatives of disadvantaged communities. Information from everything identified was utilized to develop the recommended measures identified.

Project Goals, Objectives, and Performance Measures

The project goals, objectives, and performance measures bring value into the process and allow for a balanced review of conditions, needs and solutions. The following presents the overall project goals and objectives, which helped form the basis for the identification, development, and comparison of mitigation measures.

- Reduce truck and train conflicts and reduce truck intrusion into the adjacent disadvantaged community
- Develop design treatments within the existing right-of-way to accommodate safe and efficient goods movement
- Provide design treatments for multimodal, complete, and safe streets

All mitigation measures provided in the Study ultimately aim to address these goals and objectives. Along with goals and objectives for each mitigation measure presented, an evaluation criterion and an analysis methodology were created to ultimately assess the degree to which each proposed mitigation measure satisfied performance objectives. Performance measures, or metrics, were identified on which to base potential mitigation measures upon, which are currently in line with the Los Angeles Department of Transportation's (LADOT) mobility initiatives. These include, but are not limited to:

- Accessibility
- Safety and Comfort
- Culture and Community
- Equity and Transparency
- Level of Service and Delay
- Congestion and Queuing

In addition to these primary metrics, additional impacts related to traffic diversion, parking loss, noise, or potential environmental concerns were considered.

Preliminary mitigation measures were developed based on initial input from the focus groups (one-on-one interviews and conference calls with business owners and residents) and multiple site visits that identified immediate needs and problem areas. The following mitigation measures were developed as part of the investigation phase of the project:

Preliminary Mitigation Measures

MIT-1: Drumm Avenue and PCH Turning Radius: The issue of trucks driving over (and damaging) the curb while negotiating a westbound right-turn from PCH onto northbound Drumm Avenue can be mitigated by 1) increasing the width of Drumm Avenue from 32 feet to 40 feet and 2) increasing the curb radius from 30 feet to 35 feet. Both improvements can be accommodated within the existing right-of-way.

MIT-2: Drumm Avenue and Q Street Turning Radius: Conflicting turning paths (northbound left and eastbound right-turns unable to turn at same time) due to a tight turning radius can be mitigated by 1) increasing the width of Drumm Avenue from 32 feet to 40 feet and 2) increasing the curb radius from 25 feet to 35 feet. Both improvements can be accommodated within the existing right-of-way and allow for simultaneous turns to occur.

MIT-3A: Intersections of Cruces Street, O Street, and Colon Street with Drumm Avenue: Residents noted trucks illegally using these residential streets and damaging curbs. During various visits to the study area it was possible to observe damage to curbs as well as truck travel in violation of posted signage. Mitigation involves extending the curbs on the north and south sides of the street to narrow the roadway visually and physically, designed such that large trucks are unable to enter the small residential streets.

MIT-3B: Intersections of Cruces Street, O Street, and Colon Street with Drumm Avenue: An alternative to MIT-3A, this mitigation creates cul-de-sacs at each intersection, effectively closing vehicular access from Drumm Avenue. This mitigation is supported by residents and is part of the Wilmington Community Plan Update.

MIT-4A: North/South Streets of Sanford, Watson and Blinn: Despite signage prohibiting trucks over 6,000 pounds, trucks are still present on these residential north and south streets, many of which end up on Sandison Street as well. The mitigation proposed at these locations is the introduction of mini roundabouts or traffic circles at the intersections of Sanford, Watson, and Blinn with Colon Street. Mini roundabouts are difficult for large trucks to negotiate and are supported by the Active Transportation section of the Community Plan Update.

Additional Outreach, Traffic Analysis, and Technical Working Groups

The preliminary mitigation measures were presented to stakeholders via a virtual community meeting, a pop-up event, and a technical working group to garner feedback and input for the purpose of refining, modifying, and/or adding new mitigation measures. Augmenting the additional outreach effort was the traffic analysis, which determined vehicular and truck traffic volumes on streets within the study area and identified areas of concern related to delay and queuing at intersections. The following mitigation measures were developed as part of the second phase of the project:

MIT-4B: North/South Streets of Sanford, Watson and Blinn: Despite signage prohibiting trucks over 6,000 pounds, trucks are still present on these residential north and south streets, many of which end up on Sandison Street as well. The mitigation proposed at these locations is the introduction of vertical overhead clearance crash poles or vertical monument archways, coupled with right-turn in/out only pork chop median at select locations. The vertical treatments would be set at heights in which trucks will not be able to enter (13.5 feet) and the right-turn in/out pork chop medians eliminates trucks from getting onto Sandison to destinations north.

MIT-5: Pacific Coast Highway Treatments: Trucks and vehicles negiotiating left-turns into and out of the streets of Sanford, Pioneer, Watson, Mahar, Blinn, Drumm, and Coil cause significant delays for eastbound/westbound through traffic on PCH and for vehicles looking for gaps to turn onto PCH from driveways and unsignalized intersections. The closely spaced intersections of Blinn, Drumm, and Coil with PCH is a major contributor to congestion in the area, especially with Drumm and Coil both being unsignalized and both operating at unacceptable levels of service during existing and future conditions. This mitigation measure signalizes Drumm/PCH and Drumm/Coil, prohibits eastbound left-turns from PCH to Blinn and increases left-turn pocket lengths at Drumm, Watson and Sanford. Used in conjunction with MIT-4B, this mitigation eliminates all truck traffic on all streets except for Drumm Avenue and Q Street.

MIT-6A/B: Coil Avenue Connection: Drumm Avenue is currently the only non-weight restricted route that connects PCH to the industrial uses north of the residential neighborhood and ultimately to Lomita Boulevard. This measure would extend Coil Avenue (designated truck route) to connect to Drumm Avenue either at Cruces Street or at Q Street through the KPAC site.

MIT-7: Blinn Avenue Widening (Q Street to Lomita Boulevard): The portion of Blinn Avenue from Q Street to Lomita Boulevard is not weight-restricted and is a highly utilized truck route with a current width of 21 feet. The mitigation measure builds the roadway to its ultimate classification as a local roadway (36 feet) per the Bureau of Engineering Department of Public Works' standard plan. Westbound right-turns from Q Street to northbound Blinn and eastbound right-turns from Lomita Boulevard to southbound Blinn would also be improved to increase the turning radius to minimize conflicts between all vehicles utilizing this street.

MIT-8: Lomita Boulevard Improvements: The existing rail crossings with Lomita Boulevard between Eubank and Blinn present a multitude of issues related to queuing, congestion, illegal parking over the tracks, pavement condition, signage, and enforcement. This mitigation measure addresses these issues through coordinated/increased enforcement and improvements to signage, gates, and striping consistent with the California Public Utilities Commission (CPUC) recommendations.

MIT-9: Gamble Street Closure and Enforcement: Gamble Street presents a cut-through option for trucks illegally on Sandison destined to Q Street. Illegal parking and dumping are highly prevalent on this street. The mitigation involves creating a cul-de-sac or using a vertical clearance crash pole at the south end of Gamble at Sandison, where access to Gamble would only be provided via Q Street.

Next Steps and Implementation

The mitigation measures presented as part of this report represent the first step in identifying potentially viable solutions to improve the public safety of the community and to remediate truck-related impacts. If a determination is made by any agency to move a mitigation measure from concept to implementation, funding for that improvement would need to be identified and secured. Furthermore, the components of the given mitigation measure would be subject to all applicable and prevailing study requirements (i.e. permits, design/engineering, environmental studies, traffic studies, etc.) coupled with additional community engagement. For example, this study identified the need to install traffic signals on PCH at both Drumm and Coil Avenues. Should this mitigation be pursued, a detailed traffic impact analysis and detailed traffic signal plans would need to be prepared to satisfy the requirements of Caltrans' permitting process, along with other studies determined necessary to address the proposed scope of work as well as community engagement.

1.0 INTRODUCTION

SCAG, in collaboration with the City of Los Angeles, commissioned the Wilmington Freight Mitigation Study to achieve two primary objectives: (1) assess the impacts of increased truck travel on a disadvantaged community in the Wilmington area of Los Angeles and (2) recommend both traffic and general land use mitigations to improve the quality of life for residents in this community.

Wilmington is situated just north of the Port of Los Angeles (Port), the nation's largest port and the national leader in containerized freight. In recent years, the Port has made significant gains in promoting growth while also introducing measures to reduce pollution. Although significant emissions reductions have been achieved under the San Pedro Bay Ports Clean Air Action Plan (CAAP), the Port of Los Angeles and Port of Long Beach (San Pedro Bay Ports) continue to place great emphasis on green development, including a particular focus on zero emissions technologies. Fostering the development of zero emissions technologies is a key component of the Ports' plans to achieve their voluntary air quality goals that will also help to greatly reduce regional greenhouse gas emissions.

Yet due to its geographic proximity, the Wilmington community still bears many of the environmental and traffic burdens related to the Port and goods movement. The proposed study area for this effort is surrounded on three sides by industrial land uses and several active railroad lines and experiences a much higher volume of truck traffic relative to other parts of Wilmington. Coupled with the challenges of the area's-built environment, truck traffic produces challenges related to walking, biking, and the overall quality of life for residents.

SCAG and the City of Los Angeles identified environmental and traffic burdens related to the Port of LA and goods movement in Wilmington[1]. This community is impacted by a variety of sources including freight, local traffic, port and rail operations, and refineries. The community has a high cumulative air pollution exposure burden, a significant number of sensitive receptors, and has been designated as disadvantaged communities per the Office of Environmental Health Hazard Assessment (OEHHA) CalEnviroScreen 4.0 tool.

In response to Assembly Bill 617 (AB 617((C. Garcia, Ch. 136, Statutes of 2017), the California Air Resources Board (CARB) established the Community Air Protection Program (CAPP). In September of 2018 the CARB Board approved the CAPP Blueprint and selected the initial 10 communities for air monitoring and/or emissions reductions programs. The community comprised of Wilmington, Carson and West Long BEach (WCWLB) was one of the initial communities selected. The Community Steering Committee (SCS) that was constituted in conjunction with the AB 617 WCWLB community was responsible for the development of the Community Air Monitoring Program (CAMP) and the Community Emissions Reduction Program (CERP). Both the CAMP and CERP for the WCWLB AB 617 community were completed in 2019.[2]

---

[1] California EnviroScreen 4.0, SCAG 2016 RTP Model Data for AADT, Vehicle Delay Hours, V/C Ratios and the TIMS and Statewide Integrated Traffic Records System (SWITRS) for collision data.

[2] CAMP (http://www.aqmd.gov/docs/default-source/ab-617-ab-134/camps/wcwlb_camp.pdf?sfvrsn=6)
CERP (https://www.aqmd.gov/docs/default-source/ab-617-ab-134/steering-committees/wilmington/cerp/final-cerp-wcwlb.pdf?sfvrsn=8)

According to an evaluation by the CPUC[3], the existing at-grade crossings on Lomita Boulevard (east of Blinn Avenue) and Alameda Street, where Lomita Boulevard becomes Watson Road, presented safety problems due to train/truck conflicts. As there are no existing safety measures at either rail-roadway intersection, CPUC closed public access to the Watson Road crossing as they believed that all viable options to retain public access from Alameda Street to Lomita Boulevard had been exhausted. Vacating Watson Road removed a critical link in the local freight network as defined by number of annual average daily trucks extracted from SCAG's Regional Travel Demand Model. The closure resulted in some changes to truck travel patterns as they attempt to find alternative routes through local streets within the area encompassed by Sanford to the west, Lomita Boulevard to the north, Drumm Avenue to the east, and Pacific Coast Highway to the south. These truck travel patterns may have resulted in increases of truck traffic within the local streets that would have otherwise not been used by heavy duty trucks.

1.1 Purpose

The purpose of the Wilmington Freight Mitigation Study is to identify and recommend context-sensitive solutions and mitigation measures designed to remedy neighborhood intrusion of trucks as it relates to the safety and overall quality of life of the residents within the focused study area. The recommendations as part of this report address the City of Los Angeles's goals and performance metrics related to safety, equity, health, accessibility, and sustainability. The Study conducted focused existing and future conditions traffic analyses and considered feedback from stakeholders (residents, business owners, and agencies such as Port of Los Angeles, Caltrans, Los Angeles Department of Transportation, the SCAQMD, and Council District 15). It should be noted that the initial existing and future traffic analysis conducted as part of this Study was conducted to determine overall feasibility and to evaluate general traffic conditions in the area. Any solutions pursued to be implemented as part of subsequent efforts would require detailed traffic and engineering analysis.

SCAG and City of Los Angeles have been working with the CPUC, Burlington Northern Santa Fe (BNSF) Railway, Union Pacific Railroad (UP), Port of Los Angeles (POLA), the Alameda Corridor Transportation Authority (ACTA), the City of Carson, and the adjacent business and property owners (Chandler's Sand and Gravel, ConGlobal Industries, Martin Container, ESTES Express Lines, CMI), to develop a workable solution with interim action steps separate from this study effort. Some of the action items developed as part of that effort have been included in this study to maintain consistency. However, a more focused study effort was determined to develop feasible mitigation strategies for the area covered by the Wilmington Freight Mitigation Study.

[3] CPUC has jurisdiction over rail crossings in California and regularly ensure that crossings are safely designed, constructed, and maintained. The CPUC's Rail Safety Division (RSD), Rail Crossings and Engineering Branch (RCEB) recieved multiple complaints regarding the Watson Road crossing that connected Lomita to Alamenda. Subsquent to those complaints, the CPUC conducted analysis and evaluation in spring of 2020.

The Wilmington Freight Mitigation Study includes the following sections:

1. **Introduction** – This section provides the background, context, and purpose of the study.
2. **Regulatory Framework** – This section identifies and briefly explains pertinent legislative acts and planning documents at the federal, state, regional, and local level.
3. **Existing Conditions** – This section documents the characteristics of the study area, identifies opportunities and constraints, and analyzes existing traffic conditions.
4. **Future Conditions** – Identifies future conditions in and around the study area with respect to any changes related to traffic or geometry and provides a brief overview of future land uses.
5. **Community Outreach** - This section summarizes the community outreach effort conducted and describes how the feedback and input received shaped the recommendations and mitigation measures.
6. **Parameters for Evaluation of Mitigation Measures** - Parameters for evaluation of mitigation measures defined based on goals, objectives, and performance measures used to remedy neighborhood truck intrusion and safety concerns.
7. **Definition of Mitigation Measures** - Mitigation measures defined in response to the problem definition and project goals and objects.
8. **Development and Analysis of Context-Sensitive Solutions** – Context-sensitive solutions were developed based on the grouping of mitigation measures that best meet the study objectives. Each context-sensitive solution package summarizes ease of implementation, feasibility, and cost considerations. This section also includes evaluation of potential additional impacts that could occur.
9. **Cost Estimates and Financing Strategies** – This section details the rough order of magnitude (ROM) cost estimates for each of the context-sensitive solution packages. This section also presents potential financing strategies and funding opportunities.

2.0 REGULATORY FRAMEWORK

This section identifies and briefly explains pertinent legislative acts and planning documents at the federal, state, and regional level that pertain to goods movement. A summary of each legislative act and planning document at the federal, state, regional, and county levels, along with explanations of their primary intentions and implications, is provided below.

2.1 Federal Regulations

Surface Transportation Assistance Act of 1982 (STAA)

Established a comprehensive system for transportation funding and policy, specifically to address concerns regarding surface transportation infrastructure, such as highways and bridges. The Act contained the Highway Revenue Act of 1982 (Title V), adding the first increase to the federal gasoline tax since 1961 of five cents per gallon, of which four cents was dedicated specifically for interstate highway and bridge restoration. Most notably, the act authorized the establishment of the National Network of federal and state highways designated for use by commercial freight-hauling truck drivers.

The National Network includes nearly the entirety of the Interstate Highway System in addition to other specified non-Interstate highways within both the National Highway System and state highway networks that are considered primary corridors for goods movement and meet the same criteria for use by large trucks. The National Network Criteria designates such routes, known as STAA routes, based on their general adherence to the following:

- The route is a geometrically typical component of the Federal-Aid Primary System, serving to link principal cities and densely developed portions of the States
- The route is a high-volume route utilized extensively by large vehicles for interstate commerce
- The route does not have any restrictions precluding use by conventional combination vehicles
- The route has adequate geometrics to support safe operations, considering sight distance, severity, and length of grades, pavement width, horizontal curvature, shoulder width, bridge clearances and load limits, traffic volumes and vehicle mix, and intersection geometry
- The route consists of lanes designed to be a width of 12 feet or more or is otherwise consistent with highway safety
- The route does not have any unusual characteristics causing current or anticipated safety problems

National Network corridors are generally recommended for accommodating pass-through truck traffic. However, the law allows for “reasonable access” to and from the network for truck terminals, truck stops, deliveries, repairs, etc. Roadways that otherwise have truck restrictions are superseded by this law and allowed to accommodate trucks if there are no other reasonable means of access to the destination.

Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)

Presented the first federal legislative intermodal approach to highway and transit funding, mandating collaborative planning requirements and giving significant additional powers to metropolitan planning organizations (MPOs). ISTEA defined several High Priority Corridors as part of the National Highway System and offers the most recent amendments to the definition of the National Network criteria for route designations and truck size and weight limitations. ISTEA was reauthorized as Transportation Equity Act for the 21st Century (TEA-21) in 1998, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) in 2005, Moving Ahead for Progress in the 21st Century Act (MAP-21) in 2012, and Fixing America's Surface Transportation (FAST) Act in 2015.

National Ambient Air Quality Standards (NAAQS)

Set by the Environmental Protection Agency to protect public health with an "adequate margin of safety of safety," including the health of at-risk groups. Wilmington is classified as a high cumulative air pollution exposure for the 8-hour ozone standard. Ground level ozone, or "smog," can reduce lung capacity, cause acute respiratory problems, and aggravate asthma. Any reduction of the nitrogen oxides pollutant precursors, including GHG emissions, reduces ground-level ozone to help meet the federal ozone standard deadline in year 2026.

2.2 State of California Regulations

California Vehicle Code (CVC)

Sets the regulations for vehicles in the state. The California speed limit for any truck with three or more axles is 55 miles per hour (Section 22406 CVC). Because of this, trucks are included with vehicles required to use a designated lane or lanes on the curb side (outside) of a roadway. When overtaking and passing another vehicle proceeding in the same direction, the driver can use the lane to the immediate left of the right-hand lane, or the right-hand lane for traffic (Section 21655 CVC). Therefore, to large vehicles, every roadway has a maximum of two useable lanes.

The maximum gross weight for a vehicle combination is 80,000 pounds in the State of California. There are additional weight limits specifically for number of axles and vehicle length and some exceptions to exceed the weight limit. Any county or city may permit loads that exceed State weight limits on highways under their jurisdictions, but only on locally owned roads—not state facilities (Section 35700 CVC). Both the state and local roadway owners have processes to obtain overweight vehicle permits.

Truck Regulation Engine Requirements

Promulgated by the California Air Resources Board (CARB) which administers several programs to regulate and provide funding for actions to reduce air emissions. On September 23, 2020, Governor Gavin Newsom's Executive Order N-79-20 was signed. Among its components, it stated, "It shall be a goal of the State that 100 percent of in-state sales of new passenger cars and trucks will be zero-emission by 2035. It shall be a further goal of the State that 100 percent of medium- and heavy-duty vehicles in the State be zero-emission by 2045 for all operations where feasible and by 2035 for drayage trucks. It shall be further a goal of the State to transition to 100 percent zero-emission off-road vehicles and equipment by 2035 where feasible."

California Global Warming Solutions Act (AB 32)

Established the first statewide mandate to reduce greenhouse gas (GHG) emissions in California, aiming for a reduction to 1990 levels by the year 2020. To achieve these goals, California's Sustainable Communities and Climate Protection Act (SB 375) was enacted, directing each Metropolitan Planning Organization (MPO) within the state to develop a Sustainable Communities Strategy (SCS) as part of its mandated Regional Transportation Plan (RTP) to demonstrate how each region will attain its targeted emissions reductions.

Assembly Bill 617 (AB 617)

In 2017, Assembly Member Cristina Garcia authored Assembly Bill 617 (AB 617)[3] to address air pollution impacts in environmental justice communities. This program requires local air districts and the state Air Resources Board to reduce air pollution in these most impacted communities. Some additional state bills provided new funding to support this program. This funding helps to reduce air pollution by changing out older trucks and other equipment for newer, cleaner technologies. In September 2018, Wilmington, Carson, West Long Beach (WCWLB) was one of the designated AB 617 Year 1 Communities. The WCWLB AB 617 Community continues to be an active community in the AB 617 program.

The South Coast Air Quality Management District (SCAQMD) have recently commenced studies in the Wilmington area related to AB 617, such as the Truck Incentives Plan[5]. The goal of the AB 617 Truck Incentives Plan is to provide a community-based truck incentive program that is streamlined in its process and customized to fit community needs to reduce harmful emissions and community exposure to toxic air contaminants such as diesel particulate emissions.

---

[4] https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180AB617

[5] **The Truck Incentives Workplan will enhance the traditional incentive programs currently being implemented by SCAQMD (including the Carl Moyer Program, Proposition 1B, Voucher Incentive Program and VW Mitigation Trust) and will focus on prioritizing small businesses, independent truck owners/operators, and streamlining the process from grant reimbursement, while working to reduce the impacts of air pollution and exposure in environmental justice communities.**

2.3 Regional Setting

Regional Transportation Plan (RTP)

RTPs are produced every four years by MPOs under federal mandate since the establishment of MPOs under the 1962 Federal-Aid Highway Act. Aims and objectives for RTPs include improving accessibility, efficient management and operation, integration and connectivity, economic vitality, and environmental preservation by prioritizing and directing investment toward transportation projects within the region. In California, the passage of AB 35 in 2005 led to the additional mandate of including a Sustainable Communities Strategy (SCS) to achieve the state's GHG emission reduction targets via planning and investment in the regional transportation system.

SCAG is the regional MPO for Los Angeles County, as well as five other counties in Southern California, and is the nation's largest, directing planning for a population estimated at 18.5 million as of 2016. Connect SoCal, the 2020 RTP/SCS, includes $76 billion in investment needed to enhance and improve upon Southern California's freight system and goods movement in pursuit of the aforementioned goals, with plans that ultimately guide investment for seaports, air cargo facilities, Class I railroads, warehouse and distribution center linkages, and the broader road network.

Connect SoCal promotes this vision by:

- Maintaining the long-term economic competitiveness of the region
- Promoting local and regional job creation and retention
- Increasing freight and passenger mobility
- Improving the safety of goods movement activities
- Mitigating environmental impacts of goods movement operations

Port of Los Angeles/Port of Long Beach Clean Truck Program

Part of the 2017 San Pedro Bay Ports Clean Air Action Plan Update, the groundbreaking Clean Truck Program has reduced air pollution from harbor trucks by more than 90%, by voluntary early action to comply with State law.

Effective April 1, 2022, the Port of Los Angeles will begin collecting its Clean Truck Fund (CTF) Rate to help speed the transition to zero-emissions trucks serving the San Pedro Bay port complex. The action was unanimously approved by the Los Angeles Board of Harbor Commissioners.

Revenues will exclusively fund zero-emissions trucks and associated infrastructure to further the Port's goal of eliminating emissions from all trucks calling at the Port by 2035. The approved CTF Rate of $10 per twenty-foot equivalent unit (TEU) hauled by non-exempt trucks, was jointly set by the ports of Los Angeles and Long Beach in March 2020[6].

---

[6] https://www.portoflosangeles.org/references/2021-news-releases/news_110421_ctf

2.4 Local Setting

Wilmington – Harbor City Community Plan Update

The Wilmington-Harbor City Community Plan was last updated in 1999. A community plan update process is actively underway by the City of Los Angeles. Building upon its relationship to the Harbor and the Port of Los Angeles, the communities of Wilmington and Harbor City are envisioning am environmental justice plan that will improve upon the quality of life for current and future community members by supporting clean industrial uses and making connections to the waterfront that serve to increase economic vitality and create a healthy and active environment.

In general, the community plan update seeks to conserve stable single-family and multi-family neighborhoods, encourage the revitalization of commercial areas, retain viable job-producing land uses, address industrial-residential land use conflicts, and direct projected growth to targeted areas where it can be supported by existing transportation infrastructure.

Regional and Local Truck Routes

Figure 2.1 shows the regional and local designated truck route network, including the streets identified as Overweight Container Corridors. Truck routes were referenced from the City of Carson's General Plan Transportation and Infrastructure Element and the City of Los Angeles' web-based data platform (GeoHub).

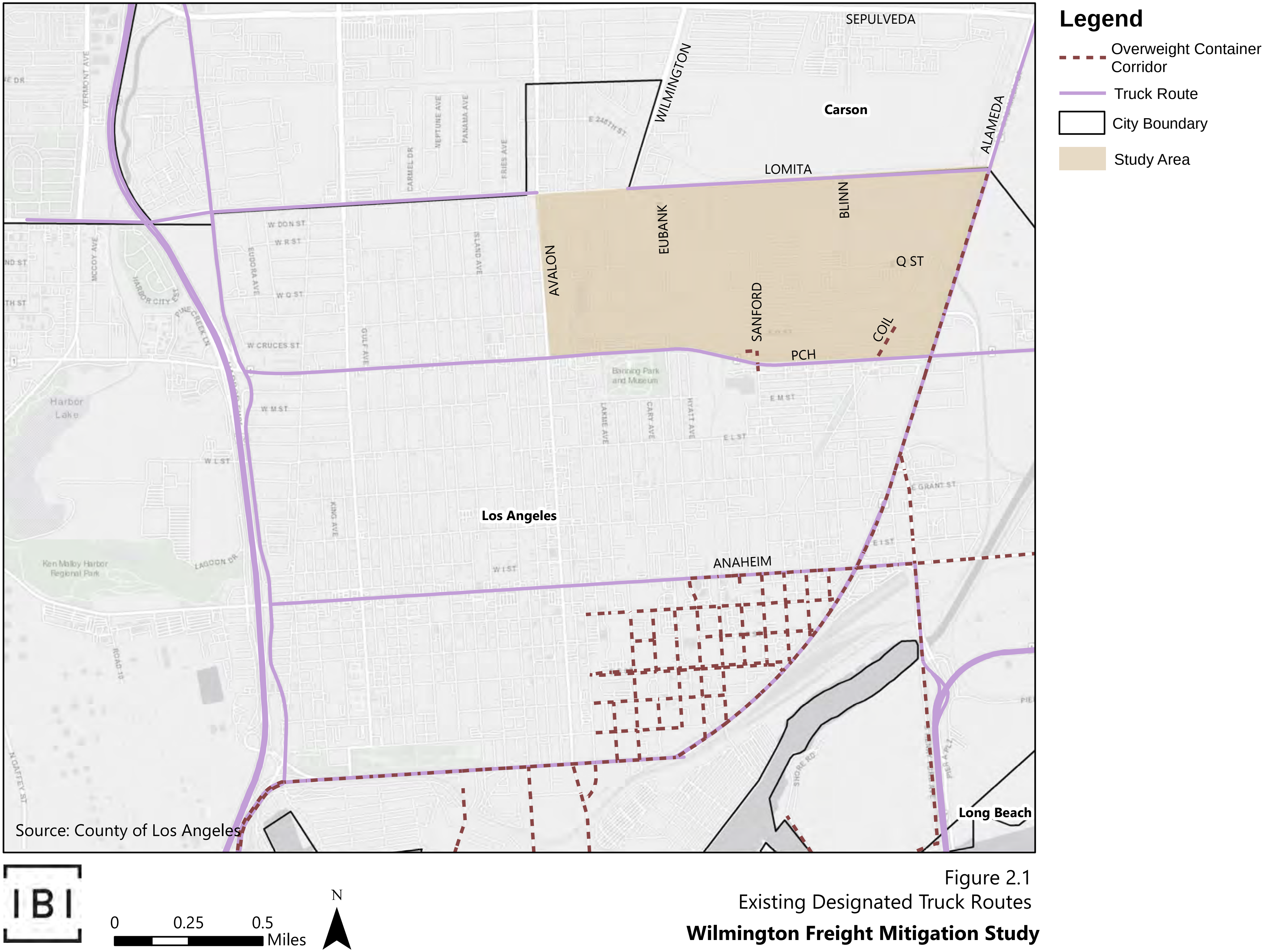


Figure 2.1
Existing Designated Truck Routes
Wilmington Freight Mitigation Study

3.0 EXISTING CONDITIONS

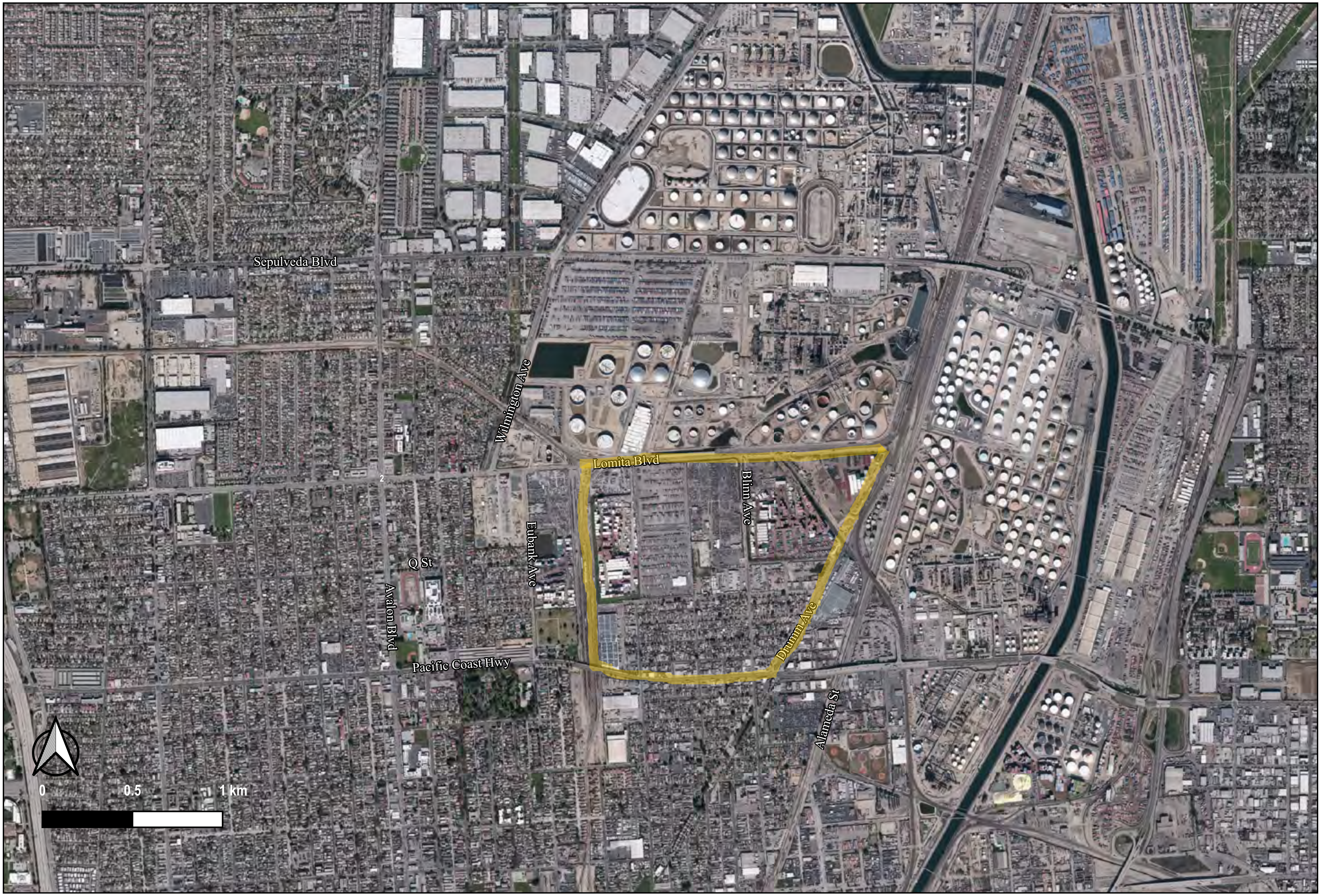
3.1 Study Area Determination

This specific study is intentionally focused on the traffic impacts associated with the permanent closure of two private railroad crossings at Lomita Boulevard between Eubank Avenue and Watson Road before Alameda Street. After convening with businesses, residents, they identified a need to mitigate impacts in this specific region based on their experience and observations of trucks using truck-prohibited residential streets to and from industrial destinations to the north. Shortly after, CD-15 came across a funding opportunity through SCAG (Caltrans Sustainable Transportation Planning Grant), that would allow this region to be studied for potential solutions. The study area is shown in Figure 3.1.

3.2 Existing Land Use

The northern sector of the study area is primarily zoned for industrial, commercial, and general office land uses. In this industrial area, there are five businesses located at the convergence of Blinn Avenue, Lomita Boulevard and Alameda Street: Chandler's Sand and Gravel, Con Global Industries, Martin Container, California Multimodal (CMI) and Harbor D.H.E (Figure 3.2).

According to these businesses, there are an average of 13,000 total inbound and outbound monthly truck trips to their sites collectively – a figure that has remained consistent throughout the last three years, unaffected by the pandemic. Abutting this area to the south are parcels zoned for single family residential land uses. Streets in this neighborhood, which comprises most of the study area, have been utilized by heavy-duty trucks even with posted weight restrictions. as previously noted, vacating Watson Road removed a critical link in the local freight network a defined by the number of annual average daily trucks extracted from SCAG's Regional Travel Demand Model. The closure resulted in some changes to truck travel patterns as they attempt to find alternative routes through local streets within the area encompassed by Sanford to the west, Lomita to the north, Drumm Avenue to the east, and Pacific Coast Highway to the south. These truck travel patterns may have resulted in increases of truck traffic within the local streets that would have otherwise not been used by heavy duty trucks.



Legend
Study Boundary

Figure 3.1

Study Area

IBI Defining the cities of tomorrow

Wilmington Freight Mitigation Study

D:\GIS\IBI - SCAG Wilmington\Reports\Study Area.qgz (07-02-2021)

Figure 3.2 – Adjacent Businesses

LEGEND

A – Martin Container: 1402 E Lomita Blvd

B – ConGlobal: 1304 E Lomita Blvd

C – Anderson Hay & Grain: 915 E Colon St

D – D.H.E Harbor: 1500 E Lomita Blvd

E – CMI West: 1501 E Lomita Blvd

F – Estes Express: 1531 N Blinn Ave

G – RoadEx: 1501 E Q Street

H- ConGlobal: 1711 Alameda Street

I – Chandler Gravel & Sand: 1711 Alameda Street

3.3 Roadway Conditions

This section summarizes the existing conditions of the street network within the study area and includes street classifications, restrictions, descriptions of physical features, general observations, and photos from the site visit.

Lomita Boulevard

Lomita Boulevard is an east-west Major Arterial with one lane in each direction from Wilmington to Alameda, ranging in width from 22 feet to 40 feet. Lomita Boulevard is a designated truck route per the City of Carson. Two rail crossings exist between Eubank Avenue and Blinn Avenue at the BNSF Watson Yard and another crossing just east of Blinn Avenue. East of Eubank Street, both the pavement and striping are deteriorated and lacks sufficient signage and treatments approaching the rail crossings. Lomita Boulevard provides direct access to major industrial businesses, including Chandler's Sand and Gravel, ConGlobal Industries, and Martin Container. On-street parking is prohibited on both sides of Lomita Boulevard.

Lomita looking west at Blinn

Lomita looking east approaching rail crossing

Pacific Coast Highway

PCH is an east-west Major Highway with three lanes in each direction from Drumm Avenue to Sanford Avenue, with an average width of approximately 70 feet. PCH is a designated truck route per Caltrans District 7 and has direct on/off ramps at the I-110 to the west and the I-710 to the east. Although the stretch of PCH from Sanford Street to Coil Avenue is less than a half a mile long, there are a total of seven (7) intersections along this stretch (three signalized at Sanford, Watson, and Blinn and four unsignalized at Pioneer, Mahar, Drumm, and Coil) and has been designated an "anti-gridlock zone" by the City of Los

Angeles. ON-street parking is available on either side of PCH during off peak hours (9AM to 4PM and 6PM to 7AM). PCH provides access to major industrial businesses to the north primarily via Drumm Avenue and provides direct access to the residents via Sanford Avenue, Watson Avenue, Blinn Avenue and Drumm Avenue.

PCH between Sanford Street and Coil Avenue

Signage

PCH looking west from Drumm

PCH looking east from Watson

Colon Street/O Street/Cruces Street

These three streets are classified as east-west Collector Streets per the Bureau of Engineering Department of Public Works (BOE) with one lane in each direction from Sanford Avenue to Drumm Avenue, with widths of approximately 39 feet. All three streets have truck weight restriction signage, where trucks over 6,000 are prohibited. On-street parking is allowed on both sides of the three streets, with the only restrictions being on Monday from 12PM-2PM on the south sides of the streets and on Tuesday from 12PM -2PM on the north sides of the streets for street sweeping. Trucks exceeding the 6,000-pound weight limit have been observed utilizing these streets as a cut through to get to Sanford Avenue, Watson Avenue, Blinn Avenue, or Drumm Avenue.

Truck Signage

Sandison Street

Sandison Street is classified as an east-west Collector Street per the BOE with one lane in each direction from Sanford Avenue to Drumm Avenue with a width of approximately 39 feet. Sandison Street west of Blinn Avenue has truck weight restriction signage prohibiting trucks over 6,000 pounds. Sandison Street between Blinn Avenue and Drumm Avenue does not have any signage related to truck restrictions. On-street parking is allowed on both sides of the streets, with the only restrictions being Monday from 12PM-2PM on the south sides of the streets and on Tuesday from 12PM -2PM on the north sides of the streets for street sweeping. Illegal parking of recreational vehicles and large trucks have been observed on Sandison Street, along with trucks exceeding the 6,000-pound weight limit.

Sandison looking west from Gamble

Broken Curb at Sandison/Drumm

Q Street

Q Street is classified as an east-west Industrial Local Street per the BOE with one lane in each direction from Drumm Avenue to Blinn Avenue with a width of approximately 40 feet. On-street parking and stopping is prohibited on both sides of the street and the street does not have any truck weight restrictions. Q Street provides direct access to the RoadEx Yard, Gamble Street, and Blinn Avenue. Trucks have been observed to queue on either side of the street, waiting to enter the industrial facilities on Q Street. Q Street is lined on both sides by industrial uses (no residential) and the results of illegal dumping has been observed on both sides of Q Street.

South Side of Q Street

View of Q Street looking west

Sanford Avenue and Watson Avenue

These two streets are classified as north-south Collector Streets per the BOE with one lane in each direction from PCH Avenue to Sandison Street, with widths of approximately 39 feet. Both streets have truck weight restriction signage, where trucks over 6,000 are prohibited. On-street parking is allowed on both sides of the streets, with the only restrictions being on Monday from 12PM-2PM on the east sides of the streets and on Tuesday from 12PM -2PM on the west sides of the streets for street sweeping. Trucks exceeding the 6,000-pound weight limit have been observed utilizing these streets to get to destinations north and south of the study area.

Blinn Avenue

Blinn Avenue is classified as a Collector Street per the BOE with one lane in each direction from Q Street to PCH, with on-street parking available on both sides of the street south of Sandison Street to PCH. This section of Blinn Avenue has truck weight restriction signage, prohibiting trucks over 6,000 pounds and provides direct access to the residential neighborhood. Blinn Avenue from Q Street to Lomita Boulevard is designated as a Local Street per the BOE with an ultimate width of 36 feet. This section of Blinn Avenue remains unimproved with degraded pavement and with a width of only 21 feet which presents a challenge for trucks travelling simultaneously in both directions. On-street parking is prohibited on this stretch of Blinn Avenue. This section of Blinn Avenue provides direct access to Lomita Boulevard.

Southbound Blinn between Lomita and Q

View of Blinn at Q Street (northbound)

Drumm Avenue

Drumm Avenue, although not designated as an official truck route, does not have any truck or weight restrictions throughout its entire length and serves as the primary route for trucks travelling to or from Lomita Boulevard and PCH. Drumm Avenue is a Collector Street with a width of 32 feet and has on-street parking available on the west side. Drumm Avenue between Q Street and PCH intersects with the residential streets of Colon Street, O Street, Cruces Street, and Sandison Street. The curbs at Drumm Avenue's intersections with PCH, Sandison Street, and Q Street are damaged due to inadequate turning radii for the large truck movements.

Drumm Avenue at Cruces Street

Drumm Avenue at PCH

Gamble Avenue

Gamble Avenue is classified as a Local Street between Cruces Street and Sandison Street (34 feet wide) and an Industrial Local Street (44 feet wide) from Sandison Street to Q Street. Gamble Avenue is one lane in each direction with on-street parking available on both sides. The only restrictions on this street is no parking on Monday from 12PM-2PM on the east sides of the streets and on Tuesday from 12PM -2PM on the west sides of the streets for street sweeping. There is no signage prohibiting trucks over 6,000 pounds on either segment of Gamble Avenue.

Gamble Street looking north

Gamble Street looking south

Coil Avenue

Coil Avenue is a designated as an Overweight Container Corridor by the City of Los Angeles, which is defined as a route in the City where the street can accommodate vehicles with shipping containers from the Port. Coil Avenue is 61 feet wide from PCH to Colon Street (with on-street parking on both sides) and 24 feet wide north of Colon Street (on-street parking prohibited). Coil Avenue is surrounded by industrial uses and provides direct access to the KPAC facility and lower Alameda Street. The unsignalized intersection of Coil and PCH is located 150 feet away from the unsignalized intersection of Drumm and PCH. The proximity of these two intersections exacerbates congestion along PCH.

Intersections of Coil and Drumm with PCH

View of Coil looking north from PCH

3.4 Existing Traffic Conditions

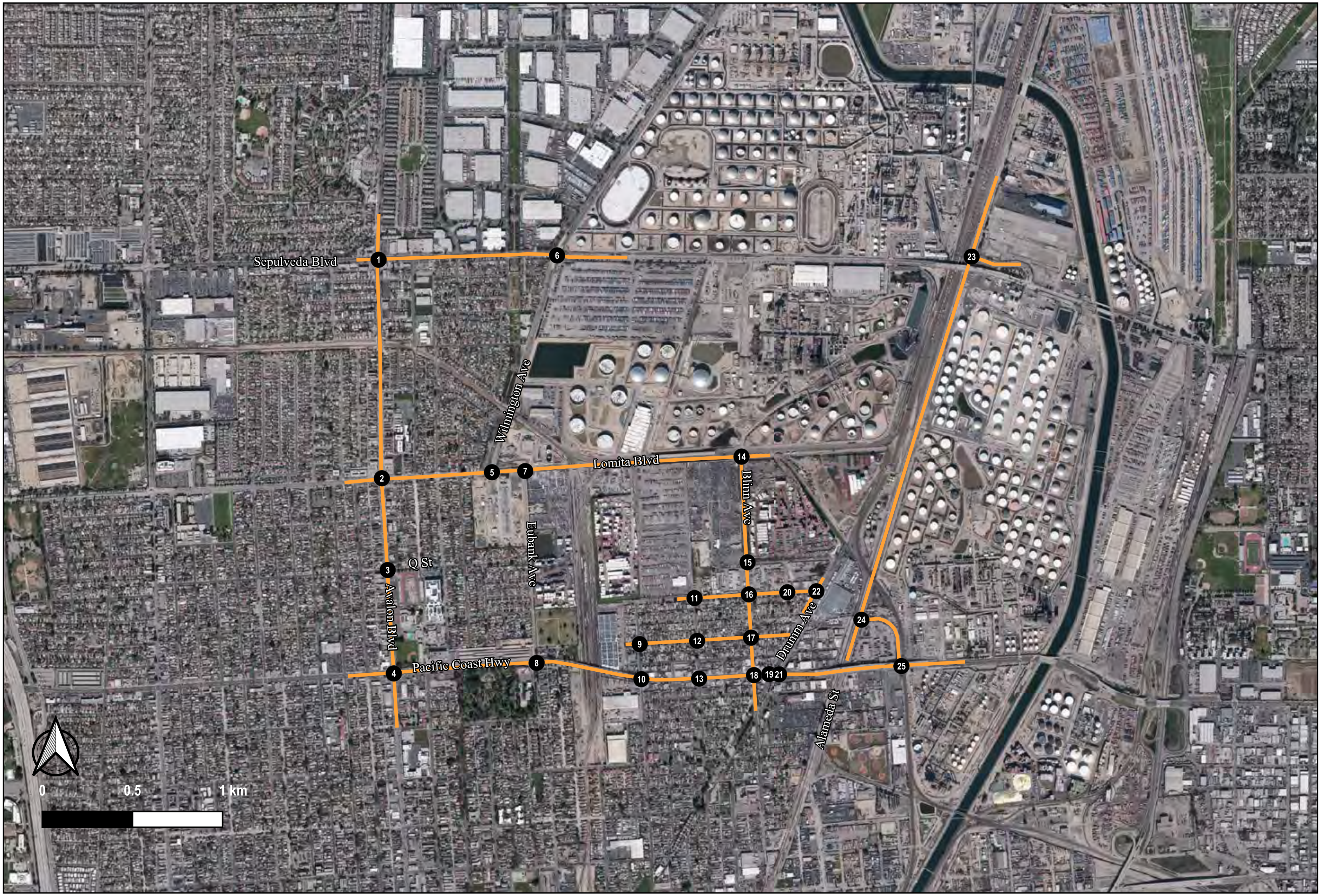
This section summarizes the methodology and process related to the analysis of existing traffic conditions in the study area.

Study Area Analysis Locations

Intersections and roadway segments selected for traffic operations analysis reflect the locations that would possibly be associated with truck travel, particularly related to potential rerouted trips associated with the closure of the Watson Road connection. The study area locations, finalized in conjunction with the Project Development Team (PDT) that consisted of LADOT, Port, CD-15, and Caltrans representatives, are listed in Table 3-1 below and are shown in Figure 3.3.

Table 3-1 Study Area Intersections and Roadway Segments

Intersections	
1. Avalon Boulevard/Sepulveda Boulevard	2. Avalon Boulevard/Lomita Boulevard `
3. Avalon Boulevard/Q Street	4. Avalon Boulevard/PCH
5. Wilmington Avenue/Lomita Boulevard	6. Wilmington Avenue/Sepulveda Boulevard
7. Eubank Avenue/Lomita Boulevard	8. Eubank Avenue/PCH
9. Sanford Avenue/O Street	10. Sanford Avenue/PCH
11. Watson Avenue/Sandison Avenue	12. Watson Avenue/O Street
13. Watson Avenue/PCH	14. Blinn Avenue/Lomita Boulevard
15. Blinn Avenue/Q Street	16. Blinn Avenue/Sandison Avenue
17. Blinn Avenue/O Street	18. Blinn Avenue/PCH
19. Drumm Avenue/PCH	20. Gamble Avenue/Sandison Avenue
21. Coil Avenue/PCH	22. Drumm Avenue/Sandison Avenue
23. Alameda Street/Sepulveda Boulevard	24. Alameda Street/O Street
25. O Street/PCH	
Roadway Segments	
A. Lomita between Wilmington and Eubank	B. Wilmington between Lomita and Railroad
C. Blinn between Colon and PCH	D. Blinn between Lomita and Q Street
E. Colon between Blinn and Drumm Ave	F. Cruces Street between Blinn and Gamble
G. Cruces Street between Gamble and Drumm	H. Cruces Street between Watson and Blinn
I. Drumm between O Street and Colon Street	J. Drumm between Q Street and Sandison
K. Eubank between Sandison and O Street	L. O Street between Blinn and Drumm
M. O Street between Sanford and Watson	N. Q Street between Lakme and Banning Blvd
O. Sandison between Blinn and Gamble	P. Sandison between Sanford and Watson
Q. Sanford between Colon and PCH	R. Watson between Colon and PCH



Legend

● Study Area Intersections — Study Area Roadways

IBI Defining the cities of tomorrow

Figure 3.3
Study Area Analysis Locations

Wilmington Freight Mitigation Study

D:\GIS\IBI - SCAG Wilmington\Reports\Study Area.qgz (07-02-2021)

Traffic Data Collection

Peak period traffic counts were collected, along with classification counts at the 25 study area intersections on Thursday, April 29, 2021 from 7AM-9AM (AM peak period), 2PM-3PM (Midday peak hour), and from 4PM-6PM (PM peak period). Vehicles were classified into bobtail, chassis, container, commercial delivery, and other categories. Existing traffic count data is provided in Appendix A.

Understanding that the traffic counts were collected during the COVID-19 pandemic, steps were taken to ensure the validity of the data. The three major generators in this area were evaluated to determine whether growth factors would need to be applied to the existing count data to reflect potentially lower traffic volumes due to various safer at home orders. Those generators were:

1. **Institutions** – Representatives from nearby schools (Los Angeles Harbor College, Banning High School, and Wilmington Park Elementary School) were queried to obtain student capture areas and in-person attendance figures for pre-COVID, peak COVID, and current COVID conditions. This analysis concluded that attendance figures were relatively similar across the board for the elementary school and that the student capture area for the college would not impact traffic volumes within the study area. Historical and current attendance figures for Banning High School, however, exhibited lower attendance figures. As such, traffic volumes were adjusted up to reflect trips to the high school from the residential area.
2. **Port of Los Angeles** – Drone footage of the study area (June 3, 2021) was obtained from the Port of Los Angeles to view the freight capacity at the surrounding businesses. As seen from the footage (https://www.youtube.com/watch?v=aQ_n_6u3pGU), the freight facilities were at capacity, and also coincided with Port of Los Angeles and Port of Long Beach's highest volumes over the last several months and was confirmed with the major business operators in the area. Hence, no growth was applied to the truck counts to/from the facilities in the study area. There was, however, potential for through-volume growth along PCH. The Port of Los Angeles' Travel Demand Model was used to determine the compounding annual growth rate (CAGR) for each of non-port autos & non-port trucks on PCH just west of Alameda Street by comparing output from the 2019 and 2045 models. The following growth rates were applied to the existing traffic counts for through volumes on PCH to account for down trending volumes due to COVID: Non-port auto = 0.30% and non-port trucks: 1.60%.
3. **Work-Related Trips** – Most residents in the study area did not have the luxury of working from home during the pandemic and surveys point to most residents continuing to work through the time of the counts. Using LADOT's Pandemic-related updates to their Transportation Assessment Requirements (April 2020), the existing traffic count data was compared against available historical data from a variety of sources from between 2017 and 2019. Historical count data was available for two intersections and one roadway segment on Lomita Boulevard, two intersections on PCH, and

one roadway segment on Cruces, all coinciding with our study area locations. Comparison of historical counts to existing counts did not show any decrease due to the pandemic; as such, existing traffic counts were not adjusted.

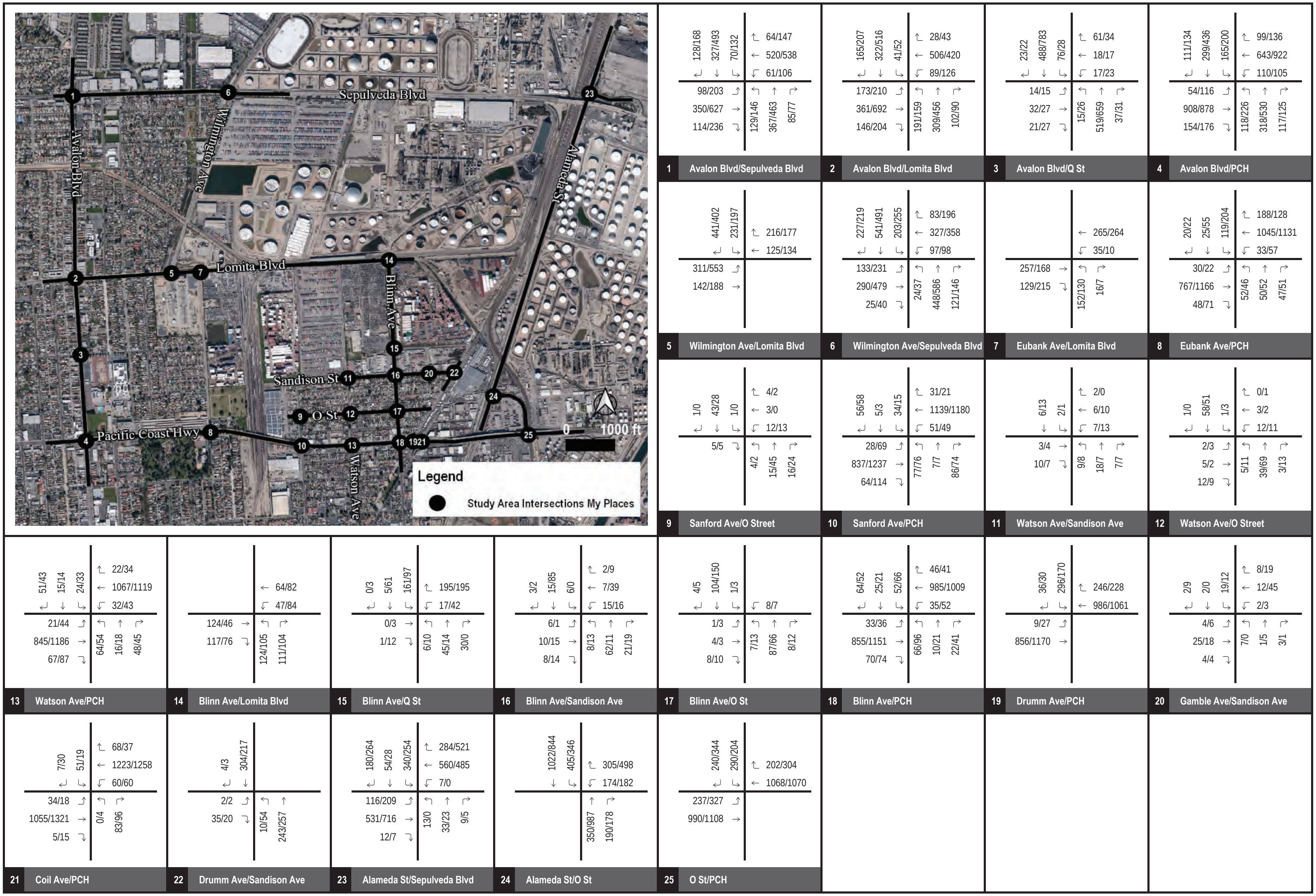
To represent the impact that large trucks have on traffic flow, all trucks were converted to passenger car-equivalents (PCE). By their size alone, these vehicles occupy the same space as two or more passenger cars. In addition, the time it takes for them to accelerate and slow-down is also much longer than for passenger cars and varies depending on the type of vehicle and number of axles. For this analysis, the following PCE factors have been used to estimate each turning movement: 1.5 for 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for 4+-axle trucks. Therefore, two 2-axle trucks would be the equivalent of 4 cars. These factors are consistent with the values recommended for use in the Highway Capacity Manual. The resulting existing peak hour intersection traffic volumes, reflecting growth along PCH, are presented in Figures 3.4 and 3.5. For informational purposes, trucks within the study area were differentiated between Port and Non-Port truck traffic and is shown in Figures 3.6, 3.7, and 3.8. Existing weekday average daily traffic volumes and volumes adjusted for PCEs on the 18 roadway segments throughout the study area are summarized on Table 3-2.

As shown in the figures, trucks (Port and Non-Port) were travelling through residential streets that have weight restriction signage in place: Sanford, Watson, Blinn (south of Q), O Street, Cruces Street, Colon and Sandison (west of Blinn), with the highest numbers of illegal truck movements occurring on Watson Avenue and Sandison Street. It should be noted, however, that the majority of all truck trips occur on streets that are either not weight restricted or designated as truck routes (PCH/Lomita/Drumm). On average, there are approximately 210 Port trucks and 14 Non-Port trucks travelling north and south on Drumm Avenue during any given peak hour.

Traffic Operations Analysis Methodology

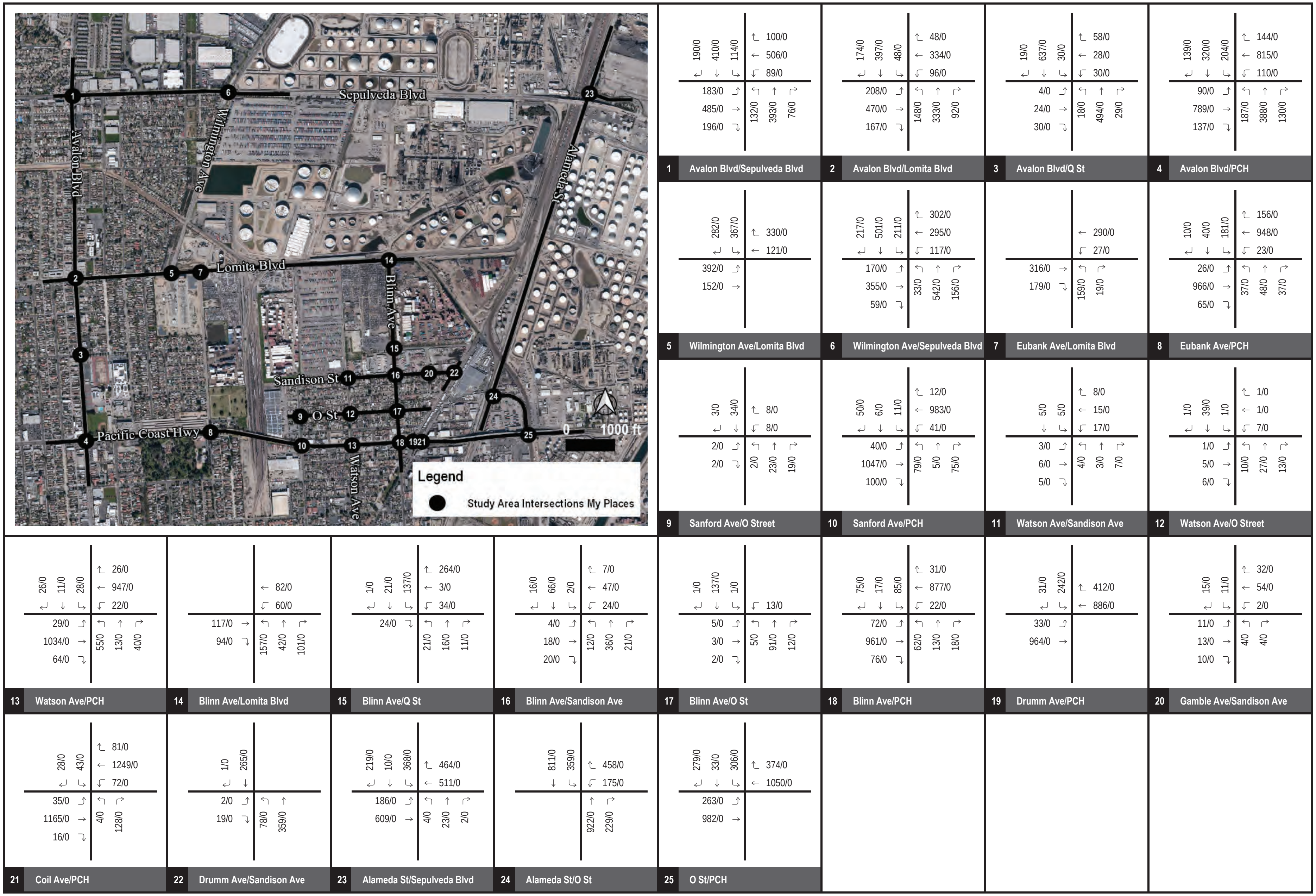
A level of service (LOS) analysis was conducted using the Highway Capacity Manual (HCM 2010) methodology, which utilizes seconds of delay as the metric for intersection performance. LOS is a qualitative measure used to describe the condition of traffic flow, ranging from excellent “free-flow” conditions at LOS A to overloaded “stop-and-go” conditions at LOS F. LOS D is typically considered to be the minimum acceptable level of service in urban areas. The LOS analysis was prepared consistent with LADOT’s Transportation Assessment Guidelines (July 2020) and Caltrans’ Guide for the Preparation of Traffic Impact Studies (December 2002), both of which use HCM for the operational analysis of intersections.

Chapter 16 of the HCM Manual contains the operations methodology for signalized intersections, which evaluates LOS based on controlled delay per vehicle. Controlled delay is defined as the portion of the total delay attributed to the traffic signal operation including deceleration delay, queue move-up time, stopped delay, and final acceleration delay.



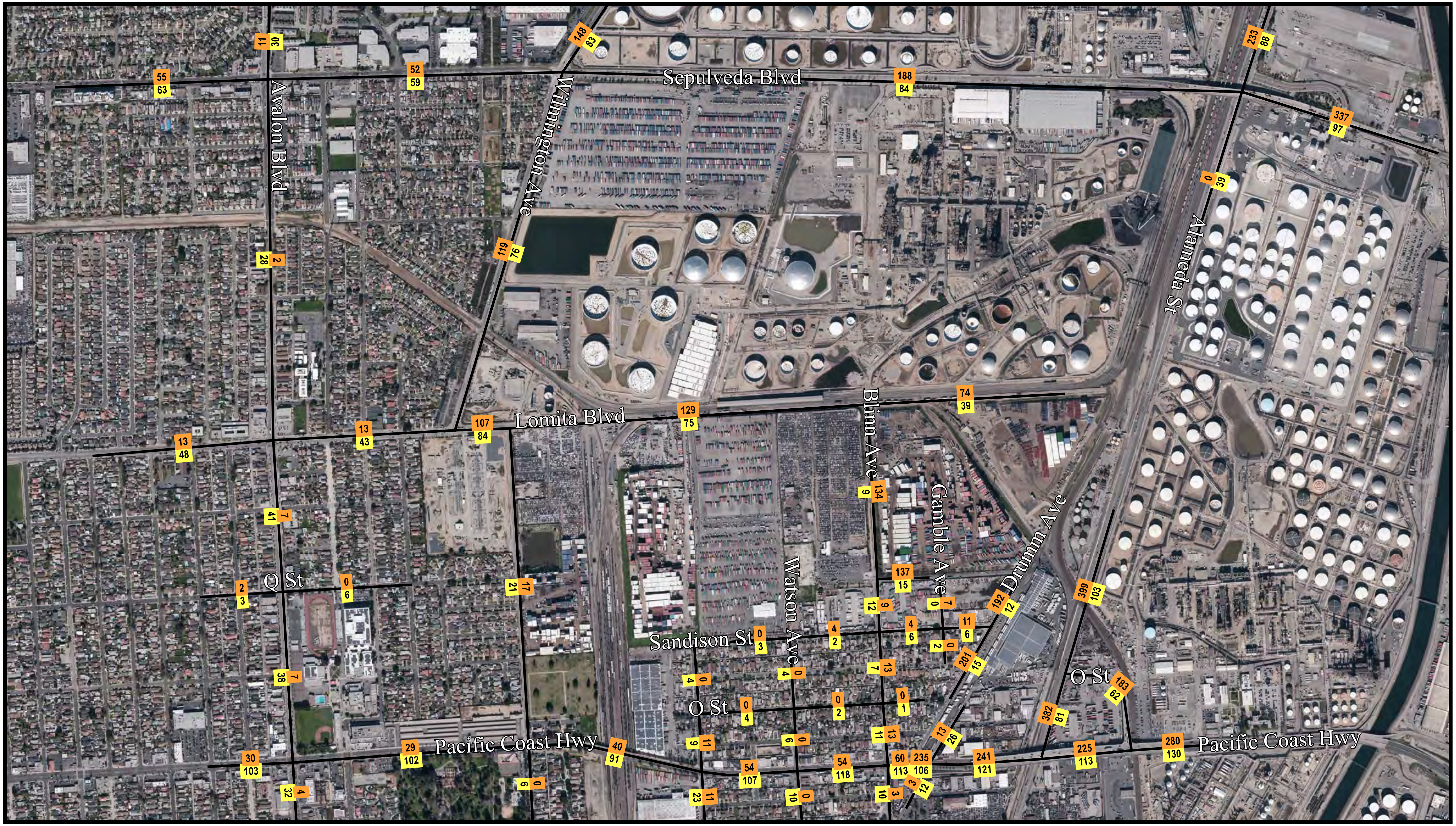
XX/YY AM/PM Peak Hour Traffic Volumes

FIGURE 3.4
Existing AM/PM Peak Hour Traffic Volumes



XX/YY AM/PM Peak Hour Traffic Volumes

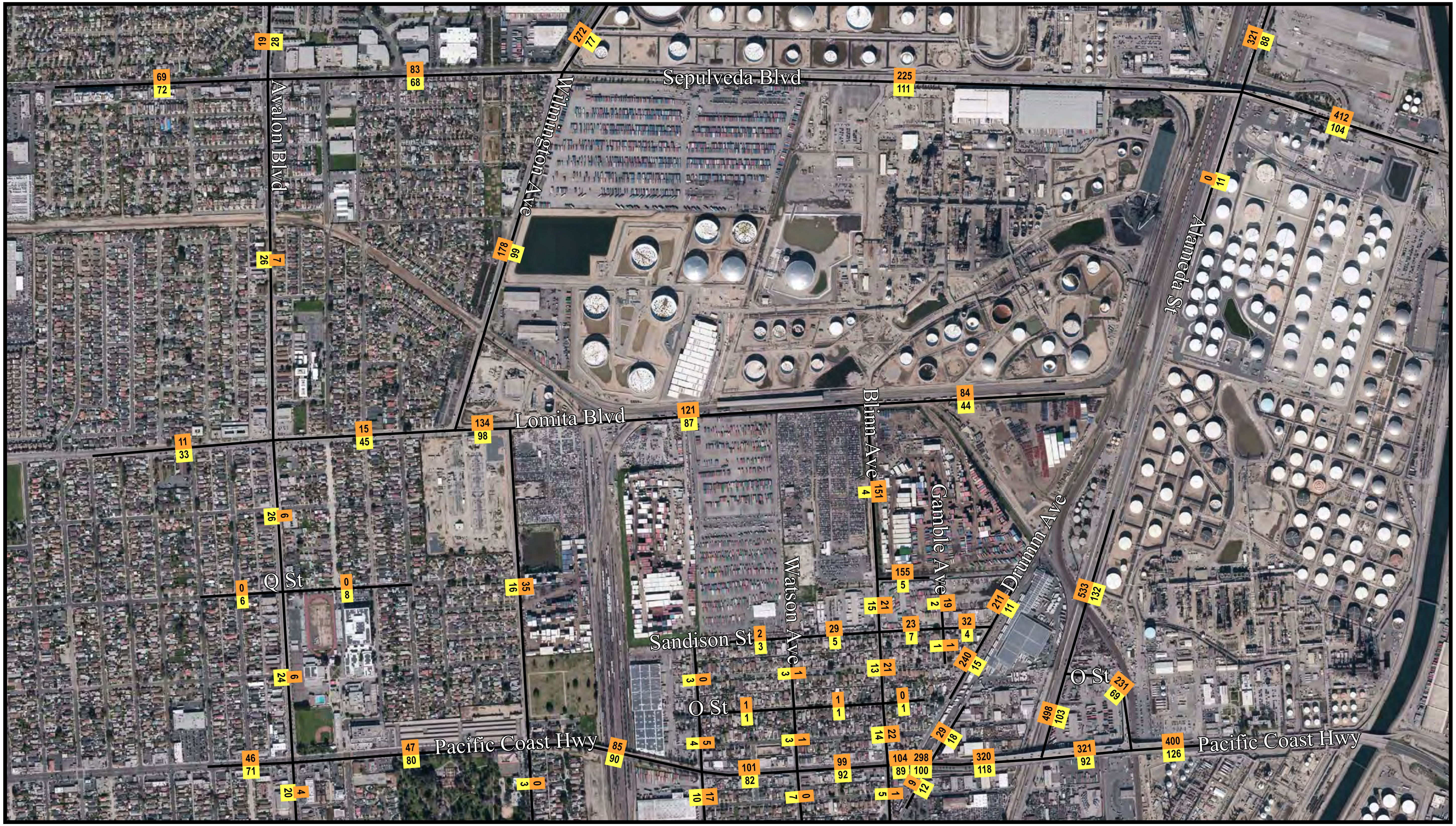
FIGURE 3.5
Existing Midday Peak Hour Traffic Volumes



Legend

Port of LA Trucks
Other Trucks

FIGURE 3.6
Existing AM Peak Hour Two-Way Port vs. Non-Port Truck Traffic Volumes



Legend

Port of LA Trucks
Other Trucks

FIGURE 3.7
Existing Midday Peak Hour Port vs. Non-Port Truck Traffic

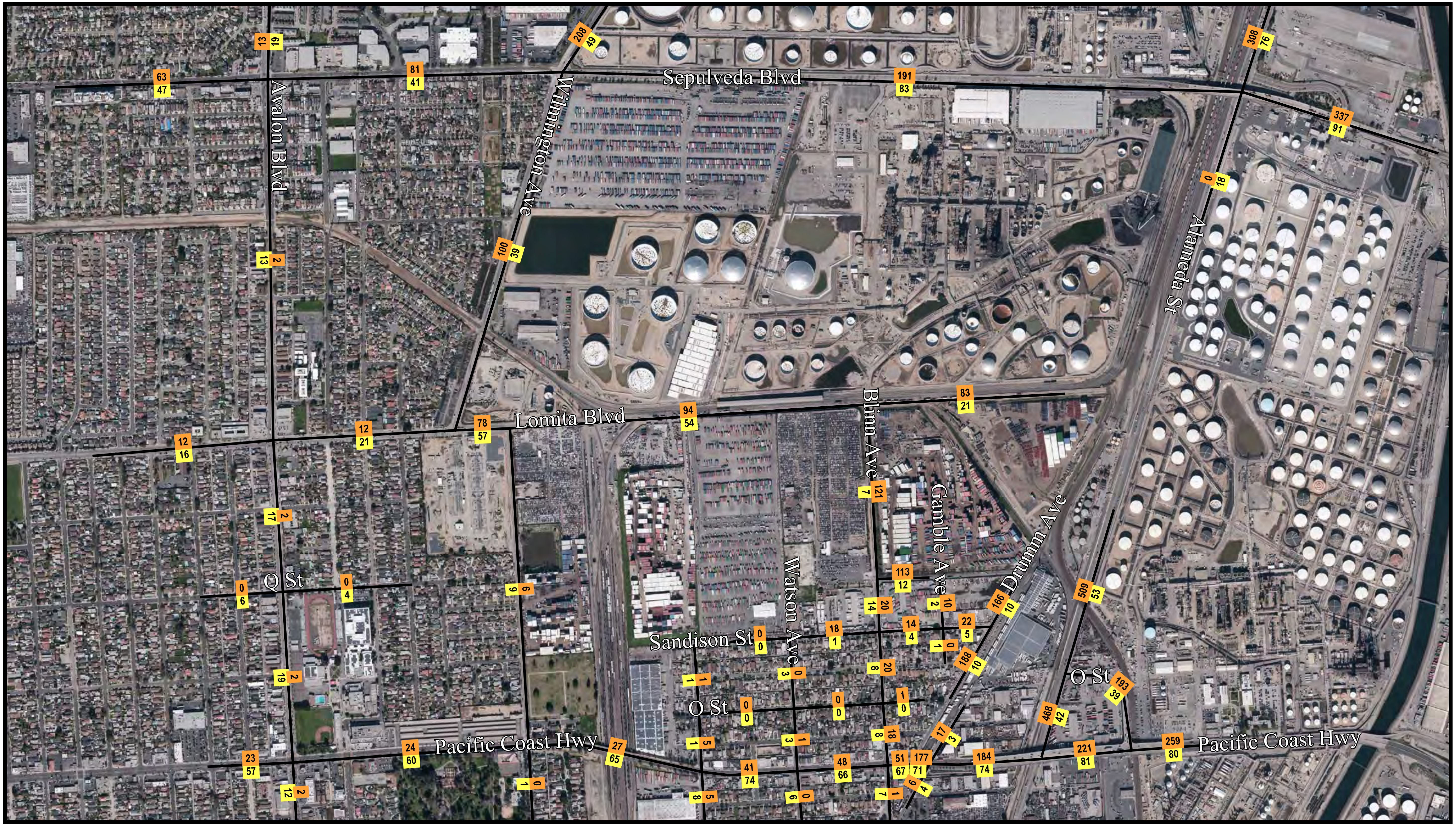


FIGURE 3.8
Existing PM Peak Hour Port vs. Non-Port Truck Traffic

Table 3-2: Existing Roadway Segment Volumes

	Roadway Segment	Cars	Trucks			Total Vehicles	Truck PCEs			PCEs
			2-Axle	3-Axle	4+-Axle		2-Axle	3-Axle	4+-Axle	
A	Lomita west of Eubank	5,251	213	774	1,753	7,991	320	1,548	5,259	12,378
B	Wilmington east of Lomita	11,434	276	706	1,650	14,066	414	1,412	4,950	18,210
C	Blinn btn Colon & PCH	2,952	139	117	122	3,358	209	234	366	3,789
D	Blinn btn Lomita & Q St	275	51	665	1,536	2,527	77	1,330	4,608	6,290
E	Colon btn Blinn & Drumm	125	16	9	4	154	24	18	12	179
F	Cruces btn Blinn & Gamble	396	19	8	0	423	29	16	0	441
G	Cruces btn Gamble & Drumm	157	3	3	0	163	5	6	0	168
H	Cruces btn Watson & Blinn	303	9	8	0	320	14	16	0	333
I	Drumm btn O St & Colon	323	45	688	1,677	2,733	68	1,376	5,031	6,798
J	Drumm btn Q St & Sandison	105	52	853	2,397	3,407	78	1,706	7,191	9,080
K	Eubank btn Sandison & O St	5,060	116	134	294	5,616	174	268	882	6,396
L	O St btn Blinn & Drumm	316	13	6	2	343	20	12	6	360
M	O St btn Sanford & Watson	340	7	3	0	350	11	6	0	357
N	Q St btn Lakme & Banning	1,101	15	10	0	1,126	23	20	0	1,144
O	Sandison btn Blinn & Gamble	609	28	95	195	939	42	190	585	1,438
P	Sandison west of Watson	322	34	7	3	366	51	14	9	396
Q	Sanford btn Colon St & PCH	1,867	36	88	51	2,054	54	176	153	2,262
R	Watson btn Colon St & PCH	2,357	38	9	6	2,422	57	18	18	2,462

Notes:
Btn = between
PCE for 2-axle = 1.5; 3-axle = 2.0; 4-axle = 3.0

The HCM methodology includes default values for saturation flow rates to be used in the analysis. The saturation flow rate is defined as the maximum number of vehicles that can pass through the intersection per unit of time under one phase or lane with sufficient traffic demand at the intersection entrance. It is affected by factors such as the type of road, traffic, and surrounding environment. Since PCH presents many turning movements through this area with a large number of trucks, the saturation flow rate at intersections along PCH were reduced to reflect field observations. Left turns into and out of intersections, driveways, and streets contribute to the reduced saturation flow rate along this segment of PCH between Coil and Sanford.

The relationship between controlled delay per vehicle and LOS for signalized intersections is summarized in Table 3-3.

Table 3-3 LOS for Signalized Intersections

LOS	Description of Traffic Conditions	Delay (sec/veh)
A	Insignificant delays: no approach phase is fully utilized, and no vehicle waits longer than one red indication.	≤ 10
B	Minimal delays: an occasional approach phase is fully utilized. Drivers begin to feel restricted.	> 10 – 20
C	Acceptable delays: major approach phase may become fully utilized. Most drivers feel somewhat restricted.	> 20 – 35
D	Tolerable delays: drivers may wait through more than one red indication. Queues may develop but dissipate rapidly, without excessive delays.	> 35 – 55
E	Significant delays: volumes approaching capacity. Vehicles may wait through several cycles and long vehicle queues form upstream.	> 55 – 80
F	Excessive delays: represents conditions at capacity, with extremely long delays. Queues may block upstream intersections.	> 80

Source: Highway Capacity Manual, Transportation Research Board.

Unsignalized intersections were evaluated using the methodology described in Chapter 17 of the HCM. The criteria for unsignalized intersections have different threshold values than do those for signalized intersections because drivers expect signalized intersections to carry higher traffic volumes, so higher levels of control delay are acceptable. The relationship between controlled delay per vehicle and LOS for unsignalized intersections is summarized in Table 3-4.

Table 3-4 Level of Service for Unsignalized Intersections

LOS	Control Delay (sec/veh)
A	≤ 10
B	> 10 – 15
C	> 15 – 25
D	> 25 – 35
E	> 35 – 50
F	> 50

Source: HCM Transportation Research Board. Exhibit 17-22

The intersection LOS analysis for this study was performed using Synchro. Synchro is a traffic analysis and simulation software that calculates delay, queuing, and LOS at intersections through detailed input of signal parameters such as signal phasing/timing, saturation flow rates, peak hour factors, heavy vehicle factors, and progression.

Roadway Segment Analysis Methodology

Roadway segment LOS is calculated using volume-to-capacity ratios (V/C). To determine the V/C ratio, the average daily traffic (ADT) volume on a particular roadway link is divided by the link capacity. Link capacities are referenced from the City of Carson General Plan Transportation and Infrastructure Element and the Los Angeles County Congestion Management Program (CMP).

Significant Impact Criteria

The minimum LOS for intersections and roadway segments in the Cities of Carson and Los Angeles is LOS D or better. Any project that degrades an intersection from acceptable to unacceptable LOS E or F would require mitigation measures to improve the LOS to pre-project conditions. Secondary impacts, such as rerouting of traffic due to a proposed mitigation measure, were also analyzed as part of this study.

Existing Year (2021) Intersection Level of Service

A summary of the AM, Midday, and PM peak hour LOS analysis for Existing Year (2021) is shown in Table 3-5. Existing LOS worksheets are included in Appendix B.

Table 3-5 Existing Intersection Level of Service

ID	INTERSECTION	Control	Existing AM Peak Hour		Existing Midday Peak Hour		Existing PM Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS
1	Avalon Blvd/Sepulveda Blvd	Signal	28.4	C	28.1	C	28.8	C
2	Avalon Blvd/Lomita Blvd	Signal	23.3	C	21.1	C	23.2	C
3	Avalon Blvd/Q Street	Signal	6.0	A	5.4	A	4.1	A
4	Avalon Blvd/PCH	Signal	44.7	D	52.7	D	55.0	D
5	Wilmington Ave/Lomita Blvd	AWSC	13.5	B	27.0	D	17.7	C
6	Wilmington Ave/Sepulveda Blvd	Signal	33.4	C	**63.2**	**E**	41.1	D
7	Eubank Ave/Lomita Blvd	TWSC	15.9	C	12.1	C	13.2	B
8	Eubank Ave/PCH	Signal	11.5	B	18.9	B	9.1	A
9	Sanford Ave/O Street	AWSC	7.1	A	7.1	A	7.2	A
10	Sanford Ave/PCH	Signal	11.0	B	4.8	A	5.2	A
11	Watson Ave/Sandison Ave	TWSC	9.2	A	9.6	A	9.4	A
12	Watson Ave/O Street	AWSC	7.3	A	7.1	A	7.5	A
13	Watson Ave/PCH	Signal	4.8	A	7.2	A	4.9	A
14	Blinn Ave/Lomita Blvd	TWSC	13.9	B	14.1	B	14.2	B
15	Blinn Ave/Q Street	TWSC	10.3	B	12.3	B	11.7	B
16	Blinn Ave/Sandison St	AWSC	7.5	A	7.7	A	7.7	A
17	Blinn Ave/O Street	TWSC	10.3	B	10.4	B	11.1	B
18	Blinn Ave/PCH	Signal	5.1	A	17.0	B	20.2	C
19	Drumm Ave/PCH	TWSC	**>100.0**	**F**	**>100.0**	**F**	**>100.0**	**F**
20	Gamble Ave/Sandison St	TWSC	9.1	A	9.0	A	9.6	A
21	Coil Ave/PCH	TWSC	**>100.0**	**F**	**>100.0**	**F**	**>100.0**	**F**
22	Drumm Ave/Sandison St	TWSC	10.6	B	10.7	B	10.2	B
23	Alameda St/Sepulveda Blvd	Signal	25.0	C	32.9	C	30.3	C
24	Alameda St/O Street	Signal	24.5	C	44.7	D	45.6	D
25	O Street/PCH	Signal	24.6	C	21.3	C	29.8	C

Notes:

AWSC = all-way stop controlled unsignalized intersection

TWSC = two-way stop controlled unsignalized intersection

Bolded = exceeds LOS standard

As shown in Table 3-5, the following three (3) intersections currently operate at unacceptable LOS E or F:

- Wilmington Avenue/Sepulveda Boulevard: LOS E in the Midday Peak Hour
- Drumm Avenue/Pacific Coast Highway: LOS F in all three peak hours
- Coil Avenue/Pacific Coast Highway: LOS F in all three peak hours

Existing Year (2021) Roadway Segment Level of Service

A summary of the level of service analysis for roadway segments for Existing Year (2021) is shown in Table 3-6. Roadway segment LOS is calculated using volume-to-capacity ratios (V/C).

Table 3-6 Existing Roadway Level of Service

ID	Roadway Segment	Capacity[1]	Volume[2]	V/C	LOS
A	Lomita Blvd between Wilmington Ave and Eubank Ave	31,000	12,378	0.399	A
B	Wilmington Ave between Lomita Blvd and Railroad Crossing	31,000	18,210	0.587	A
C	Blinn Ave between Colon St and Pacific Coast Hwy	10,000	3,789	0.379	A
D	Blinn Ave between Lomita Blvd and Q St	10,000	6,290	0.629	B
E	Colon St between Blinn Ave and Drumm Ave	10,000	179	0.018	A
F	Cruces St between Blinn Ave and Gamble Ave	10,000	441	0.044	A
G	Cruces St between Gamble Ave and Drumm Ave	10,000	168	0.017	A
H	Cruces St between Watson Ave and Blinn Ave	10,000	333	0.033	A
I	Drumm Ave between O St and Colon St	10,000	6,798	0.680	B
J	Drumm Ave between Q St and Sandison St	10,000	9,080	**0.908**	**E**
K	Eubank Ave between Sandison St and O St	10,000	6,396	0.640	B
L	O St between Blinn Ave and Drumm Ave	10,000	360	0.036	A
M	O St between Sanford Ave and Watson Ave	10,000	357	0.036	A
N	Q St between Lakme Ave and Banning Blvd	10,000	1,144	0.114	A
O	Sandison St between Blinn Ave and Gamble Ave	10,000	1,438	0.144	A

[1] Roadway Capacities referenced from Los Angeles County Congestion Management Project (2010).
[2] Daily Passenger Car-Equivalent volumes

As shown in the table, the roadway segment of Drumm Avenue between Q Street and Sandison currently operates at an unacceptable LOS E.

4.0 FUTURE CONDITIONS

4.1 Future Land Use

The built-out environment that exists today is not anticipated to change under Future Year (2045) conditions. No changes to the generalized zoning in the Wilmington – Harbor City Community Plan Area are projected by Los Angeles Department of City Planning.

4.2 Future Roadway Conditions

The City of Carson's General Plan Transportation and Infrastructure Element, The Wilmington – Harbor City Community Plan, and the Mobility Plan 2035 (Mobility Element of the Los Angeles General Plan) were reviewed to identify any planned or programmed geometric modifications to the study area intersections and roadway segments. No major changes to the street network were identified for Future Year (2045) conditions.

4.3 Future Traffic Conditions

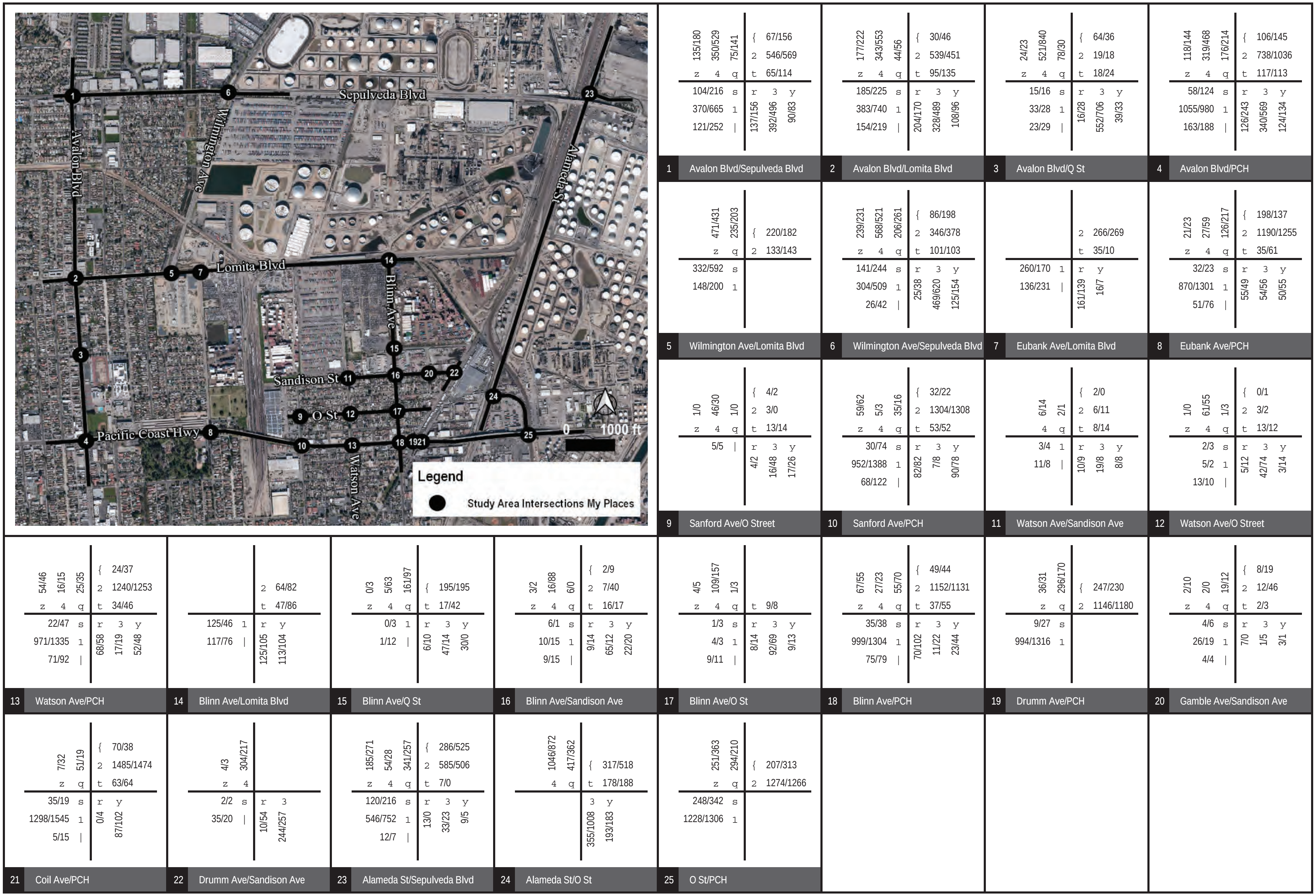
Although land uses within the immediate study area (primarily single-family residential, industrial, and neighborhood commercial) are not anticipated to change under future conditions, an ambient growth rate was applied to all traffic volumes along Pacific Coast Highway (a regional facility that connects the I-110 Freeway to the west and the I-710 to the east). A CAGR of 0.30 percent per year (consistent with the Port of LA Traffic Model) was applied to the existing traffic volumes for through movements on PCH to develop Future Year (2045) traffic volumes.

Future (Year 2045) Intersection Traffic Volumes are shown in Figures 4.1 and 4.2. LOS worksheets are included in Appendix C. Roadway segment volumes are summarized in Table 4-1. Future (Year 2045) Intersection LOS is presented in Table 4-2 and future roadway segment LOS in shown in Table 4-3. The following are intersections are forecast to continue to operate at unacceptable LOS in the Future (Year 2045) Condition:

- Avalon Boulevard/Pacific Coast Highway: LOS E in the Midday and PM peak hours
- Drumm Avenue/Pacific Coast Highway: LOS F in all three peak hours
- Coil Avenue/Pacific Coast Highway: LOS F in all three peak hours

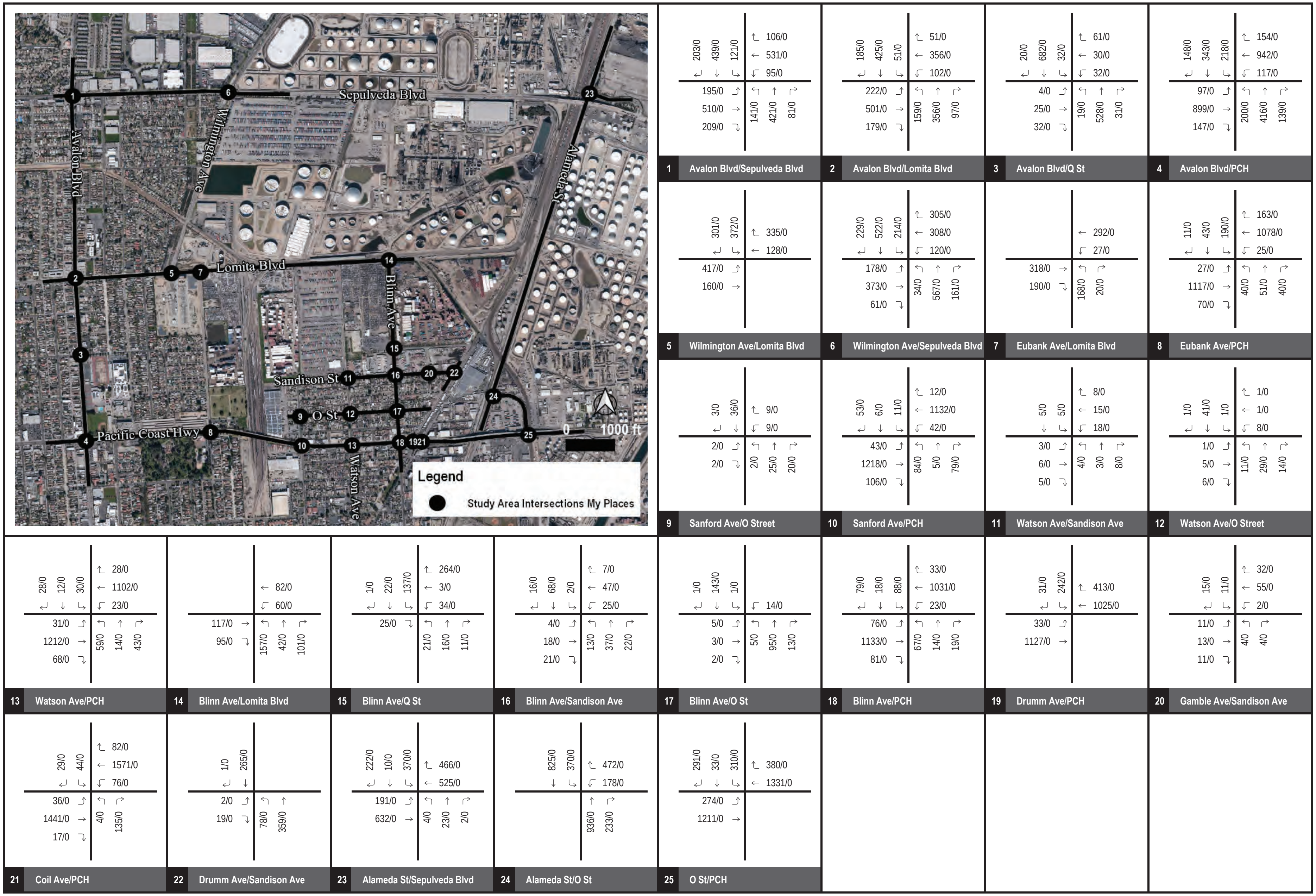
The following roadway segment is forecast to continue to operate at unacceptable LOS in Future Year (2045) Conditions:

- Drumm Avenue between Q Street and Sandison Street



XX/YY AM/PM Peak Hour Traffic Volumes

FIGURE 4.1
Future Year (2045) AM/PM Hour Traffic Volumes



XX/YY Midday Peak Hour Traffic Volumes

FIGURE 4.2
Future Year (2045) Midday Peak Hour Traffic Volumes

Table 4-1: Future Roadway Segment Volumes

	Roadway Segment	Cars	Trucks 2-Axle	Trucks 3-Axle	Trucks 4+-Axle	Total Vehicles	Truck PCEs 2-Axle	Truck PCEs 3-Axle	Truck PCEs 4+-Axle	PCEs
A	Lomita west of Eubank	5,642	213	774	1,753	8,382	320	1,548	5,259	12,769
B	Wilmington east of Lomita	12,286	276	706	1,650	14,918	414	1,412	4,950	19,062
C	Blinn btn Colon & PCH	3,200	139	117	122	3,578	209	234	366	4,009
D	Blinn btn Lomita & Q St	295	51	665	1,536	2,547	77	1,330	4,608	6,310
E	Colon btn Blinn & Drumm	134	16	9	4	163	24	18	12	188
F	Cruces btn Blinn & Gamble	426	19	8	0	453	29	16	0	471
G	Cruces btn Gamble & Drumm	169	3	3	0	175	5	6	0	180
H	Cruces btn Watson & Blinn	326	9	8	0	343	14	16	0	356
I	Drumm btn O St & Colon	347	45	688	1,677	2,757	68	1,376	5,031	6,822
J	Drumm btn Q St & Sandison	113	52	853	2,397	3,415	78	1,706	7,191	9,088
K	Eubank btn Sandison & O St	5,449	116	134	294	5,993	174	268	882	6,773
L	O St btn Blinn & Drumm	346	13	6	2	367	20	12	6	384
M	O St btn Sanford & Watson	365	7	3	0	375	11	6	0	382
N	Q St btn Lakme & Banning	1183	15	10	0	1,208	23	20	0	1,226
O	Sandison btn Blinn & Gamble	666	28	95	195	984	42	190	585	1,483
P	Sandison west of Watson	346	34	7	3	390	51	14	9	420
Q	Sanford btn Colon St & PCH	2,018	36	88	51	2,193	54	176	153	2,401
R	Watson btn Colon St & PCH	2,545	38	9	6	2,598	57	18	18	2,638

Notes:

Btn = between

PCE for 2-axle = 1.5; 3-axle = 2.0; 4-axle = 3.0

Table 4-2: Future Year (2045) Intersection Level of Service

ID	INTERSECTION	Control	Existing AM Peak Hour		Existing Midday Peak Hour		Existing PM Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS
1	Avalon Blvd/Sepulveda Blvd	Signal	28.8	C	28.9	C	30.0	C
2	Avalon Blvd/Lomita Blvd	Signal	23.8	C	21.4	C	24.1	C
3	Avalon Blvd/Q Street	Signal	6.1	A	6.7	A	4.0	A
4	Avalon Blvd/PCH	Signal	53.7	D	**63.4**	**E**	**66.2**	**E**
5	Wilmington Ave/Lomita Blvd	AWSC	14.4	B	29.8	D	20.5	C
6	Wilmington Ave/Sepulveda Blvd	Signal	34.0	C	64.5	E	43.2	D
7	Eubank Ave/Lomita Blvd	TWSC	16.4	C	12.4	B	13.5	B
8	Eubank Ave/PCH	Signal	10.5	B	19.7	B	10.2	B
9	Sanford Ave/O Street	AWSC	7.1	A	7.1	A	7.2	A
10	Sanford Ave/PCH	Signal	14.4	B	4.6	A	5.3	A
11	Watson Ave/Sandison Ave	TWSC	9.2	A	9.6	A	9.4	A
12	Watson Ave/O Street	AWSC	7.3	A	7.1	A	7.6	A
13	Watson Ave/PCH	Signal	5.0	A	7.3	A	4.8	A
14	Blinn Ave/Lomita Blvd	TWSC	14.0	B	14.1	B	14.3	B
15	Blinn Ave/Q Street	TWSC	10.3	B	12.3	B	11.7	B
16	Blinn Ave/Sandison St	AWSC	7.5	A	7.7	A	7.7	A
17	Blinn Ave/O Street	TWSC	10.4	B	10.5	B	11.3	B
18	Blinn Ave/PCH	Signal	9.4	A	22.6	C	21.4	C
19	Drumm Ave/PCH	TWSC	**>100.0**	**F**	**>100.0**	**F**	**>100**	**F**
20	Gamble Ave/Sandison St	TWSC	9.1	A	9.0	A	9.6	A
21	Coil Ave/PCH	TWSC	**>100.0**	**F**	**>100.0**	**F**	**>100**	**F**
22	Drumm Ave/Sandison St	TWSC	10.6	B	10.7	B	10.2	B
23	Alameda St/Sepulveda Blvd	Signal	25.0	C	33.3	C	30.4	C
24	Alameda St/O Street	Signal	25.7	C	47.6	D	50.1	D
25	O Street/PCH	Signal	25.5	C	25.6	C	39.7	D

Notes:
AWSC = all-way stop controlled unsignalized intersection
TWSC = two-way stop controlled unsignalized intersection
Bolded = exceeds LOS standard

Table 4-3: Future Year (2045) Roadway Level of Service

ID	Roadway Segment	Capacity[1]	Volume[2]	V/C	LOS
A	Lomita Blvd between Wilmington Ave and Eubank Ave	31,000	12,378	0.399	A
B	Wilmington Ave between Lomita Blvd and Railroad Crossing	31,000	18,210	0.587	A
C	Blinn Ave between Colon St and Pacific Coast Hwy	10,000	3,789	0.379	A
D	Blinn Ave between Lomita Blvd and Q St	10,000	6,290	0.629	B
E	Colon St between Blinn Ave and Drumm Ave	10,000	179	0.018	A
F	Cruces St between Blinn Ave and Gamble Ave	10,000	441	0.044	A
G	Cruces St between Gamble Ave and Drumm Ave	10,000	168	0.017	A
H	Cruces St between Watson Ave and Blinn Ave	10,000	333	0.033	A
I	Drumm Ave between O St and Colon St	10,000	6,798	0.680	B
J	Drumm Ave between Q St and Sandison St	10,000	9,080	**0.908**	**E**
K	Eubank Ave between Sandison St and O St	10,000	6,396	0.640	B
L	O St between Blinn Ave and Drumm Ave	10,000	360	0.036	A
M	O St between Sanford Ave and Watson Ave	10,000	357	0.036	A
N	Q St between Lakme Ave and Banning Blvd	10,000	1,144	0.114	A
O	Sandison St between Blinn Ave and Gamble Ave	10,000	1,438	0.144	A

[1] Roadway Capacities referenced from Los Angeles County Congestion Management Project (2010).
[2] Daily Passenger Car-Equivalent volumes

5.0 COMMUNITY OUTREACH

The public engagement effort was a focal point in the development of the Wilmington Freight Mitigation Study and was vital to refinement and development of potential mitigation measures. The consultant team, understanding the difficulties of outreach in disadvantaged communities, developed a robust engagement to understand existing needs, challenges and opportunities related to goods movement. The following community and stakeholder engagement have been conducted and are summarized below:

- Focus Groups
- One-on-One Interviews
- Community Meetings
- CicLAvia Pop-Up Event
- Technical Working Group
- Direct Stakeholder Correspondance
- Community Briefing

5.1 Focus Groups

The Wilmington Freight Mitigation Study held two sets of focus groups – one for businesses (implemented one-on-one conference calls) and one for residents (collective phone call). One-on-one conference calls for the business owners were selected in lieu of a collective phone call due to the sensitive nature of business operational data being shared through the dissemination of information.

Both the business and resident focus groups took place over the span of two days on May 13, 2020 and May 14, 2020. The purpose of the focus groups was to (1) assess the impacts of increased truck travel within the identified study area and (2) recommend traffic and general infrastructure mitigations to improve the quality of life for residents in this community. The facilitated discussion during the focus groups provided an opportunity to learn more from selected community members (business owners and residents) who provided more in-depth answers to important questions posed by the team.

The consultant team's outreach subconsultant, Katherine Padilla & Associates (KPA) conducted the research and facilitated the focus groups. KPA used an interview guide to focus the discussions on questions previously emailed to participants and asked follow-up questions to understand and clarify participants' responses. The Office of Councilmember Joe Buscaino (CD-15) assisted the team in the identification of the participants for the focus groups.

Focus Group 1: Businesses

There was a total of nine participants in Focus Group 1 comprised of the following six (6) businesses:

- Chandler Sand & Gravel – 1711 Alameda Street
- ESTES Express Lines – 1531 N Blinn Avenue
- Hunt Enterprises – 1150 Wilmington Boulevard
- CMI West – 1501 E Lomita Boulevard
- Martin Container – 1402 E Lomita Boulevard
- ITS ConGlobal – 1304 E Lomita Boulevard & 1711 Alameda Street

The majority were long-term businesses who have operated their businesses from these locations for decades. Almost all participants characterized themselves as being involved in the neighborhood where their business operates, and at least one is a member of a freight association. The team also received input from a CPUC representative and a WNC representative after the interviews. A detailed summary report of the business focus group discussions, along with the additional input from CPUC and WNC is provided in Appendix D. The following provides a high-level summary of the critical issues identified as part of the business owner outreach:

- ***The closure of the connection between Alameda Street and Lomita Boulevard has created increased delays of at least 30 minutes due to additional trucks on Lomita Boulevard not having an alternative route during the many train crossing events.***
- ***Lomita Boulevard east of Eubank Avenue is poorly maintained and business owners have been in constant contact with both the City of Los Angeles and the City of Carson.***
- ***Illegal dumping on Blinn Avenue and Q Street continues, even with efforts of the Hart Association to clean up the area a few times a year.***
- ***Illegal parking of trailers continues on Q Street despite "No Parking Anytime" signage.***
- ***The intersection of Pacific Coast Highway and Drumm Avenue needs a traffic signal and larger turning radius to improve operations and safety.***
- ***Blinn Avenue between Q Street and Lomita Boulevard is too narrow and is very difficult for two trucks to fit traveling in opposite directions.***
- ***Signage, striping, pavement improvements would go a long way coupled with improved enforcement.***

Focus Group 2: Residents

There were three participants in Focus Group 2. All three are very active residents in the community, volunteering with the East Wilmington Neighborhood Watch. They were all long-term residents of the identified area. All three shared their appreciation for being included in the study. Notwithstanding the positive comments, participants offered insightful comments about issues that need addressing and suggested improvements for consideration. Subsequent to the interviews, the team received input from a long-time member of the Wilmington Neighborhood Council (WNC) and included that input in the outreach summary report, which is provided in Appendix E. High-level summary of the critical issues identified through outreach of the community members include:

- ***Existing signage prohibiting trucks on residential streets is ineffective; residents often post their own "No Parking" or "No Trucks" signs in front of their houses.***
- ***The general area is not conducive for walking and biking, especially with the high truck activity and the amount of space they require.***
- ***Residential streets are narrow, especially with on-street parking on both sides of the streets so when a truck illegally uses a residential street, they often get stuck and end up causing major delays or overturning their containers.***
- ***Speed of both trucks and vehicles is a major problem; speed bumps suggested to address speed and safety concerns.***
- ***Continued lack of enforcement in the area related to parking, dumping, and trucks on streets.***
- ***Community is subject to an inordinate amount of noise pollution.***

5.2 One-on-One Interviews

The Wilmington Freight Mitigation Study held a second round of one-on-one phone interviews with businesses in proximity to the project area. The purpose of the interviews was to present and review the preliminary mitigation developed in response to the initial outreach conducted. The second round of one-on-ones with the businesses looked to capture insights and additional opinions about mitigation options to reduce truck traffic into surrounding residential neighborhoods without affecting the safe and efficient operations of businesses. KPA in collaboration with the team developed an interview guide to focus the discussions and a guide listing four problem areas of Wilmington and illustrating the preliminary mitigation options for each area. KPA conducted the interviews.

All businesses interviewed as part of Focus Group 1 participated in this round of engagement, except for Martin Container. The businesses were interviewed via phone calls on July 14, 15, and 22, 2021. KPA sent information describing and illustrating the preliminary mitigations options in advance of the interviews so that business representatives could review in preparation. The input received regarding the preliminary mitigation measures were used to then refine and create additional measures. The summary of findings is presented in Appendix F. Residents did not have a second round of focus groups as they were given the opportunity to provide input in the wider community meeting, summarized in the next section.

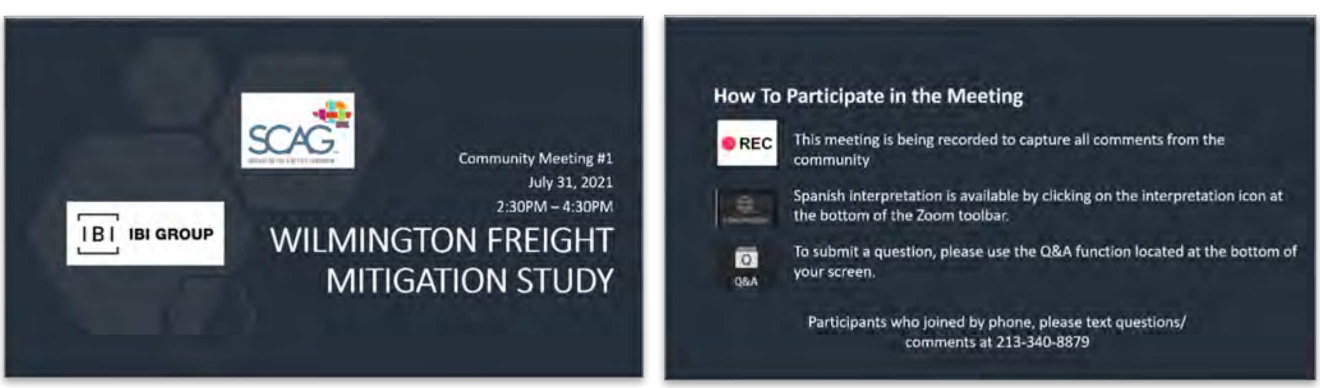
5.3 Community Meeting

The Wilmington Freight Mitigation Study held a virtual community meeting on July 31, 2021. The purpose of the virtual community meeting was to present to the community within the study area preliminary mitigation options to reduce truck traffic into the surrounding residential neighborhoods. The mitigation options reflected input from the focus groups and one-on-one interviews as well as mitigations developed as part of the site conditions analysis.

KPA led the coordination and production efforts for the live virtual meeting, which was available to stakeholders through the Zoom platform. Members of the community were able to watch and participate in the meeting through their computer/laptop, tablet, or smartphone. A Spanish interpreter allowed participants to attend in their language of choice—English or Spanish.

As part of the outreach strategy, a bilingual meeting invitation flyer was prepared. Fifteen hundred (1,500) flyers were distributed door-to-door to the residents and businesses within the project area. An additional five hundred (500) flyers were distributed through the Holy Family Catholic Church. An electronic meeting invitation was sent to the Chamber of Commerce, the WMC, the Strength Based Community Charge (SBCC) group, Providence Wellness Center, and LA Walks "Calles Seguras," for distribution to their members.

A total of eleven (11) stakeholders attended the meeting, including members of the community, business owners, and the South Coast Air Quality Management District. A total of 45 questions and comments were received. A summary of the virtual community meeting is provided in Appendix G.



Screenshots of Slides for Community Meeting #1

Reoccurring comments and questions received during Community Meeting #1 revolved around the following themes:

- ***The need to provide an alternative that removes trucks altogether from the neighborhood streets via new ramp or bridge connecting Alameda to Lomita Boulevard***
- ***Clarification needed on why the Watson Road CPUC Crossing was closed in the first place – could this connection be taken via eminent domain?***
- ***Concerns over the adequacy of outreach conducted thus far***
- ***Fine and/or remove industrial uses that are consistently in violation of truck routes, parking, or container storage***

5.4 CicLAvia Pop-Up Event

The consultant team set up and staffed a booth with eight 24”x36” interactive display boards at the CicLAvia Wilmington event to interact with the community to provide information about the Wilmington Freight Mitigation Study and to collect opinions from Wilmington residents. Displays presented information in both English and Spanish.

As part of the outreach strategy, KPA also emailed invitations and event information to community members, business representatives, and community-based organizations to “Visit us at CicLAvia Wilmington” to learn about the study and provide their opinions.

The team interacted with approximately 50 persons, in English and Spanish, providing information, and collecting input from approximately 30 persons who provided comments on sticky notes applied to the displays and submitted comment cards. Interested persons were also asked to provide their contact information on a sign-in sheet to be kept informed. The summary of the CicLAvia Pop-Up Event is provided in Appendix H.

5.5 Technical Working Group

As part of the feedback and input process, a Technical Working Group (TWG) was formed and met on October 19, 2021. The TWG, consisting of Caltrans, LADOT, SCAG, and POLA staff, reviewed mitigation concepts and provided initial feedback and comments. The purpose and intent of the TWG was to identify major issues, flaws, and considerations associated with any of the recommended mitigation measures or concepts from technical standpoint. This process allowed the team to remove the options from consideration, should a particular mitigation be deemed infeasible. This was a key element of the design process – ensuring that any mitigations recommended were technically sound before presenting again to the community. After the TWG meeting, the consultant team submitted analysis results and conceptual plans for further review and comment.

5.6 Wilmington Neighborhood Council and Residents

Official input from the WNC was submitted to the team on October 6, 2021 and focused on feedback on the July 1, 2021 Community Meeting presentation. Specific issues included an overall lack of enforcement of truck driving on non-designated truck routes (residential streets), excessive truck idling due to congestion, collisions between trucks and parked cars, operational violations of adjacent businesses. The WNC noted three (3) potential solutions:

- A land swap to remove heavy industrial uses and replace with commercial and manufacturing as zoned
- Take control of and reopen the Watson Road Crossing via eminent domain
- Construction of a bridge connecting Alameda to Lomita

Residents also provided comments and concerns via email. The letters received from the WNC and residents are provided in Appendix I.

5.7 Community Briefing

The consultant team conducted a final engagement event in the form of a Community Briefing on November 30, 2021. This two-hour virtual session was a presentation of all mitigation measures and concepts developed to date and provided a forum for the community to discuss, provide input, and ask questions. A total of ten (10) stakeholders attended the meeting, including members of the community, business owners, and the South Coast Air Quality Management District. A total of 29 questions and comments were received. Reoccurring comments and questions received during Community Briefing revolved around the following themes:

- ***Concerns over the limited study area – why was only this area studied?***
- ***Expressed interest in other mitigation measures that involve removing trucks altogether – land swap, rezoning industrial to residential or mixed-use, new connection (roadway or bridge from Alameda to Lomita)***
- ***Concerns over the adequacy of outreach conducted thus far – WNC interested in joining the Technical Working Group sessions***
- ***Large trucks colliding with parked cars***
- ***Fine and/or remove industrial uses that are consistently in violation of truck routes, parking, or container storage – the need for stronger and more frequent enforcement***

A summary of attendees and questions/answers is provided in Appendix J. The public process diagram and corresponding timeline/summary of all outreach conducted is provided in Appendix K.

6.0 PARAMETERS FOR EVALUATION

Considering all aspects of completed tasks, including input and feedback from the community as well as data collected for existing and future conditions, parameters for evaluation of mitigation measures were defined. This section discusses both the goals and the objectives for the mitigation measures and summarizes the performance metrics that were used to remedy congestion from a level of service and queuing standpoint, neighborhood truck intrusion, and safety concerns through context-sensitive solutions.

6.1 Project Goals and Objectives

The following presents the overall project goals and objectives and formed the basis for identification, development, and comparison of mitigation measures.

A. Reducing truck intrusion into the neighborhood located within the study area and reduce truck and train conflicts
B. Provide design treatments for multimodal, complete, and safe streets
C. Develop design treatments within the existing right-of-way to accommodate safe and efficient goods movement

All mitigation measures recommended as part of this study must strive to address the project's overall goals and objectives to the greatest extent possible.

6.2 Performance Measures

Along with goals and objectives for each mitigation measure presented, there needed to be an evaluation criterion and an analysis methodology to ultimately assess the degree to which a mitigation measure satisfies the performance objectives. Performance measures, or metrics, were identified on which to base potential mitigation measures upon and are consistent with LADOT's mobility initiatives. These include:

- Accessibility
- Safety and Comfort
- Culture and Community
- Equity and Transparency
- Level of Service, Delay, and Queuing
- Environmental

As part of the mitigation measures, other indicators related to additional impacts were developed. Additional impacts include, but are not limited to, traffic diversion, parking loss, noise, or environmental concerns.

7.0 MITIGATION MEASURES

Mitigation measures presented in this section respond to the problem definition and project goals and objectives, and relate them to site review, stakeholder and public input, other planning efforts, and technical analyses. The mitigation measures included in this section were reviewed by the project development team (PDT) members that included SCAG, the City of Los Angeles, Council District 15, the Wilmington Neighborhood Council, the Port of Los Angeles, and Caltrans District 7 Freight Lead.

It is noted that the stakeholder and public outreach process played a critical role in the development and refinement of the mitigation measures presented in this report. A summary of the critical issues defined by the residents and business owners as part of the focus groups and one-on-one interviews and corresponding mitigation measure developed is summarized below.

Table 7-1: Community Concerns and Related Mitigation Measure(s)

Critical Issue	Mitigation(s) to Address Issue
Delays on Lomita Boulevard due to poor pavement condition, inadequate striping/signage, and train crossings.	MIT-8 Lomita Blvd Improvements at Watson Junction Wye Crossings: Improves enforcement of illegally parked trucks on or near railroad, improves signing/striping, and improves crossing gates/approaches. Implementation of CPUC improvements.
Continued lack of enforcement in the area related to parking, dumping, and trucks on streets.	MIT-8 Lomita Blvd Improvements to increase enforcement and coordination amongst several agencies MIT-9 Gamble Avenue partnership with Hart Foundation for more frequent clean-up efforts and increased enforcement from local police department
The intersection of Pacific Coast Highway and Drumm Avenue needs a traffic signal and larger turning radius to improve operations and safety.	MIT-1, MIT-2, MIT-5 to increase turning radius for Drumm/PCH and Drumm/Q Street and to install a traffic signal at Drumm/PCH
Blinn Avenue between Q Street and Lomita Boulevard is too narrow and is very difficult for two trucks to fit traveling in opposite directions.	MIT-7 Widens Blinn Avenue to ultimate width of 36 feet.
Existing signage prohibiting trucks on residential streets is ineffective; residents often post their own “No Parking” or “No Trucks” signs in front of their houses.	MIT-3, MIT-4, MIT-5, MIT-6, and MIT-9 all address the inadequacy of signage to prohibit or minimize neighborhood truck intrusion. Mitigations present physical barriers to entry.
The general area is not conducive for walking and biking, especially with the high truck activity and the amount of space they require.	MIT-3, MIT-4, MIT-5, MIT-6, and MIT-9 look to remove/minimize trucks, thereby increasing safety for walking and biking
Residential streets are narrow, especially with on-street parking on both sides of the streets so when a truck illegally uses a residential street, they often get stuck and end up causing major delays or overturning their containers.	MIT-3, MIT-4, MIT-5, MIT-6, and MIT-9 all address the inadequacy of signage to prohibit or minimize neighborhood truck intrusion. Mitigations present physical barriers to entry.
Expressed interest in other mitigation measures that involve removing trucks altogether – land swap, rezoning industrial to residential or mixed-use, new connection (roadway or bridge from Alameda to Lomita)	MIT-6 provides a new connection using Coil Avenue instead of Drumm Avenue. One option would tie into the Drumm/Cruces intersection and the other would bypass Drumm and connect to Q Street directly.

7.1 Mitigation Measure MIT-1: Drumm and PCH Turning Radius

Issue: Trucks are currently driving over the curb on the east side of the intersection while making a right turn onto Drumm Avenue from PCH.

Mitigation MIT-1: Increase roadway width of Drumm Ave from 32’ to 40’ and increase curb radii from 30’ to 35’

Goal(s) Achieved: Minimize truck-truck and truck-vehicle conflicts, safer/more efficient goods movement.

Performance Measures: Accessibility; Safety and Comfort; Level of Service, Delay and Queuing

Considerations: Increased roadway width can be accommodated within existing right-of-way; some on-street parking loss (2 spaces) on west side of Drumm Avenue. Full mitigation (i.e. no overlap) would require additional right-of-way acquisition from adjacent industrial use (KPAC).

Existing Turning Radius

Proposed Turning Radius

7.2 Mitigation Measure MIT-2: Drumm and Q St Turning Radius

Issue: Conflicting turning paths (northbound left and eastbound right-turns unable to turn at same time) due to tight turning radius.

Mitigation MIT-2: Increase roadway width of Drumm Ave from 32’ to 40’ and increase curb radii from 25’ to 35’

Goal(s) Achieved: Significantly reduces sweep path overlap, allows trucks/vehicles to turn simultaneously, reduces conflict area.

Performance Measures: Accessibility; Safety and Comfort

Considerations: Full mitigation (i.e. no turning path overlap) would require either additional right-of-way or a curb cut on southwest corner of the intersection.

Existing Turning Radius

Proposed Turning Radius

7.3 Mitigation Measure MIT-3A: Raised Curb Extensions at Cruces, O, and Colon Intersections with Drumm Avenue

Issue: Trucks driving through these east/west neighborhood streets to bypass Drumm Avenue or turning from the north/south streets from Watson of Blinn; broken curbs and sidewalks

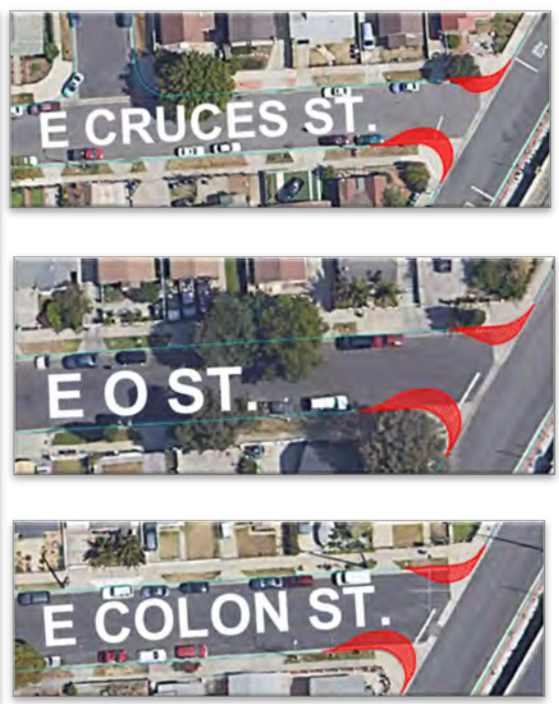
Mitigation MIT-3A: Curb Extensions that visually and physically narrow the roadway, design such that large trucks are unable to enter the small residential streets

Goal(s) Achieved: Reduces truck intrusion into the neighborhood, encourages slower turning movements of vehicles, shortens the distance for pedestrians to cross.

Performance Measures: Safety and Comfort; Culture and Community; Equity

Considerations: Maintains existing emergency and fire access, adjacent property owner assumes responsibility for gutter maintenance as street sweepers are unable to negotiate the curb.

Existing Condition



Proposed Curb Extensions

7.4 Mitigation Measure MIT-3B: Cul-de-Sac Intersections of Cruces, O, and Colon with Drumm

Issue: Trucks driving through these east/west neighborhood streets to bypass Drumm Avenue or turning from the north/south streets from Watson of Blinn; broken curbs and sidewalks

Mitigation MIT-3B: Cul-De-Sac (Full Closure, no vehicular access to/from Drumm Avenue)

Goal(s) Achieved: Eliminates trucks' use of Cruces, O, and Colon to bypass Drumm, provides safer environment for pedestrians and residents, and is supported by the Wilmington Community Plan.

Performance Measures: Accessibility; Safety and Comfort; Culture and Community, Equity

Considerations: Modifies existing emergency and fire access (requires additional coordination), residents no longer can use those intersections for vehicular access; however, residents can still park on the west side of Drumm Avenue and walk to their homes (no loss of parking).

Existing Condition

Sample Cul-de-Sac Treatments

7.5 Mitigation Measure MIT-4A: Mini Roundabouts on Blinn, Watson, and Sanford

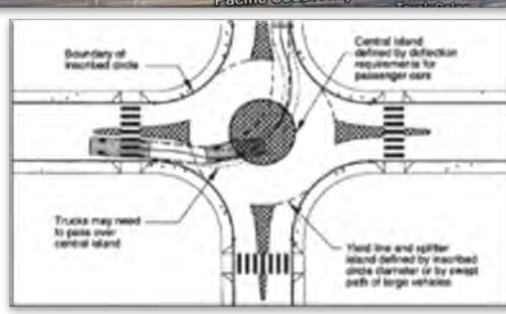
Issue: Despite signage prohibiting trucks over 6,000 pounds, trucks are still present on these residential north and south streets, many of which end up on Sandison Street as well.

Mitigation MIT-4A: Mini Roundabouts/Traffic Circles designed per Federal Highway Administration with a 28’ diameter center mountable island at Sanford/O Street, Watson/Colon, and Blinn/Colon. Pedestrian crosswalks would be provided on each approach.

Goal(s) Achieved: Reduces truck intrusion into the neighborhood, mini roundabouts with mountable curbs will discourage truck traffic, emergency vehicles will still be able to access the residential areas by traversing over the central island, designed for standard side-loading waste trucks, provision of crosswalks and pedestrian refuge areas, promotes slower vehicular speeds (traffic calming).

Performance Measures: Accessibility; Safety and Comfort; Culture and Community, Equity

Considerations: Requires displacement of approximately 20 parking spaces at each roundabout location (total parking loss of approximately 60 on-street spaces) to accommodate design according to LA County standards. Trucks may still run over curb.



Sample Mountable Curb Mini Roundabout

LA County Standard Plan

O St/Sanford Striping

7.6 Mitigation Measure MIT-4B: Vertical Clearance Treatments on Blinn, Watson, and Sanford

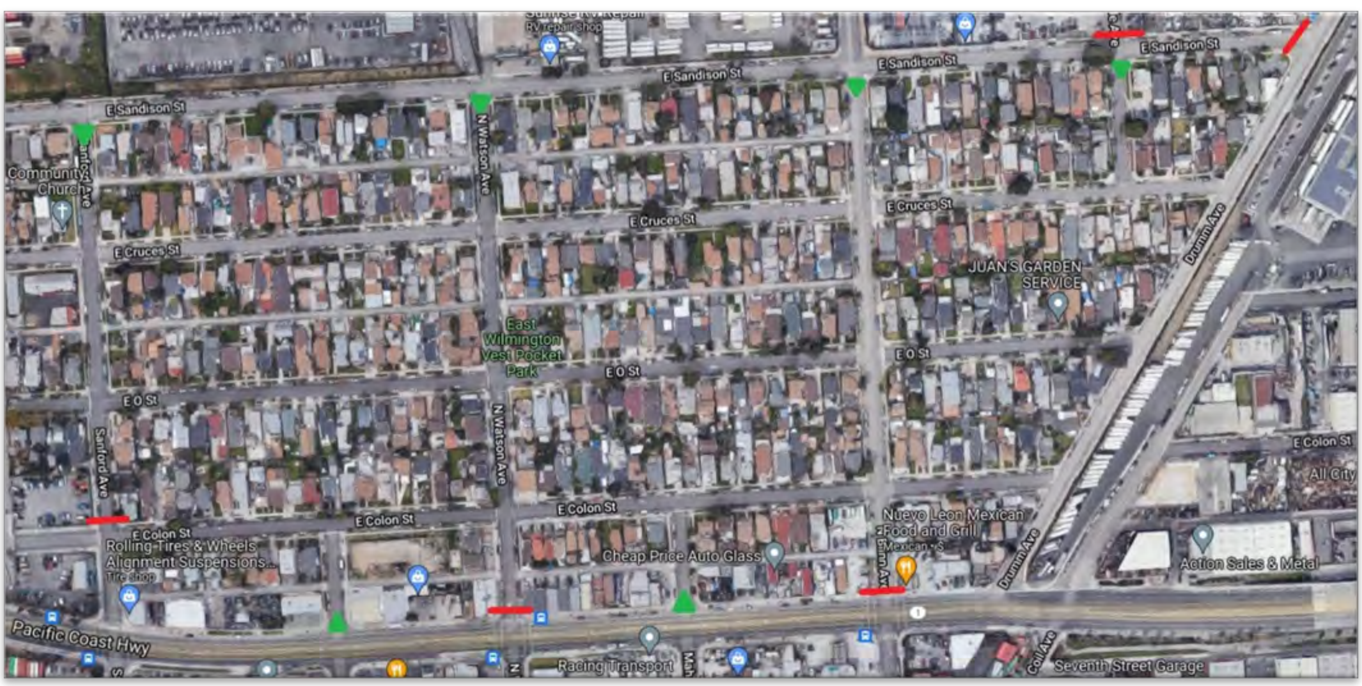
Issue: Despite signage prohibiting trucks over 6,000 pounds, trucks are still present on these residential north and south streets, many of which end up on Sandison Street as well.

Mitigation MIT-4B: Vertical clearance overhead crash poles or vertical monument archways (red lines) coupled with right-turn in/out only raised pork chop medians (green triangles).

Goal(s) Achieved: Eliminates truck intrusion into the neighborhood through Sanford, Watson, Blinn and Sandison. Pushes all truck traffic to the only designated truck route (Drumm Ave, Q Street, Blinn north of Sandison). Safe and efficient goods movements, increased safety for resident vehicles and pedestrians.

Performance Measures: Accessibility; Safety and Comfort; Culture and Community, Equity

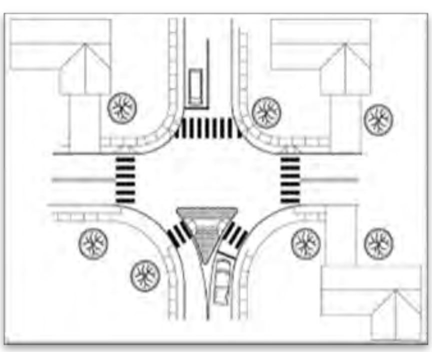
Considerations: No impacts to emergency/fire access and street sweeping. Commercial delivery trucks and refuse trucks would be rerouted to use Drumm Avenue due to height restrictions. Right turn in/out pork chop medians eliminate trucks from getting on to Sandison to destinations north. Eliminates eastbound left turn from PCH to Blinn (vehicles rerouted to Sanford, Watson, or Drumm instead).



Locations of vertical height(red) and right-turn in/out only (green) restrictions

Sample Vertical Clearance Crash Pole

Sample Vertical Clearance Monument (Archway)



Pork Chop Median Standard Plan

Sanford/Sandison Pork Chop Layout and Striping

7.7 Mitigation Measure MIT-5: Pacific Coast Highway Treatments

Issue: Trucks and vehicles negiotiating left turns into and out of the streets of Sanford, Pioneer, Watson, Mahar, Blinn, Drumm, and Coil cause significant delays for eastbound/westbound through traffic on PCH and for vehicles looking for gaps to turn onto PCH. The closely spaced intersections of Blinn, Drumm, and Coil with PCH is a major contributor to congestion in the area, especially with Drumm and Coil both being unsignalized.

Mitigation MIT-5: Signalize Drumm Avenue/PCH and extend eastbound left-turn pocket. Signalize Coil Avenue/PCH and synchronize with Drumm and Blinn intersections. Remove eastbound left-turn pocket from PCH to Blinn Avenue and convert to a westbound through lane beginning just west of Mahar Avenue for a distance of approximately 500 feet. Increase westbound left-turn from PCH to Watson by 100 feet, increase eastbound left from PCH to Watson by 110 feet, increase westbound left from PCH to Sanford by 110 feet and eastbound left from PCH to Sanford by 110 feet. Mitigation is to be used in conjunction with Mitigation MIT-4B (vertical clearance poles and raised median pork chops).

Goal(s) Achieved: Eliminates truck intrusion into the neighborhood through Sanford, Watson, Blinn, Mahar, Pioneer, and Sandison. Increases queue storage length, especially for eastbound left from PCH to Drumm to accommodate all truck and vehicular movements. Increases safety with the introduction of traffic signals coupled with left-turn prohibitions.

Performance Measures: Accessibility; Safety and Comfort; Culture and Community; Equity; Level of Service, Delay and Queuing

Considerations: Residents no longer able to make an eastbound left-turn from PCH onto Blinn Avenue. Those residents would be rerouted to turn earlier on Watson Road or later onto Drumm Avenue. Signalized intersections of Blinn Avenue and Drumm Avenue with PCH will need to be coordinated to ensure the queuing associated with westbound left-turns onto Drumm do not spill back and block the intersection at Blinn/PCH. By converting the existing westbound left-turn lane at Blinn/PCH to a through lane, an additional storage length of 500 feet is created for trucks entering via Drumm Avenue.

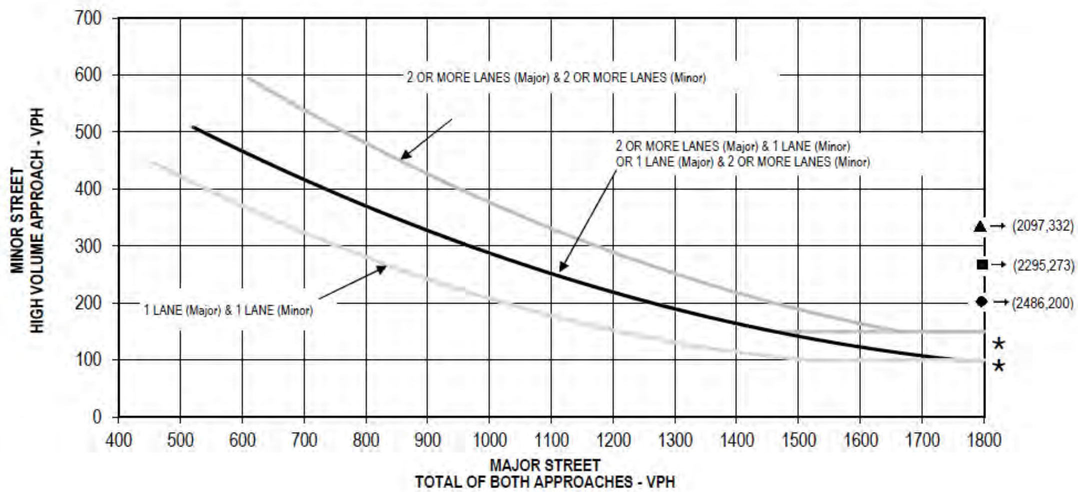
Pacific Coast Highway Treatments (Sanford to Drumm)

PCH Intersections with Blinn. Drumm, and Coil Detail

Pacific Coast Highway/Blinn Avenue Detail

Pacific Coast Highway/Watson Avenue Detail

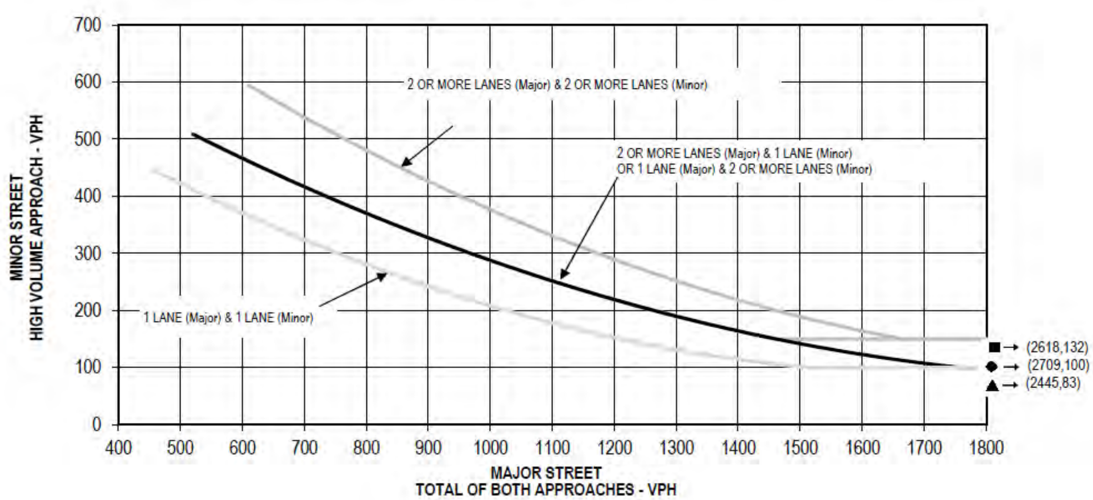
WARRANT 3, PEAK HOUR



* 150 VPH applies as the lower threshold volume for a minor street approach with two or more lanes and 100 VPH applies as the lower threshold volume for a minor street approaching with one lane.

Pacific Coast Highway/Drumm Avenue Signal Warrant

WARRANT 3, PEAK HOUR



* 150 VPH applies as the lower threshold volume for a minor street approach with two or more lanes and 100 VPH applies as the lower threshold volume for a minor street approaching with one lane.

Pacific Coast Highway/Coil Avenue Signal Warrant

Traffic Analysis for Intersections of PCH with Blinn, Drumm, and Coil

An evaluation of the operation of the three closely spaced intersections of Blinn/PCH, Drumm/PCH, and Coil/PCH was conducted using the Synchro traffic analysis software. Both LOS and queuing are shown with and without the proposed treatments on PCH. The improvements call for signalization of both Drumm and Coil, as well as the extension of the eastbound left-turn pocket from PCH onto northbound Drumm Avenue. In this scenario, all trucks are rerouted to use Drumm Avenue (trucks and vehicles prohibited from turning left into residential area from Blinn and all trucks restricted from turning left into the residential area from Sanford or Watson).

The intersections of Drumm/PCH and Coil PCH both warrant installation of a traffic signal per Warrant 3 of the Manual on Uniform Traffic Control Devices (CA MUTCD 2014 Rev 6). The full signal warrant analysis is included in Appendix L.

As shown in the following tables, the LOS improves significantly at intersections 19 and 21. Although the queues are longer due to the additional rerouted trucks and vehicles to Drumm, the extensive storage length of 744 feet is more than enough to accommodate the peak queues. Level of service worksheets (with improvements) are included in Appendix M.

Table 7-2: Existing Intersection Level of Service (No PCH Treatments)

ID	INTERSECTION	Control	Existing AM Peak Hour		Existing Midday Peak Hour		Existing PM Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS
18	Blinn Ave/PCH	Signal	5.1	A	17.0	B	20.2	C
19	Drumm Ave/PCH	TWSC	**>100.0**	**F**	**>100.0**	**F**	**>100**	**F**
21	Coil Ave/PCH	TWSC	**>100.0**	**F**	**>100.0**	**F**	**>100**	**F**

Table 7-3: Existing Intersection Level of Service (With PCH Treatments)

ID	INTERSECTION	Control	Existing AM Peak Hour		Existing Midday Peak Hour		Existing PM Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS
18	Blinn Ave/PCH	Signal	10.0	A	10.3	A	10.9	A
19	Drumm Ave/PCH	Signal	16.0	B	16.2	B	16.2	B
21	Coil Ave/PCH	Signal	23.9	C	23.6	C	18.0	B

Table 7-4: Existing Queues (No PCH Treatments)

Intersection	Movement	Storage Length (In feet)	Existing Without Improvements		
			AM Peak Hour	Midday Peak	PM Peak Hour
			Queue Length[1]	Queue Length[1]	Queue Length[1]
Blinn Avenue/PCH	EBL	160	25	25	25
	WBL	50	25	25	25
Drumm Avenue/PCH	EBL	50	25	25	25
Coil Avenue/PCH	EBL	50	25	25	25
	WBL	150	25	25	25

Notes:

EBL – eastbound left; WBL – westbound left

Bold – exceeds storage length

[1] Queues reported are 95th Percentile queue lengths per movement in feet

Table 7-5: Existing Queues (With PCH Treatments)

Intersection	Movement	Storage Length (In feet)	Existing With Improvements		
			AM Peak Hour	Midday Peak	PM Peak Hour
			Queue Length[1]	Queue Length[1]	Queue Length[1]
Drumm Avenue/PCH	EBL	744	75	125	100
Coil Avenue/PCH	EBL	744	50	75	25
	WBL	125	125	125	125

Notes:

EBL – eastbound left; WBL – westbound left

Bold – exceeds storage length

[1] Queues reported are 95th Percentile queue lengths per movement in feet

Table 7-6: Future Intersection Level of Service (No PCH Treatments)

ID	INTERSECTION	Control	Future AM Peak Hour		Future Midday Peak Hour		Future PM Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS
18	Blinn Ave/PCH	Signal	9.4	A	22.6	C	21.4	C
19	Drumm Ave/PCH	TWSC	**>100.0**	**F**	**>100.0**	**F**	**>100**	**F**
21	Coil Ave/PCH	TWSC	**>100.0**	**F**	**>100.0**	**F**	**>100**	**F**

Table 7-7: Future Intersection Level of Service (With PCH Treatments)

ID	INTERSECTION	Control	Future AM Peak Hour		Future Midday Peak Hour		Future PM Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS
18	Blinn Ave/PCH	Signal	10.3	B	10.8	A	11.4	B
19	Drumm Ave/PCH	TWSC	16.0	B	16.2	B	16.2	B
21	Coil Ave/PCH	TWSC	23.9	C	23.6	C	18.8	B

Table 7-8: Future Queues (No PCH Treatments)

Intersection	Movement	Storage Length (In feet)	Future Without Improvements		
			AM Peak Hour Queue Length[1]	Midday Peak Queue Length[1]	PM Peak Hour Queue Length[1]
Blinn Avenue/PCH	EBL	160	25	25	25
	WBL	50	25	25	25
Drumm Avenue/PCH	EBL	50	25	25	25
Coil Avenue/PCH	EBL	50	25	25	25
	WBL	150	25	25	25

Notes:

EBL – eastbound left; WBL – westbound left

Bold – exceeds storage length

[1] Queues reported are 95th Percentile queue lengths per movement in feet

Table 7-9: Future Queues (With PCH Treatments)

Intersection	Movement	Storage Length (In feet)	Future With Improvements		
			AM Peak Hour Queue Length[1]	Midday Peak Queue Length[1]	PM Peak Hour Queue Length[1]
Drumm Avenue/PCH	EBL	744	75	125	100
Coil Avenue/PCH	EBL	744	50	75	25
	WBL	125	125	125	125

Notes:

EBL – eastbound left; WBL – westbound left

Bold – exceeds storage length

[1] Queues reported are 95th Percentile queue lengths per movement in feet

7.8 Mitigation Measure MIT-6A: Coil Avenue Connection at Cruces Street

Issue: Currently Drumm Avenue is the only designated truck route connecting PCH to the industrial uses north of the residential neighborhood and ultimately to Lomita Boulevard.

Mitigation MIT-6A: Extend Coil Avenue (north of PCH) to connect to Drumm Avenue at Cruces Street. This new connection would remove truck traffic on Drumm Avenue between PCH and Cruces Street.

Goal(s) Achieved: Eliminates immediately adjacent truck intrusion for residents along Drumm Avenue from PCH to Cruces Street and therefore has the potential to reduce noise and air quality impacts by pushing the traffic to Coil Avenue (moves trucks a distance of 140 feet to the east along with a retaining wall in between). Coil Avenue does not have any sensitive receptors such as residential or schools immediately adjacent.

Performance Measures: Accessibility; Safety and Comfort; Culture and Community, Equity, Level of Service, Delay and Queuing.

Considerations: Improvement would require right-of-way acquisition from the KPAC site to modify their driveway and provide a connection through their property. Coordination is also required with KPAC based on the number of trucks passing through their site, potentially impacting any trailer operations to the south.

New East Leg Driveway Access at Cruces and Drumm

Coil Connection Option 1

Coil Connection Option 2

7.9 Mitigation Measure MIT-6B: Coil Avenue Connection at Q Street

Issue: Currently Drumm Avenue is the only designated truck route connecting PCH to the industrial uses north of the residential neighborhood and ultimately to Lomita Boulevard.

Mitigation MIT-6B: Extend Coil Avenue (north of PCH) to connect to Drumm Avenue at Q Street. This new connection would remove truck traffic on Drumm Avenue.

Goal(s) Achieved: Eliminates immediately adjacent truck intrusion for residents along the entire distance of Drumm Avenue from PCH to Q Street and therefore has the potential to reduce noise and air quality impacts by pushing the traffic to Coil Avenue (moves trucks a distance of 140 feet to the east along with a retaining wall in between). Coil Avenue does not have any sensitive receptors such as residential or schools immediately adjacent.

Performance Measures: Accessibility; Safety and Comfort; Culture and Community, Equity, Level of Service, Delay and Queuing.

Considerations: Improvement would require right-of-way acquisition from the KPAC site to modify their driveway and provide a connection through their property. Coordination is also required with KPAC based on the number of trucks passing through their site, potentially impacting any trailer operations to the south.

New East Leg Driveway Access at Q Street and Drumm

Coil Connection Option 3

Coil Connection Option 4

7.10 Mitigation Measure MIT-7: Blinn Avenue Widening (Q Street to Lomita Boulevard

Issue: Blinn Avenue between Q Street and Lomita Boulevard is a key connection for trucks (no weight restriction) and is only 21 feet wide. Trucks (and vehicles) have difficulty travelling north and south on this road simultaneously.

Mitigation MIT-7: Widen Blinn Avenue from Q Street to Lomita Boulevard to 36 feet, which is the ultimate width defined by the Bureau of Engineering Department of Public Works' standard plans. Increase the turning radius of eastbound right turn from Lomita to Blinn and the westbound right turn from Q Street to Blinn to 40 feet (maximum radius within right-of-way).

Goal(s) Achieved: Allows for safer movements along this corridor with widened road and larger turning radii (less conflicts).

Performance Measures: Accessibility; Safety and Comfort; Level of Service, Delay and Queuing.

Considerations: Pavement rehabilitation and new striping would need to be considered in conjunction with the road widening

Blinn Avenue Widening

Blinn/Lomita Turning Radius

Blinn/Q Street Turning Radius

7.11 Mitigation Measure MIT-8: Lomita Boulevard Improvements at Watson Junction Wye Grade Crossings

Issue: Severe pavement and striping degradation, inadequate signage, delays during train crossing events at the BNSF tracks, illegal parking (often on the rail tracks), and lack of enforcement.

Mitigation MIT-8: Consistent with CPUC recommendations, mitigation includes roadway resurfacing at and approaching the crossings on either side and within the wye to comply with CPUC GO 72-B, California Manual on Uniform Traffic Control Devices compliant striping and signage at both crossings approaches, parking restriction a minimum of 50 feet from each crossing approach, and an enforcement agreement between City of Los Angeles, City of Carson, LAPD, Port Police, and LA Sheriff Department.

Goal(s) Achieved: Allows for safer movements and improved operations approaching and crossing the wye tracks.

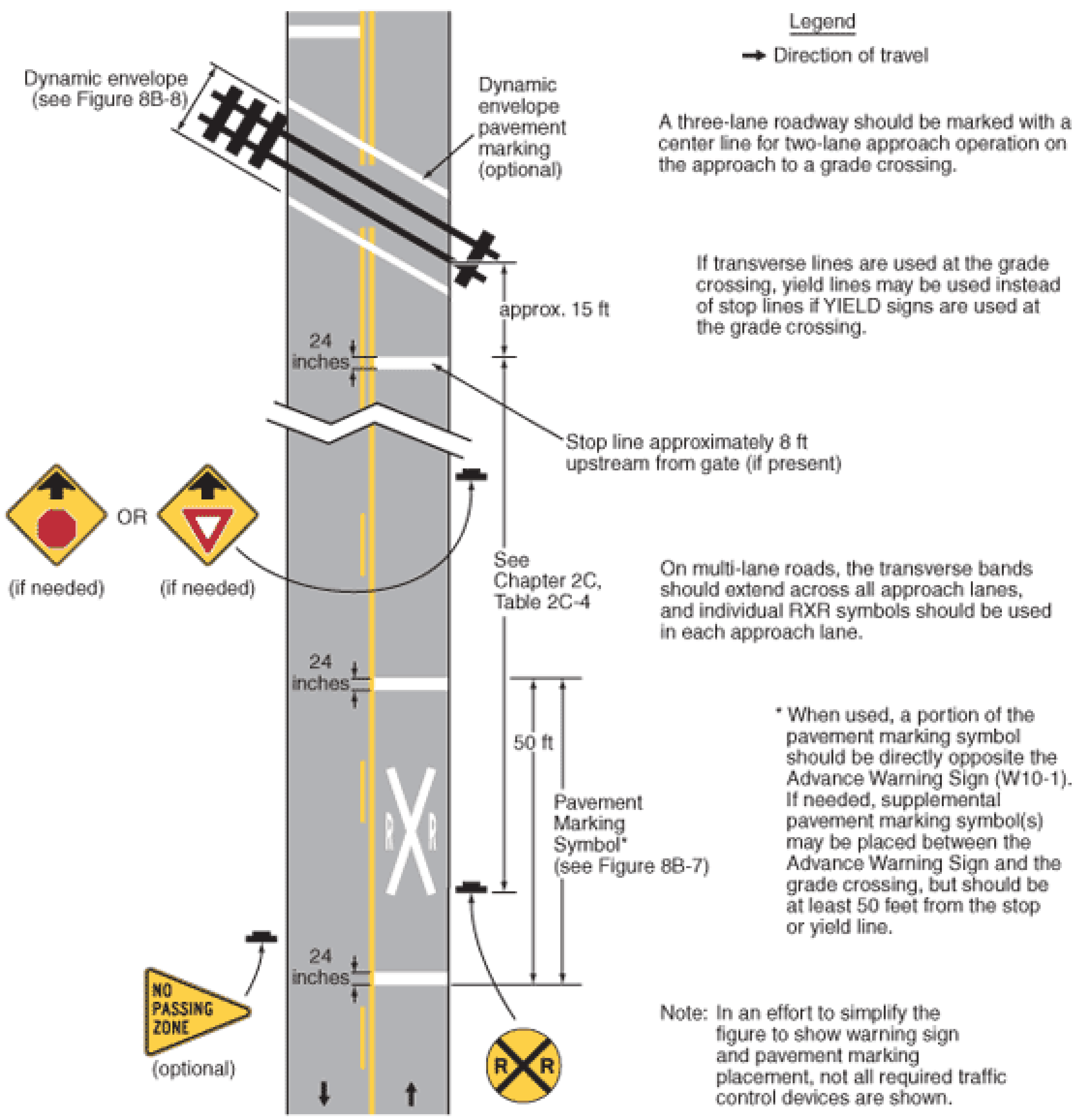
Performance Measures: Accessibility; Safety and Comfort; Level of Service, Delay and Queuing.

Considerations: City of Carson installed new “KEEP CLEAR marking for westbound traffic at each rail crossing to match the eastbound markings, a new W10-1 sign, new R8-10/R8-8 signage, and an asphalt cap within their jurisdiction at the crossing. Improvements to Lomita Boulevard west of Eubank will require coordination between multiple agencies.

Lomita Eastbound Approach to Wye

Illegal Parking near Wye Junction

Figure 8B-6. Example of Placement of Warning Signs and Pavement Markings at Grade Crossings



CA MUTCD Guidance for Rail Crossings

7.12 Mitigation Measure MIT-9: Gamble Avenue Vertical Clearance Restriction and Enforcement

Issue: Gamble Street presents a cut-through option for trucks illegally on Sandison destined to Q Street. Illegal parking and dumping are highly prevalent on this street. The mitigation involves creating a vertical clearance crash pole at south end of Gamble at Sandison, where access to Gamble would only be provided via Q Street.

Mitigation MIT-9: On September 14, the City Council unanimously adopted the Street Engagement Strategy (SES) 41.18. The mitigation measure would be for council members to submit this sensitive use location, via resolution, to be considered for no camping at all as long as they could be relocated. Partner with and support Hart Association for more frequent clean up events. Employ a vertical clearance crash pole at the entrance to Gamble Avenue from Sandison Street, set at 13.5 feet to restrict trucks from using Sandison and Gamble to get to Q Street or Blinn Avenue.

Goal(s) Achieved: Supports the goal of minimizing truck intrusion onto residential streets and improves general traffic conditions on Sandison Street.

Performance Measures: Accessibility; Safety and Comfort; Level of Service, Delay and Queuing.

Considerations: City of Carson installed new "KEEP CLEAR marking for westbound traffic at each rail crossing to match the eastbound markings, a new W10-1 sign, new R8-10/R8-8 signage, and an asphalt cap within their jurisdiction at the crossing. Improvements to Lomita Boulevard west of Eubank will require coordination between multiple agencies.

Gamble Looking South To Sandison

Gamble Looking North to Q Street

7.13 Mitigation Measures No Longer Considered or Not Evaluated

Throughout the study process, mitigation measures were evaluated through series of touchpoints and review periods. For disclosure purposes, the following mitigation measures were removed from further consideration due to inconsistency with stated goals, infeasibility, cost considerations, or feedback received from the outreach effort. Mitigations considered to be beyond the scope of work were also removed.

- **Swing Barrier Gates or Flexible Delineators at Cruces, O, and Colon at Drumm to prevent trucks from using these streets**
  - Consensus from community members and businesses was that these treatments were not aesthetically pleasing and that trucks could still run over the flexible bollards with ease. Stakeholders were more in favor of a more permanent solution such as a cul-de-sac.
- **Curb Bulb Outs on north legs of the intersections of Sanford, Watson, and Blinn with PCH**
  - Narrowing the entrances into the neighborhood would displace critical on-street parking spaces for residents and neighborhood commercial
- **Mini Roundabouts on Sanford, Watson, and Blinn**
  - The minimum radius required to maintain emergency access would require the displacement of approximately 60 critical on-street parking spaces. Furthermore, the mountable design (for fire and emergency access) would easily be run over by large trucks
- **New roadway connecting Alameda Street directly to Lomita Boulevard for connecting Alameda Street to the lower Alameda Street via O Street to remove all trucks from the residential streets**
  - This scenario was not evaluated because it was outside the scope defined for this study. The Study was to identify alternative improvements to a direct connection from Alameda to Lomita. The Watson Road Crossing was closed by the CPUC based on several factors – the primary being safety of trucks and vehicles crossing over multiple rail lines
- **Land Swap**
  - This scenario was not evaluated because it was outside the scope defined for this study. A land swap is a tool that empowers a city to trade a municipally owned site with a privately owned site. Assuming that the City wants to totally transform a targeted area, a sufficiently large-scale area or block of land is required to do so and needs to be identified and negotiated. As such, sometimes a city (or project sponsor) must undertake land assembly to amass sufficient land that can be redeveloped to significant scale to enable the achievement of goals related to increased density or the transformation of uses
- **Eminent Domain**
  - Reopening the Watson Road Crossing connection via eminent domain is also considered to be beyond the scope of services for this work effort. The Watson Road Crossing was closed by the CPUC based on several factors – the primary being safety of trucks and vehicles crossing over multiple rail lines

8.0 CONTEXT-SENSITIVE SOLUTIONS

This section of the report groups the mitigations into packages based on ease of implementation, feasibility, and cost considerations. These packages will form the basis for the decision-making process to identify which recommendations that improve the public safety of the community, remediate truck-related impacts, and provide alternative routes of travel for businesses on Lomita Boulevard to move forward with and identify funding opportunities for.

Several parameters were used to screen the specific solutions. The key implementation criteria are as follows:

- **Cost**
    - Level of cost is relatively based against all other recommendations (i.e. constructing a bridge would have a high cost respective to restriping a roadway).
- **Level of Difficulty**
    - Level of difficulty is relatively factored against all other mitigations based upon the amount of coordination or space available needed to implement the recommendation.
- **Priority**
    - Priority level is factored against all other recommendations based upon the greatest impact that is in line with the project's goals.
- **Implementation Timeline**
    - Cost, level of difficulty, and priority were all factors weighted to inform the short-, mid-, or long-term implementation goals for each recommendation.
- **Relation to Study Goals**
    - Relation to Study Goals details how a recommendation aligns with the goals for the Coastal Zone stated in the Introduction. The goals are also listed below:
        - G1. Reducing truck intrusion into the neighborhood located within the study area and reduce truck and train conflicts
        - G2. Provide design treatments for multimodal, complete, and safe streets
        - G3. Develop design treatments within the existing right-of-way to accommodate safe and efficient goods movement

The Wilmington Freight Mitigation Study is a planning study that is intended to inform the decision-making process. The study is a major step forward in identifying recommendations to improve the public safety of the community ǀ·ă øŜſſ ǀ·ă ǆŜŎƨΥΥŜƴŘǀ·ǘʎƨƴă ʎƴǘŜƴŘŜŘ ǘƨ ŎƨǆǆŜŎǘ ǘǆǀ·øŜſ Ǉǀ·ǘǘŜǆƴă ƨŦ ҠŜǀ·øèπŘdzǘè ǘǆdzŎ˼ă øʎǘҠʎƴ ǘҠŜ ăǘdzŘè ǀ·ǆŜǀ· ǘҠǀ·ǘ ăҠƨdzſŘ ƴƨǘ ōŜ ƨŎŎdzǆǆʎƴƎΦ

<u>Any individual mitigation measures or context-sensitive solution packages ʎŘŜƴǘʎŦʎŜŘ ʎƴ ǘҠʎă ăǘdzŘè ǘҠǀ·ǘ Υǀ·è ōŜ selected to progress as part ƨŦ ǀ· ădzōăŜǀdzŜƴǘ ǇǆƨƧŜŎǘ ŜŦŦƨǆǘ would need to complete all required detailed traffic impact analyses, address any other engineering or environmental evaluation requirements, and also include engagement with the community, along with securing the necessary funding.</u>

8.1 Solution Package A

Package A represents the context-sensitive solution that should be considered as high priority based on relation to study goals, feedback from the stakeholders and community, and average cost and level of difficulty to implement. This package involves improving Drumm Avenue to minimize vehicle and truck conflicts, introducing vertical clearance treatments and pork chop medians to prohibit port-related trucks from entering through the neighborhood streets of Sanford, Watson, Blinn and Sandison and improves the section of PCH between Sanford and Coil to reduce congestion, minimize delay/queuing, and improve safety.

Solution Package A combines the following mitigation measures into a context-sensitive solution package:

- MIT-1: Drumm and PCH Turning Radius
- MIT-2: Drumm and Q Turning Radius
- MIT-4B: Vertical Clearance Treatments and Pork Chop Medians
- MIT-5: PCH Treatments (all)

Summary of Improvements

- Widen Drumm Avenue from PCH to Q Street by 8 feet (increases the width from 32 feet to 40 feet)
- Increase radius at northeast corner of Drumm/PCH from 35 feet to 40 feet
- Increase radius southwest corner of Drumm/Q from 25 feet to 35 feet
- Vertical clearance crash poles at Sanford, Watson, Gamble, and Blinn set to 13.5 feet
- Right turn in/out raised median pork chops at south legs of Sanford/Sandison, Watson/Sandison, Blinn/Sandison, Gamble/Sandison and at north legs of Pioneer/PCH, Mahar/PCH
- Signalize Drumm Avenue/PCH and extend westbound left-turn pocket
- Signalize Coil Avenue/PCH and coordinate with Drumm and Blinn intersections
- Remove westbound left-turn pocket from PCH to Blinn Avenue and convert to a westbound through lane beginning just west of Mahar Avenue for a distance of approximately 500 feet.
- Increase westbound left-turn from PCH to Watson by 100 feet, increase eastbound left from PCH to Watson by 110 feet, increase westbound left from PCH to Sanford by 110 feet and eastbound left from PCH to Sanford by 110 feet.

SOLUTION PACKAGE A: MIT-1, MIT-2, MIT-4B, MIT-5

Cost: Average

Level of Difficulty: Average

Priority: High

Implementation Timeline: Short-Term - Vertical Clearance Treatments and Drumm Turing Radii; Mid to Long-Term – PCH Treatments

Related Study Goals: G1, G2, and G3.

8.2 Solution Package B

Package B represents the context-sensitive solution that should be considered as average priority based on relation to study goals, feedback from the stakeholders and community, average cost, and high level of difficulty to implement. This package involves everything as part of Package A along with the addition of widening Blinn Avenue from Q Street to Lomita Boulevard to its ultimate width (21 to 36 feet) and improving Lomita Boulevard at the Watson Junction Wye Crossings. The two additions allow for safer and more efficient movements along Lomita and Blinn.

Solution Package B combines the following mitigation measures into a context-sensitive solution package:

- MIT-1: Drumm and PCH Turning Radius
- MIT-2: Drumm and Q Turning Radius
- MIT-4B: Vertical Clearance Treatments and Pork Chop Medians
- MIT-5: PCH Treatments (signalize intersections of Drumm and Coil with PCH)
- MIT-7: Widen Blinn Avenue
- MIT-8: Lomita Improvements

Summary of Improvements

- Widen Drumm Avenue from PCH to Q Street by 8 feet (increases the width from 32 feet to 40 feet)
- Increase radius at northeast corner of Drumm/PCH from 35 feet to 40 feet
- Increase radius southwest corner of Drumm/Q from 25 feet to 35 feet
- Vertical clearance crash poles at Sanford, Watson, Gamble, and Blinn set to 13.5 feet
- Right turn in/out raised median pork chops at south legs of Sanford/Sandison, Watson/Sandison, Blinn/Sandison, Gamble/Sandison and at north legs of Pioneer/PCH, Mahar/PCH
- Signalize Drumm Avenue/PCH and extend westbound left-turn pocket
- Signalize Coil Avenue/PCH and coordinate with Drumm and Blinn intersections

- Widen Blinn Avenue to 36 feet from Q Street to Lomita Boulevard and increase right-turn turning radii to 40 feet at Lomita Boulevard and Q Street
- Improve Lomita Boulevard at Watson Junction Wye Crossings with additional striping, signage, pavement rehabilitation and parking enforcement.

SOLUTION PACKAGE B: MIT-1, MIT-2, MIT-4B, MIT-5, MIT-7, MIT-8

Cost: Average

Level of Difficulty: High

Priority: Average

Implementation Timeline: Short-Term - Vertical Clearance Treatments and Drumm Turing Radii; Mid-Term – PCH Treatments, Lomita Improvements; Long-Term – Widen Blinn

Related Study Goals: G1, G2, and G3.

8.2 Solution Package C

Package C represents the context-sensitive solution that should be considered as low priority based on relation to study goals, feedback from the stakeholders and community, and high cost and level of difficulty to implement. This package involves introducing a new truck connection from Coil to Drumm Avenue or Q Street to effectively remove truck traffic on Drumm Avenue, introducing vertical clearance treatments and pork chop medians to prohibit port-related truck traffic from entering through the neighborhood streets of Sanford, Watson, Blinn, and Sandison, improves the section of PCH between Blinn and Coil by installing traffic signals at Drumm and Coil, and improves Blinn between Lomita and Q Street and Lomita at the Watson Junction Wye Crossings.

Package C would involve right-of-way acquisition and extensive coordination in order to extend Coil Avenue through the KPAC site, ultimately connecting to Drumm at Cruces or directly to Q Street. Currently, the cost of the acquisition is unknown.

Solution Package C combines the following mitigation measures into a context-sensitive solution package:

- MIT-4B: Vertical Clearance Treatments and Pork Chop Medians
- MIT-5: PCH Treatments (signalize intersections of Drumm and Coil with PCH)
- MIT-6A/6B: Coil Avenue Connection
- MIT-7: Widen Blinn Avenue
- MIT-8: Lomita Improvements

Summary of Improvements

- Vertical clearance crash poles at Sanford, Watson, Gamble, and Blinn set to 13.5 feet
- Right turn in/out raised median pork chops at south legs of Sanford/Sandison, Watson/Sandison, Blinn/Sandison, Gamble/Sandison and at north legs of Pioneer/PCH, Mahar/PCH
- Signalize Drumm Avenue/PCH and extend westbound left-turn pocket
- Signalize Coil Avenue/PCH and coordinate with Drumm and Blinn intersections
- Create new connection from Coil through KPAC site to tie in to Drumm via Cruces Street or Q Street
- Widen Blinn Avenue to 36 feet from Q Street to Lomita Boulevard and increase right-turn turning radii to 40 feet at Lomita Boulevard and Q Street
- Improve Lomita Boulevard at Watson Junction Wye Crossings with additional striping, signage, pavement rehabilitation and parking enforcement.

SOLUTION PACKAGE C: MIT-4B, MIT-5, MIT 6A/B, MIT-7, MIT-8

Cost: High

Level of Difficulty: High

Priority: Low

Implementation Timeline: Short-Term - Vertical Clearance Treatments and Pork Chops; Mid-Term – PCH Treatments, Lomita Improvements; Long-Term – Widen Blinn, Coil Avenue Connection

Related Study Goals: G1, G2, and G3.

9.0 COST ESTIMATES/FINANCING STRATEGIES

9.1 Cost Estimates

The following presents the rough order of magnitude (ROM) cost estimates for each of the three context sensitive solution packages. The ROM costs are intended to give a high-level view of potential project costs, estimating the level of effort required to deliver a project, based on the best available information on timescales and cost. The purpose is to provide decision-makers with enough information to evaluate the feasibility of continuing with a particular project. The ROM should not, however, replace detailed cost estimates conducted by licensed engineers. ROM costs associated with each context-sensitive solution package is presented in Table 9-1 below.

Table 9-1: ROM Cost Estimates

Package A	Item	Quantity	Unit Cost	Total Cost
Turning Radius	Curb	2	$3,800	$7,600
Drumm Widening	6" Curb and Gutter	1,880 LF	$17	$31,960
Drumm Striping	Striping	1,880 LF	$0.65	$1,220
Vertical Clearance	Crash Poles	5	$3,200	$16,000
Pork Chops	Raised Median	1,500 SF	$10	$15,000
Intersections	Traffic Signal/Lighting	2	$135,000	$270,000
PCH Striping	Striping	930	$0.65	$600
				$342,380
Package B	**Item**	**Quantity**	**Unit Cost**	**Total Cost**
Turning Radius	Curb	2	$3,800	$7,600
Drumm Widening	6" Curb and Gutter	1,880 LF	$17	$31,960
Drumm Striping	Striping	1,880 LF	$0.65	$1,220
Vertical Clearance	Crash Poles	5	$3,200	$16,000
Pork Chops	Raised Median	1,500 SF	$10	$15,000
Intersections	Traffic Signal/Lighting	2	$135,000	$270,000
Blinn Widening	6" Curb and Gutter	1,550	$17	$26,350
Lomita Blvd	Signage	8	$250	$2,000
	A.C. Pavement	42,000	$2.65 SF	$111,300
	Striping	1,400	$0.65	$910
				$482,340
Package C	**Item**	**Quantity**	**Unit Cost**	**Total Cost**
Vertical Clearance	Crash Poles	5	$3,200	$16,000
Pork Chops	Raised Median	1,500 SF	$10	$15,000
Intersections	Traffic Signal/Lighting	2	$135,000	$270,000
Coil Connection	Roadway and Access	1	$440,000	$440,000*
Blinn Widening	6" Curb and Gutter	1,550	$17	$26,350
Lomita Blvd	Signage	8	$250	$114,210
*** Cost does not include right-of-way acquisition costs**				**$881,560**

Unit costs in Table 8.1 were referenced from available LA County engineers' estimates/construction cost data[4] and Caltrans' Contract Cost Database.[5]

9.2 Financial Strategies

The following section summarizes a comprehensive list of potential funding sources for project implementation. The list includes the agency, funding source, description, eligible projects, eligibility requirements, and application due dates. The list does not preclude the potential for Public-Private Partnerships (P3) as a funding strategy to deliver certain projects.

It should also be noted that due to the recent signing of the Surface Transportation Authorization, with the Infrastructure Investment and Job Act (IIJA), several of the descriptions, project types, eligibility requirements, and application deadlines for the funding sources listed below may be altered. More specifically, federal funding sources associated with the FAST Act may differ with the future implementation of this authorization. These funding sources are listed below:

- RAISE Grant
- Highway Safety Improvement Program (HSIP) – FAST Act
- Surface Transportation Block Grant (STBG)
- INFRA Grant
- New Starts and Small Starts (FTA Section 5309)
- Congestion Mitigation & Air Quality Improvement (CMAQ)
- EPA Office of Sustainable Communities Greening America's Communities Program

State funding source descriptions, project types, eligibility requirements and application deadlines are provided based on the information given for the 2021 grant cycle. Therefore, descriptions, project types, eligibility requirements, and application deadlines are subject to change in the 2022 grant cycle. These funding sources are listed below:

- Active Transportation Program – Cycle 5
- Cap & Trade: Low Carbon Transit Operations Program (LCTOP)
- State Transportation Improvement Program (STIP)

[4] LA County Public Works (Engineer's Estimate, 2018) https://dpw.lacounty.gov/adm/uam/loginForm.cfm?uamsrcurl=http%3A%2F%2Fdpw%2Elacounty%2Egov%2Fgeneral%2Feep%2Findex%2Ecfm%3F
[5] Caltrans (District 7, 2021 data) https://sv08data.dot.ca.gov/contractcost/

- State Highway Operations Protection Program (SHOPP)
- SB 1 – State of Good Repair
- Trade Corridor Enhancement (TCEP)
- Local Partnership Program (LPP)
- Transit and Intercity Rail
- Solutions for Congested Corridors Program

Lastly, the descriptions, project types, eligibility requirements and application deadlines for local and regional funding sources are provided based on the information given for the 2021 grant cycle. Therefore, descriptions, project types, eligibility requirements, and application deadlines are subject to change in the 2022 grant cycle. These funding sources are listed below:

- Los Angeles County Sales Tax – Measure M
- Los Angeles County Sales Tax – Measure R
- Los Angeles County Sales Tax – Proposition A
- Los Angeles County Sales Tax – Proposition C

Table 9-2 below presents a comprehensive summary of potential federal, state, regional, and local funding sources that could be available should any of the recommendations be pursued. As noted previously, any recommendation that progresses into project development would be subject to rigorous traffic impact analysis, engineering and design, associated environmental studies, and permitting.

Table 8-2: Funding Sources

Funding Source	Description	Project Types	Eligibility Requirements	Application Deadline
		Federal Funding Sources		
RAISE Grant[6]	Provides a unique opportunity for the DOT to invest in road, rail, transit, and port projects that promise to achieve national objectives.	Highway Roadway Transit Active Transportation	• Activities eligible for funding under RAISE are related to the planning, preparation, or design – including environmental analysis, feasibility studies, and other pre-construction activities – of surface transportation projects • Research, demonstration, or pilot projects are eligible only if they will result in long term, permanent surface transportation infrastructure that has an independent utility • Applications from lead applicant agencies are limited to three projects	07/2022
FTA Research & Innovation Program[7]	Provides funding for safety and mobility innovation research that improves operations, enhances the travelers' experience, and drives economic growth in America's communities through research in safety, mobility innovation, and infrastructure. Programs include the "Safety Research and Demonstration" Program, the "Accelerating Innovative Mobility" Program, and the	Transit Signal Synchronization TSM	**Safety Research and Demonstration:** • Operations that will improve the operational safety of rail transit services • Proposals to prevent and mitigate suicide and trespassing hazards on rail transit systems, and proposals to improve the operational safety of shared corridor fixed guideway systems,	10/2022

[6] "RAISE: Project Information Form Instructions". United States Department of Transportation. July 2021.
[7] "FY 2021 Competitive Funding Opportunity: Enhancing Mobility Innovation". Federal Transit Administration. November 2021.

	"Integrated Mobility Innovation" Program.		including highway-rail grade crossing safety. **Accelerating Innovative Mobility**: • Activities leading to the development and testing of innovative mobility, such as planning and developing business models, obtaining equipment and service, acquiring or developing software and hardware interfaces to implement the project, operating or implementing the new service model, and evaluating project results **Integrated Mobility Innovation:** • Activities leading to the demonstration, such as planning and developing business models, obtaining equipment and service, acquiring, or developing software and hardware interfaces to implement the project, operating the demonstration, and providing data to support performance measurement and evaluation	
Highway Safety Improvement Program (HSIP) – FAST Act[8]	Provides funding for projects that focus on safety improvements. These include installation of pedestrian hybrid beacons, medians, pedestrian crossing islands, and other physical infrastructure projects.	Highway/ Roadway Active Transportation	• Any strategy, activity or project on a public road that is consistent with the data-driven State Strategic Highway Safety Plan (SHSP) and corrects or improves a hazardous road location or feature or addresses a highway safety problem, including active transportation projects	09/2022

[8] "Fixing America's Surface Transportation Act or 'FAST ACT'. Federal Highway Administration. February 2016.

			• Funding is prohibited for the purchase, operation, or maintenance of an automated traffic enforcement system • Workforce development, training, and education activities are eligible uses of HSIP funds.	
Surface Transportation Block Grant (STBG)[9]	Provides flexible funding that may be used by States and localities for projects to preserve and improve the conditions and performance on any Federal-aid highway, bridge and tunnel projects on any public road, pedestrian and bicycle infrastructure, and transit capital projects, including intercity bus terminals.	Highway/ Roadway Transit Rail Active Transportation	• Construction, reconstruction, rehabilitation, resurfacing, restoration, preservation, or operational improvements for highways • Capital costs for transit projects eligible under chapter 53 of Title 49, including vehicles and facilities used to provide intercity passenger bus service. • Carpool projects, fringe and corridor parking facilities and programs including electric and natural gas vehicle charging, bicycle and pedestrian walkways, and Americans with Disabilities Act (ADA) sidewalk modification. • Highway and transit safety infrastructure improvements and programs, hazard eliminations, railroad-highway grade crossings. • Transportation alternatives, intersections with high accident rates or levels of congestion,	01/2023

[9] "Guidelines on Preparing, Engineer's Estimate, Bid Reviews and Evaluation". Federal Highway Administration. October 2021.

			infrastructure based ITS capital improvements, congestion pricing projects and strategies, and truck parking facilities. • Environmental restoration and pollution abatement	
INFRA[10]	Advance the Administration's priorities of rebuilding America's infrastructure and creating jobs by funding highway and rail projects of regional and national economic significance that position America to win the 21st century.	Highway/ Roadway Transit Rail	• National Highway Freight Network (NHFN) • National Highway System (NHS) • Railway-highway grade crossing or grade separation projects • Construction of intermodal or freight rail, freight projects within the boundaries of a public or private freight rail, water (including ports), or intermodal facility • INFRA grants may not exceed 60% of the total eligible project costs. An additional 20% of project costs may be funded with other Federal assistance, bringing total Federal participation in the project to a maximum of 80%. • For a larger project (project cost exceeding $100 million), an INFRA grant must be at least $25 million. For a smaller project, the grant must be at least $5 million.	03/2023
New Starts and Small Starts (FTA	This FTA discretionary grant program funds transit capital investments, including heavy rail, commuter rail, light rail, streetcars, and bus rapid transit. For New Starts and Core	Rail Transit	• New fixed-guideways or extensions to fixed-guideways • Bus rapid transit projects operating in mixed traffic	Rolling Application Cycle

[10] "INFRA Grants". United States Department of Transportation: Build America Bureau. February 2021.

Section 5309)[11]	Capacity projects, the law requires completion of two phases in advance of receipt of a construction grant agreement – Project Development and Engineering. For Small Starts projects, the law requires completion of one phase in advance of receipt of a construction grant agreement – Project Development.		that represent significant investment in the corridor • Projects that improve capacity on an existing fixed-guideway system • Core capacity projects that expand capacity by at least 10% in existing fixed-guideway transit corridors that are at or above capacity today or will be at or above capacity within 5 years	
Congestion Mitigation & Air Quality Improvement (CMAQ)[12]	Provides funding to areas in nonattainment or maintenance for ozone, carbon monoxide, and/or particulate matter to help meet the requirements of the Clean Air Act. Funds may be used for any transit capital expenditures otherwise eligible for FTA funding as long as they have an air quality benefit.	Highway/ Roadway Transit Signal Synchronization/ TSM Active Transportation TDM	• Funds must be invested in a State's nonattainment or maintenance areas, on projects that reduce ozone precursors, volatile organic compounds, nitrogen oxides, carbon monoxide, or particular matter • CMAQ projects must come from a transportation plan and transportation improvement program (TIP) • Include quantified emission benefits • Include emission trade-offs	09/2022
EPA Office of Sustainable Communities Greening America's Communities Program[13]	Greening America's Communities (formerly known as Greening America's Capitals) is an EPA program to help cities and towns develop an implementable vision of environmentally friendly neighborhoods that incorporate innovative green	Sustainability	•Dependent on grant available	Rolling application when funding is available

[11] "Reporting Instructions for the Section 5309 Capital Investment Grants Program". Federal Transit Administration: Office of Planning and Environment. May 2021.
[12] "Congestion Mitigation and Air Quality Improvement (CMAQ) Program". Federal Highway Administration. September 2021.
[13] "Greening America's Communities". United States Environmental Protection Agency. July 2021.

	infrastructure and other sustainable design strategies.			
State Funding Sources				
Active Transportation Program – Cycle 5[14]	The Active Transportation Program (ATP) is a competitive statewide program created to encourage increased use of active modes of transportation, such as biking and walking. Funds can be used to fund the development of community-wide active transportation plans within or, for area-wide plans, encompassing disadvantaged communities, including bicycle, pedestrian, safe routes to schools, or comprehensive active transportation plans.	Active Transportation	**Active Transportation Program Cycle 5 Guidelines** •Consistency with an adopted regional transportation plan • Use of appropriate application • Supplanting funds • Eligibility of project (infrastructure projects, plans, non-infrastructure projects, infrastructure projects with non-infrastructure components, and quick-build project pilot programs) • Note exceptions listed in Cycle 5 Policy Guidelines • Request of at least the minimum request amount as outline in the Cycle 5 Policy Guidelines • Projects that are already fully funded or projects that are a capital improvement required as a condition for private development approval or permits are not eligible for ATP funding • A project applicant found to have purposefully misrepresented information that could affect a project's score may result in the applicant being excluded from the program	06/2022

[14] "Summary of Changes for the Application Instructions & Guidance". California Department of Transportation. September 2020.

Cap & Trade: Low Carbon Transit Operations Program (LCTOP)[15]	Provides funding for projects that have a goal of reducing GHG emissions, improving mobility, and prioritize disadvantaged communities. This program uses funding from 5 percent of cap-and-trade auction proceeds deposited to the Greenhouse Gas Reduction Funds (GGRF).	Transit	• Projects that increase transit mode share • Projects that replace conventional vehicles with zero emission vehicle projects • Projects that support new or expanded bus or rail services • Projects that support expansions to intermodal transit facilities, equipment acquisition, fueling, and maintenance and other costs to operate above services or facilities.	04/2022
State Transportation Improvement Program (STIP)[16]	Provides funding for capital improvements on and off the State Highway System that increase the capacity or improve the state of good repair of the transportation system. The STIP consists of two broad programs – the regional program (RIP) funded from 75% of new STIP funding and the interregional program (IIP) funded from 25% of new STIP funding.	Active Transportation	• The CTC must approve each County's STIP in its entirety • CTC allocation is required by the end of the fiscal year that the project is listed in the STIP	12/2021
State Highway Operations Protection Program (SHOPP)[17]	Provides funding to maintain the safety and integrity of the State Highway System. Most of the projects are for pavement and bridge rehabilitation and traffic safety improvements. CTC allocates to the individual projects.	Highway/ Roadway Transit	• Capital improvements relative to maintenance and safety of state highways and bridges • Rehabilitates state highways and bridges that do not add a new traffic lane	February of Odd Numbered Years
SB 1 – State of Good Repair[18]	Provides road safety improvements, repair local streets, expand public transit,	Roadway Active Transportation	• Transit capital projects or services to maintain or repair a transit operator's	09/2022

[15] "FY 2020-21 Low Carbon Transit Operations Program Guidelines". California Department of Transportation. 2020.
[16] "2022 State Transportation Improvement Program (STIP) Guidelines. California Transportation Commission. August 2021.
[17] "State Highway Operation and Protection Program Guidelines". California Transportation Commission. June 2020.
[18] "State of Good Repair Program Guidelines". California Department of Transportation. July 2021.

	improve highways, and build bridges and overpasses.	Sustainability	existing transit vehicle fleet or transit facilities, including the rehabilitation or modernization of the existing vehicles or facilities • The design, acquisition and construction of new vehicles or facilities that improve existing transit services • Transit services that complement local efforts for repair and improvement of local transportation infrastructure. • Replacement or rehabilitation of rolling stock, passenger stations and terminal, security equipment and systems, maintenance facilities and equipment, ferry vessels, and rail • Preventative maintenance • New maintenance facilities or maintenance equipment if needed to maintain the existing transit service	
Trade Corridor Enhancement (TCEP)[19]	Provides funding for infrastructure improvements along corridors with high volumes of freight movement.	Highway Freight	• Freight System Factors – Throughput, Velocity, and Reliability, • Transportation System Factors – Safety, Congestion Reduction/Mitigation, Key Transportation Bottleneck Relief, Multi-Modal Strategy, Interregional Benefits, and Advanced Technology;	08/2022

[19] "2020 Trade Corridor Enhancement Program Guidelines". California Transportation Commission. March 2020.

			• Community Impact Factors – Air Quality Impact, Community Impact Mitigation, and Economic/Jobs Growth; • The overall need, benefits, and cost of the project • Project Readiness – ability to complete the project in a timely manner; • Demonstration of the required 30% matching funds; • The leveraging and coordination of funds from multiple sources; and Jointly nominated and/or jointly funded.	
Local Partnership Program (LPP)[20]	Provides local and regional agencies that have passed sales tax measures, tolls, or fees or that have imposed fees which are dedicated solely to transportation improvements with a continuous appropriation of $200 million annually (Statewide) to fund road maintenance and rehabilitation, sound walls, and other transportation improvement projects.	Highway/ Roadway Transit Active Transportation Paratransit	• Improves the state highway system • Improves transit facilities that expand transit facilities • Increases ridership • Improves safety • Acquisition of new or rehabilitation of rolling stock, buses, or other transit equipment • Improves the local road system • Improves bicycle and pedestrian safety or mobility • Mitigates the environmental impact of new transportation infrastructure on a locality's or region's air quality or water quality • Road maintenance and rehabilitation	Formulaic Program: June 12, 2022 Competitive Program: June 30, 2022

[20] "2020 Local Partnership Program Guidelines". California Transportation Commission. March 2020.

			• Sound walls for highways that were built prior to 1987	
Transit and Intercity Rail[21]	Provides grants for capital improvements and operational investments that will modernize California's transit systems and intercity, commuter, and urban rail systems to reduce emissions of greenhouse gases by reducing vehicle miles traveled throughout California.	Transit	• Enhances and improves existing rail systems Includes new rail cars to increase ridership and service levels • Improves transit reliability • Improves existing and future rail systems • Includes high speed rail • Increases integration of rail and transit services • Includes integrated ticketing and bus transit investments that increase ridership and reduce GHG emissions	Early 2022
Solutions for Congested Corridors Program[22]	The Sustainable Communities Program provides direct technical assistance to SCAG member jurisdictions to complete planning and policy efforts that enable implementation of the regional SCS. Call for applications for smart cities & mobility innovations, housing & sustainable development, active transportation & safety.	Highway/ Roadway Transit Active Transportation Goods Movement	• Projects that reduce congestion to highly traveled and congested corridors through performance improvements that balance transportation improvements, community impacts, and provide environmental benefits • Projects must be included in a qualifying Comprehensive Multimodal Corridor Plan consistent with the CTC's Comprehensive Multimodal Corridor Plan Guidelines	07/2022
Regional/Local Funding Sources				

[21] "Discussion Draft 2022 Transit and Intercity Rail Capital Program Guidelines". California State Transportation Agency. August 2021.

[22] "Final Adopted Program Guidelines: 2020 Solutions for Congested Corridors Program Guidelines". California Transportation Commission. April 2020.

Sustainable Communities Program[23]	The Sustainable Communities Program provides direct technical assistance to SCAG member jurisdictions to complete planning and policy efforts that enable implementation of the regional SCS. Call for applications for smart cities & mobility innovations, housing & sustainable development, active transportation & safety.	Active Transportation Sustainability	• Sustainable Land Use Planning • Transit Oriented Development and Land Use & Transportation Integration • Bicycle, Pedestrian and Safe Routes to School Plans • Natural Resource Plans, Climate Action Plans (CAPs) • Green House Gas (GHG) Reduction programs	Smart Cities & Mobility Innovations: April 2022 Housing & Sustainable Development: January 2023 Active Transportation & Safety: December 2023
Los Angeles County Sales Tax – Measure M[24]	Local sales tax that provides funding for transportation projects. Funds are distributed by Metro through the following sub funds: transit capital, highway capital, operations, and local return.	Transit Signal Synchronization/ TSM Active Transportation TDM (bikeshare, vanpool, etc.) Paratransit	• Planning, management, execution, use and conduct of the projects funded by Measure M. • New Metro rail operations and maintenance • Transit operations, maintenance, and expansion of transit • ADA Paratransit projects • Metro state of good repair projects • Highway construction • Metro active transportation programs • Local return projects	Accepts unsolicited proposals
Los Angeles County Sales Tax – Measure R[25]	Local sales tax that provides funding through 2039 for rail expansion, local street improvements, traffic reduction, better public transportation, and quality of life. Metro is responsible for administering funds.	Highway/ Roadway Transit Signal Synchronization/ TSM Active Transportation TDM	• Planning, management, execution, use and conduct of the projects funded by Measure R. • New Metro rail operations and maintenance	08/2022

[23] "2020-2021 Sustainable Communities Program Call for Applications". Southern California Association of Governments. July 2021.
[24] "Measure M Final Guidelines". Los Angeles Metro. 2017.
[25] "Measure R Local Return Guidelines". Los Angeles County: Metropolitan Transportation Authority. 2010.

		Goods Movement	• Transit operations, maintenance, and expansion of transit • Major street resurfacing, rehabilitation, and reconstruction; pothole repair; left turn signals; bikeways; pedestrian improvements; streetscapes; signal synchronization • Countywide bus service operations, maintenance, and expansion • Construction of specific list of capital projects or programs of projects in the Measure R Expenditure Plan. • Construction of specific list of new rail and/or bus rapid transit capital projects including Metro clean fuel buses and Municipal clean fuel bus capital facilities and rolling stock in the Measure R Expenditure Plan.	
LA County Sales Tax – Proposition A[26]	Local sales tax that provides funding according to the Metro Formula Allocation Procedure and Metro Board actions. Funds can be leveraged by bonding for capital projects.	Transit Active Transportation TDM Paratransit	• Management, execution, use and conduct of the projects funded by Proposition A • Expenditures related to fixed route and paratransit services, TDM, TSM, and fare subsidy program • Acquisition, renovation, rehabilitation, and replacement of rail vehicles, rail facilities & wayside systems. Operation of rail systems and acquisition & maintenance of rights of way	Project Description Form: Any time during the year Annual Project Update – Form B: August 1 of each year Annual Expenditure Report – Form C: October 15th of each year

			• Sub-regional paratransit program, special transit program, community transportation program, voluntary National Transit Database (NTD) reporting	
LA County Sales Tax – Proposition C[26]	LA County Sales Tax – Proposition C	Highway/ Roadway Transit Signal synchronization/ TSM Transit Security Active Transportation TDM Paratransit Goods Movement	• Management, execution, use and conduct of the projects funded by Proposition C • Improving and expanding rail and bus security, new rail security, transit service/ facilities security, security incentives, security improvements and demonstration • Capital costs of commuter rail including vehicles, land acquisition, track, bridges, grade crossings, maintenance equipment and facilities, and signal systems. • Capital costs of transit centers including facilities, access improvements, landscaping, bike lockers, rehabilitation, and other amenities. • Capital costs and rehabilitation of park-and-ride lots, freeway bus stops incorporated into a transit center or park-and-ride lot, used exclusively by transit and ride-sharing patrons during normal working hours. • Local return funding is distributed to cities on a per capita basis exclusively for public transit purposes. Funding requires annual	Project Description Form: Any time during the year Annual Project Update – Form B: August 1 of each year Annual Expenditure Report – Form C: October 15th of each year

[26] "Proposition A and Proposition C Local Return Guidelines". Los Angeles Metro. 2007.

			project descriptions. Metro conducts fiscal and compliance audits upon project completion, can establish capital reserves with Metro Board approval, may not be traded to other jurisdictions. • New or improved facilities that reduce congestion such as carpool lanes, transitways, signal coordination/TSM improvements on arterial streets used by transit, grade separations, incident management programs, arterial widening, interchanges, ridesharing, and first/last improvements. • Improve and expand rail and bus transit Countywide, provide fare subsidies, increase graffiti prevention and removal, and increase energy-efficient, low polluting public transit service.	

APPENDIX A: TRAFFIC COUNT DATA

APPENDIX A-1:

SUMMARY OF EXISTING PEAK HOUR VOLUMES AT STUDY AREA INTERSECTIONS

(FULL RAW COUNT DATA AVAILABLE FROM APPENDIX VOLUME II)

Appendix A-1: Existing Peak Hour Volumes
(Intersections With Classification Counts)

	AM Peak Hour									Midday Hour									PM Peak Hour								
	Pass. Veh.	Trucks Bobtail	Chassis	Container	Other	Delivery Trucks	Net Other	Truck PCE	Total PCE Volume	Pass. Veh.	Trucks Bobtail	Chassis	Container	Other	Delivery Trucks	Net Other	Truck PCE	Total PCE Volume	Pass. Veh.	Trucks Bobtail	Chassis	Container	Other	Delivery Trucks	Net Other	Truck PCE	Total PCE Volume
1 . Avalon Boulevard/Sepulveda Boulevard																											
NBL	113	0	0	0	5	0	5	15	128	122	0	0	0	3	0	3	9	131	140	0	0	0	2	0	2	6	146
NBT	339	1	0	0	8	0	8	26	365	369	1	0	1	6	0	6	23	392	445	0	0	1	5	0	5	18	463
NBR	72	0	0	0	4	0	4	12	84	61	1	0	0	4	0	4	14	75	77	0	0	0	0	0	0	0	77
SBL	61	0	0	0	3	0	3	9	70	97	1	1	1	3	0	3	17	114	127	1	0	0	1	0	1	5	132
SBT	303	1	0	0	6	0	6	20	323	385	2	0	1	6	0	6	25	410	487	0	0	0	2	0	2	6	493
SBR	93	1	1	5	5	0	5	35	128	172	0	0	2	4	0	4	18	190	156	3	0	0	2	0	2	12	168
EBL	86	0	0	2	2	0	2	12	98	157	1	0	4	4	0	4	26	183	180	1	0	3	4	0	4	23	203
EBT	263	9	2	8	13	0	13	87	350	330	10	5	17	23	0	23	155	485	513	15	3	11	14	0	14	114	627
EBR	96	0	0	0	5	0	5	15	111	178	0	0	0	6	0	6	18	196	221	0	0	1	4	0	4	15	236
WBL	58	0	0	0	0	0	0	0	58	84	1	0	0	1	0	1	5	89	106	0	0	0	0	0	0	0	106
WBT	346	6	3	18	33	0	33	174	520	330	10	1	19	32	0	32	176	506	410	13	1	12	21	0	21	128	538
WBR	46	0	0	0	6	0	6	18	64	75	2	0	2	5	0	5	25	100	121	1	1	2	5	0	5	26	147
2 . Avalon Boulevard/Lomita Boulevard																											
NBL	175	0	0	0	3	0	3	9	184	142	0	0	0	1	0	1	3	145	152	0	0	0	2	0	2	6	158
NBT	258	1	0	0	13	0	13	41	299	311	1	0	0	5	0	5	17	328	439	0	0	1	4	0	4	15	454
NBR	81	0	0	0	6	0	6	18	99	66	0	0	0	8	0	8	24	90	83	0	0	0	2	0	2	6	89
SBL	36	1	0	0	1	0	1	5	41	43	1	0	0	1	0	1	5	48	52	0	0	0	0	0	0	0	52
SBT	283	0	0	0	6	0	6	18	301	380	0	0	1	4	0	4	15	395	500	0	0	1	4	0	4	15	515
SBR	162	0	0	0	1	0	1	3	165	153	0	0	0	7	0	7	21	174	198	0	0	0	3	0	3	9	207
EBL	161	0	0	0	4	0	4	12	173	193	0	0	0	5	0	5	15	208	207	0	0	0	1	0	1	3	210
EBT	298	3	0	5	14	0	14	63	361	419	0	0	7	10	0	10	51	470	646	8	0	2	8	0	8	46	692
EBR	108	0	0	2	6	0	6	24	132	160	0	0	0	2	0	2	6	166	203	0	0	0	0	0	0	0	203
WBL	76	0	0	1	1	0	1	6	82	87	1	1	0	1	0	1	8	95	123	0	0	0	1	0	1	3	126
WBT	438	1	0	2	20	0	20	68	506	299	1	1	2	8	0	8	35	334	410	2	0	0	2	0	2	10	420
WBR	25	0	0	0	1	0	1	3	28	42	0	0	1	1	0	1	6	48	43	0	0	0	0	0	0	0	43
3 . Avalon Boulevard/Q Street																											
NBL	12	0	1	0	0	0	0	3	15	18	0	0	0	0	0	0	0	18	23	0	0	0	1	0	1	3	26
NBT	442	1	1	0	24	0	24	77	519	453	1	0	0	13	0	13	41	494	629	0	0	1	9	0	9	30	659
NBR	31	0	0	0	2	0	2	6	37	26	0	0	0	1	0	1	3	29	28	0	0	0	1	0	1	3	31
SBL	31	0	0	0	1	0	1	3	34	23	0	0	0	1	0	1	3	26	25	0	0	0	0	0	0	0	25
SBT	441	1	0	3	12	0	12	47	488	603	2	2	1	7	0	7	34	637	762	0	0	1	6	0	6	21	783
SBR	17	0	0	0	2	0	2	6	23	13	0	0	0	2	0	2	6	19	16	0	0	0	2	0	2	6	22
EBL	12	1	0	0	0	0	0	2	14	4	0	0	0	0	0	0	0	4	15	0	0	0	0	0	0	0	15
EBT	15	0	0	0	1	0	1	3	18	20	0	0	0	1	0	1	3	23	20	0	0	0	2	0	2	6	26
EBR	21	0	0	0	0	0	0	0	21	24	0	0	0	2	0	2	6	30	24	0	0	0	1	0	1	3	27
WBL	17	0	0	0	0	0	0	0	17	27	0	0	0	1	0	1	3	30	20	0	0	0	1	0	1	3	23
WBT	11	0	0	0	0	0	0	0	11	22	0	0	0	1	0	1	3	25	16	0	0	0	0	0	0	0	16
WBR	34	0	0	0	2	0	2	6	40	40	0	0	0	3	0	3	9	49	31	0	0	0	0	0	0	0	31
4 . Avalon Boulevard/PCH																											
NBL	109	0	0	2	1	0	1	9	118	173	1	0	1	3	0	3	14	187	223	0	0	0	1	0	1	3	226
NBT	294	0	0	0	8	0	8	24	318	373	0	0	0	5	0	5	15	388	518	0	0	0	4	0	4	12	530
NBR	90	0	0	1	1	0	1	6	96	125	0	1	0	0	0	0	3	128	121	0	0	1	0	0	0	3	124
SBL	142	1	0	0	7	0	7	23	165	186	0	0	0	6	0	6	18	204	185	0	0	0	5	0	5	15	200
SBT	269	0	0	0	10	0	10	30	299	302	0	0	0	6	0	6	18	320	424	0	0	0	4	0	4	12	436
SBR	99	0	0	0	4	0	4	12	111	126	2	0	0	3	0	3	13	139	134	0	0	0	0	0	0	0	134
EBL	48	0	0	1	1	0	1	6	54	88	1	0	0	0	0	0	2	90	113	0	0	0	1	0	1	3	116
EBT	686	5	0	8	58	0	58	208	894	656	3	2	13	27	0	27	132	788	785	4	0	7	21	0	21	92	877
EBR	125	1	0	0	9	0	9	29	154	131	0	0	0	2	0	2	6	137	164	0	0	1	3	0	3	12	176
WBL	91	0	0	0	3	0	3	9	100	91	1	0	0	4	0	4	14	105	103	0	0	0	0	0	0	0	103
WBT	513	6	2	5	30	0	30	123	636	642	7	4	12	36	0	36	170	812	804	9	0	2	31	0	31	117	921
WBR	90	0	0	0	3	0	3	9	99	135	0	0	0	3	0	3	9	144	125	1	0	0	3	0	3	11	136
5 . Wilmington Avenue/Lomita Boulevard																											
NBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SBL	53	26	7	8	27	0	27	178	231	71	16	1	43	44	0	44	296	367	85	17	2	12	12	0	12	112	197
SBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SBR	396	3	0	0	13	0	13	45	441	260	2	0	0	6	0	6	22	282	389	2	0	0	3	0	3	13	402
EBL	286	2	0	0	7	0	7	25	311	339	1	0	0	17	0	17	53	392	520	3	0	0	9	0	9	33	553
EBT	86	4	1	1	14	0	14	56	142	102	1	0	1	15	0	15	50	152	157	5	0	1	6	0	6	31	188
EBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WBT	105	1	0	0	6	0	6	20	125	90	2	0	2	7	0	7	31	121	125	0	0	0	3	0	3	9	134
WBR	51	6	0	22	29	0	29	165	216	68	38	2	28	32	0	32	262	330	68	14	1	11	15	0	15	109	177
6 . Wilmington Avenue/Sepulveda Boulevard																											
NBL	9	3	0	2	1	0	1	15	24	12	3	0	4	1	0	1	21	33	19	3	0	3	1	0	1	18	37
NBT	284	4	0	31	21	0	21	164	448	338	24	4	27	21	0	21	204	542	459	20	0	16	13	0	13	127	586
NBR	57	5	1	13	4	0	4	64	121	70	7	6	12	6	0	6	86	156	103	8	2	4	3	0	3	43	146
SBL	39	19	4	22	16	0	16	164	203	43	15	7	30	9	0	9	168	211	76	19	3	32	12	0	12	179	255
SBT	367	24	4	18	20	0	20	174	541	277	10	8	42	18	0	18	224	501	401	9	2	16	6	0	6	90	491
SBR	160	2	0	10	11	0	11	67	227	161	4	1	5	10	0	10	56	217	162	6	0	9	6	0	6	57	219
EBL	109	0	0	3	5	0	5	24	133	114	4	2	5	9	0	9	56	170	168	9	0	8	7	0	7	63	231
EBT	194	12	5	5	14	0	14	96	290	235	9	6	6	22	0	22	120	355	397	11	1	12	7	0	7	82	479
EBR	15	2	1	0	1	0	1	10	25	23	3	1	7	2	0	2	36	59	27	2	1	2	0	0	0	13	40
WBL	59	7	1	3	4	0	4	38	97	44	5	1	14	6	0	6	73	117	65	3	3	6	0	0	0	33	98
WBT	252	3	0	4	19	0	19	75	327	175	6	2	15	19	0	19	120	295	273	8	3	3	17	0	17	85	358
WBR	37	5	1	1	10	0	10	46	83	34	14	8	62	10	0	10	268	302	32	28	4	27	5	0	5	164	196
7 . Eubank Avenue/Lomita Boulevard																											
NBL	116	3	4	0	6	0	6	36	152	124	7	2	1	4	0	4	35	159	117	2	0	0	3	0	3	13	130
NBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NBR	5	1	2	0	1	0	1	11	16	7	0	0	1	3	0	3	12	19	4	0	0	0	1	0	1	3	7
SBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EBT	42	28	8	16	29	0	29	215	257	28	12	7	37	44	0	44	288	316	23	11	2	19	20	0	20	145	168
EBR	100	1	0	0	9	0	9	29	129	144	4	2	0	7	0	7	35	179	209	0	0	1	1	0	1	6	215
WBL	2	0	3	3	5	0	5	33	35	4	4	2	1	2	0	2	23	27	4	3	0	0	0	0	0	6	10
WBT	11	7	8	32	40	0	40	254	265	32	27	5	25	38	0	38	258	290	62	26	0	17	33	0	33	202	264
WBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix A-1: Existing Peak Hour Volumes
(Intersections With Classification Counts)

	AM Peak Hour									Midday Hour									PM Peak Hour								
	Pass.	Trucks							Total	Pass.	Trucks							Total	Pass.	Trucks							Total
	Veh.	Bobtail	Chassis	Container	Other	Delivery Trucks	Net Other	Truck PCE	PCE Volume	Veh.	Bobtail	Chassis	Container	Other	Delivery Trucks	Net Other	Truck PCE	PCE Volume	Veh.	Bobtail	Chassis	Container	Other	Delivery Trucks	Net Other	Truck PCE	PCE Volume
8 . Eubank Avenue/PCH																											
NBL	45	0	0	0	1	0	1	3	48	37	0	0	0	0	0	0	0	37	46	0	0	0	0	0	0	0	46
NBT	47	0	0	0	1	0	1	3	50	45	0	0	0	1	0	1	3	48	49	0	0	0	1	0	1	3	52
NBR	44	0	0	0	1	0	1	3	47	37	0	0	0	0	0	0	0	37	51	0	0	0	0	0	0	0	51
SBL	93	1	0	2	6	0	6	26	119	118	6	9	1	7	0	7	63	181	176	2	1	1	6	0	6	28	204
SBT	22	0	0	0	1	0	1	3	25	37	0	0	0	1	0	1	3	40	55	0	0	0	0	0	0	0	55
SBR	11	0	0	1	1	0	1	6	17	10	0	0	0	0	0	0	0	10	19	0	0	0	1	0	1	3	22
EBL	26	0	0	0	1	0	1	3	29	20	1	0	0	1	0	1	5	25	19	0	0	0	1	0	1	3	22
EBT	633	6	3	7	26	0	26	120	753	755	8	4	14	45	0	45	205	960	1,040	8	0	2	34	0	34	124	1,164
EBR	40	0	0	0	2	0	2	6	46	61	0	0	0	1	0	1	3	64	71	0	0	0	0	0	0	0	71
WBL	33	0	0	0	0	0	0	0	33	23	0	0	0	0	0	0	0	23	57	0	0	0	0	0	0	0	57
WBT	837	3	5	4	49	0	49	180	1,017	791	5	1	14	33	0	33	154	945	1,028	4	1	7	23	0	23	101	1,129
WBR	139	5	1	3	9	0	9	49	188	94	7	5	6	5	0	5	62	156	125	0	0	1	0	0	0	3	128
9 . Sanford Avenue/O Street																											
NBL	1	0	0	0	1	0	1	3	4	2	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	2
NBT	11	0	0	0	1	0	1	3	14	23	0	0	0	0	0	0	0	23	40	1	0	0	1	0	1	5	45
NBR	13	0	0	0	1	0	1	3	16	16	0	0	0	1	0	1	3	19	22	0	0	0	1	1	0	2	24
SBL	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SBT	36	0	0	0	2	0	2	6	42	28	0	0	0	2	0	2	6	34	28	0	0	0	0	0	0	0	28
SBR	1	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	3	3	0	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	2	0	0	0	0	0	0	0	0	0
EBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EBR	2	0	0	0	1	0	1	3	5	0	1	0	0	0	0	0	2	2	5	0	0	0	0	0	0	0	5
WBL	12	0	0	0	0	0	0	0	12	8	0	0	0	0	0	0	0	8	13	0	0	0	0	0	0	0	13
WBT	0	0	0	0	1	0	1	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WBR	1	0	0	0	1	0	1	3	4	8	0	0	0	0	0	0	0	8	2	0	0	0	0	0	0	0	2
10 . Sanford Avenue/PCH																											
NBL	61	0	0	1	3	0	3	12	73	70	0	0	1	2	0	2	9	79	76	0	0	0	0	0	0	0	76
NBT	4	0	0	0	1	0	1	3	7	5	0	0	0	0	0	0	0	5	7	0	0	0	0	0	0	0	7
NBR	47	3	1	3	7	0	7	39	86	51	3	0	3	3	0	3	24	75	55	2	0	1	4	0	4	19	74
SBL	9	5	0	2	3	0	3	25	34	2	0	0	2	1	0	1	9	11	10	1	1	0	0	0	0	5	15
SBT	5	0	0	0	0	0	0	0	5	6	0	0	0	0	0	0	0	6	3	0	0	0	0	0	0	0	3
SBR	45	1	0	0	2	0	2	8	53	41	0	0	0	3	0	3	9	50	58	0	0	0	0	0	0	0	58
EBL	27	0	0	0	0	0	0	0	27	39	0	0	0	0	0	0	0	39	67	1	0	0	0	0	0	2	69
EBT	691	5	3	8	31	0	31	136	827	803	16	12	15	42	0	42	239	1,042	1,084	8	1	2	42	0	42	151	1,235
EBR	49	2	0	0	3	0	3	13	62	82	1	1	0	4	0	4	17	99	112	1	0	0	0	0	0	2	114
WBL	21	0	0	1	9	0	9	30	51	17	3	1	4	1	0	1	24	41	35	1	0	0	4	0	4	14	49
WBT	909	7	3	10	52	0	52	209	1,118	786	12	6	21	30	0	30	195	981	1,075	4	1	8	23	0	23	104	1,179
WBR	14	1	0	2	3	0	3	17	31	6	3	0	0	0	0	0	6	12	14	2	0	0	1	0	1	7	21
11 . Watson Avenue/Sandison Avenue																											
NBL	9	0	0	0	0	0	0	0	9	1	0	0	0	1	0	1	3	4	8	0	0	0	0	0	0	0	8
NBT	18	0	0	0	0	0	0	0	18	3	0	0	0	0	0	0	0	3	7	0	0	0	0	0	0	0	7
NBR	7	0	0	0	0	0	0	0	7	7	0	0	0	0	0	0	0	7	7	0	0	0	0	0	0	0	7
SBL	0	1	0	0	0	0	0	2	2	1	2	0	0	0	0	0	4	5	1	0	0	0	0	0	0	0	1
SBT	3	0	0	0	1	0	1	3	6	5	0	0	0	0	0	0	0	5	13	0	0	0	0	0	0	0	13
SBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
EBT	0	0	0	0	1	0	1	3	3	3	0	0	1	0	0	0	3	6	4	0	0	0	0	0	0	0	4
EBR	7	0	0	0	1	0	1	3	10	5	0	0	0	0	0	0	0	5	7	0	0	0	0	0	0	0	7
WBL	7	0	0	0	0	0	0	0	7	8	0	0	1	2	0	2	9	17	10	0	0	0	1	0	1	3	13
WBT	3	0	0	0	1	0	1	3	6	6	0	0	1	2	0	2	9	15	10	0	0	0	0	0	0	0	10
WBR	2	0	0	0	0	0	0	0	2	1	2	0	1	0	0	0	7	8	0	0	0	0	0	0	0	0	0
12 . Watson Avenue/O Street																											
NBL	2	0	0	0	1	0	1	3	5	10	0	0	0	0	0	0	0	10	11	0	0	0	0	0	0	0	11
NBT	38	0	0	0	0	0	0	0	38	24	0	0	0	1	0	1	3	27	63	0	0	0	2	0	2	6	69
NBR	3	0	0	0	0	0	0	0	3	13	0	0	0	0	0	0	0	13	13	0	0	0	0	0	0	0	13
SBL	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	3
SBT	45	0	0	0	4	0	4	12	57	30	0	0	1	2	0	2	9	39	48	0	0	0	1	0	1	3	51
SBR	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
EBL	2	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	3
EBT	2	0	0	0	1	0	1	3	5	0	1	0	0	1	0	1	5	5	2	0	0	0	0	0	0	0	2
EBR	9	0	0	0	1	0	1	3	12	6	0	0	0	0	0	0	0	6	9	0	0	0	0	0	0	0	9
WBL	12	0	0	0	0	0	0	0	12	7	0	0	0	0	0	0	0	7	11	0	0	0	0	0	0	0	11
WBT	0	0	0	0	1	0	1	3	3	1	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	2
WBR	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1
13 . Watson Avenue/PCH																											
NBL	57	0	0	0	1	0	1	3	60	55	0	0	0	0	0	0	0	55	51	0	0	0	1	0	1	3	54
NBT	16	0	0	0	0	0	0	0	16	10	0	0	0	1	0	1	3	13	18	0	0	0	0	0	0	0	18
NBR	48	0	0	0	0	0	0	0	48	40	0	0	0	0	0	0	0	40	45	0	0	0	0	0	0	0	45
SBL	18	0	0	0	2	0	2	6	24	25	0	0	1	0	0	0	3	28	28	1	0	0	1	0	1	5	33
SBT	15	0	0	0	0	0	0	0	15	11	0	0	0	0	0	0	0	11	14	0	0	0	0	0	0	0	14
SBR	45	0	0	0	1	0	1	3	48	23	0	0	0	1	0	1	3	26	43	0	0	0	0	0	0	0	43
EBL	17	0	0	0	1	0	1	3	20	28	0	0	0	0	0	0	0	28	41	0	0	0	1	0	1	3	44
EBT	675	14	3	12	30	0	30	163	838	771	18	12	18	45	1	44	260	1,031	1,029	12	0	6	38	0	38	156	1,185
EBR	47	0	0	0	6	0	6	18	65	48	0	0	0	5	0	5	15	63	72	0	0	0	5	0	5	15	87
WBL	23	0	0	0	3	0	3	9	32	19	0	0	0	1	0	1	3	22	43	0	0	0	0	0	0	0	43
WBT	810	9	1	7	68	3	65	243	1,053	729	19	7	22	31	1	30	217	946	989	12	1	10	24	0	24	129	1,118
WBR	22	0	0	0	0	0	0	0	22	23	0	0	0	1	0	1	3	26	34	0	0	0	0	0	0	0	34
14 . Blinn Avenue/Lomita Boulevard																											
NBL	8	43	1	4	5	0	5	116	124	2	10	11	19	15	0	15	155	157	0	9	9	14	6	0	6	105	105
NBT	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	42	42	0	0	0	0	0	0	0	0	0
NBR	28	13	6	1	12	0	12	83	111	0	7	12	0	17	0	17	101	101	1	5	3	21	7	0	7	103	104
SBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EBT	7	21	5	7	13	0	13	117	124	4	1	3	19	15	0	15	113	117	3	2	1	6	6	0	6	43	46
EBR	1	4	4	26	6	0	6	116	117	7	12	2	13	6	0	6	87	94	3	23	1	3	5	0	5	73	76
WBL	2	0	0	7	8	0	8	45	47	3	9	4	6	3	0	3	57	60	30	9	4	6	2	0	2	54	84
WBT	4	0	1	13	6	0	6	60	64	4	18	0	5	9	0	9	78	82	5	19	0	7	6	0	6	77	82
WBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix A-1: Existing Peak Hour Volumes
(Intersections With Classification Counts)

	AM Peak Hour									Midday Hour									PM Peak Hour								
	Pass. Veh.	Trucks Bobtail	Chassis	Container	Other	Delivery Trucks	Net Other	Truck PCE	Total PCE Volume	Pass. Veh.	Trucks Bobtail	Chassis	Container	Other	Delivery Trucks	Net Other	Truck PCE	Total PCE Volume	Pass. Veh.	Trucks Bobtail	Chassis	Container	Other	Delivery Trucks	Net Other	Truck PCE	Total PCE Volume
15 . Blinn Avenue/Q Street																											
NBL	6	0	0	0	0	0	0	0	6	6	0	1	0	4	0	4	15	21	4	0	0	0	2	0	2	6	10
NBT	32	2	0	0	3	0	3	13	45	1	0	0	2	3	0	3	15	16	0	1	3	0	1	0	1	14	14
NBR	4	1	0	0	8	0	8	26	30	3	1	0	1	1	0	1	8	11	0	0	0	0	0	0	0	0	0
SBL	1	5	3	47	0	0	0	160	161	0	19	8	25	0	0	0	137	137	1	27	5	8	1	0	1	96	97
SBT	2	0	1	0	0	0	0	3	5	10	4	0	1	0	0	0	11	21	33	5	1	3	2	0	2	28	61
SBR	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	3	3
EBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3	3
EBR	1	0	0	0	0	0	0	0	1	7	1	0	0	5	0	5	17	24	3	0	1	0	2	0	2	9	12
WBL	2	3	0	2	1	0	1	15	17	3	2	1	6	2	0	2	31	34	6	3	2	1	7	0	7	36	42
WBT	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3	3	0	0	0	0	0	0	0	0	0
WBR	3	54	12	10	6	0	6	192	195	0	15	26	51	1	0	1	264	264	1	16	9	42	3	0	3	194	195
16 . Blinn Avenue/Sandison Avenue																											
NBL	7	0	0	0	0	0	0	0	7	9	0	0	0	1	0	1	3	12	8	1	0	1	0	0	0	5	13
NBT	46	2	0	0	4	0	4	16	62	10	1	1	2	5	0	5	26	36	8	0	1	0	0	0	0	3	11
NBR	17	0	0	0	1	0	1	3	20	17	0	0	0	1	0	1	3	20	16	0	0	0	1	0	1	3	19
SBL	0	0	0	0	2	0	2	6	6	0	1	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0
SBT	10	1	0	1	0	0	0	5	15	25	4	1	5	5	0	5	41	66	43	6	3	5	2	0	2	42	85
SBR	0	0	0	0	1	0	1	3	3	2	1	1	2	1	0	1	14	16	2	0	0	0	0	0	0	0	2
EBL	4	1	0	0	0	0	0	2	6	1	0	0	1	0	0	0	3	4	1	0	0	0	0	0	0	0	1
EBT	2	1	0	1	1	0	1	8	10	3	6	0	1	0	0	0	15	18	6	3	0	1	0	0	0	9	15
EBR	7	0	0	0	0	0	0	0	7	9	4	0	1	0	0	0	11	20	7	2	0	1	0	0	0	7	14
WBL	9	0	0	0	1	0	1	3	12	18	0	1	1	0	0	0	6	24	16	0	0	0	0	0	0	0	16
WBT	4	0	0	1	0	0	0	3	7	4	2	2	8	3	0	3	43	47	10	1	3	5	1	0	1	29	39
WBR	0	1	0	0	0	0	0	2	2	1	0	0	1	1	0	1	6	7	0	0	1	0	2	0	2	9	9
17 . Blinn Avenue/O Street																											
NBL	7	0	0	0	0	0	0	0	7	5	0	0	0	0	0	0	0	5	11	0	0	0	1	1	0	2	13
NBT	64	3	1	1	3	1	2	20	84	58	1	1	2	7	0	7	32	90	46	1	1	1	4	0	4	20	66
NBR	7	0	0	0	0	0	0	0	7	12	0	0	0	0	0	0	0	12	12	0	0	0	0	0	0	0	12
SBL	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	3	3
SBT	68	3	0	5	3	0	3	30	98	80	7	1	7	6	0	6	56	136	100	7	3	5	4	0	4	50	150
SBR	1	0	0	0	1	0	1	3	4	1	0	0	0	0	0	0	0	1	5	0	0	0	0	0	0	0	5
EBL	1	0	0	0	0	0	0	0	1	5	0	0	0	0	0	0	0	5	3	0	0	0	0	0	0	0	3
EBT	1	0	0	0	1	0	1	3	4	0	0	0	0	1	0	1	3	3	3	0	0	0	0	0	0	0	3
EBR	8	0	0	0	0	0	0	0	8	2	0	0	0	0	0	0	0	2	8	0	0	0	1	1	0	2	10
WBL	7	0	0	0	0	0	0	0	7	13	0	0	0	0	0	0	0	13	7	0	0	0	0	0	0	0	7
WBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 . Blinn Avenue/PCH																											
NBL	47	2	0	0	3	0	3	13	60	61	0	0	0	0	0	0	0	61	87	0	0	1	2	0	2	9	96
NBT	10	0	0	0	0	0	0	0	10	10	0	0	0	1	0	1	3	13	18	0	0	0	1	0	1	3	21
NBR	16	0	0	0	2	0	2	6	22	15	0	0	0	1	0	1	3	18	38	0	0	0	1	0	1	3	41
SBL	43	0	0	1	2	0	2	9	52	45	8	0	4	4	0	4	40	85	50	2	1	1	2	0	2	16	66
SBT	23	1	0	0	0	0	0	2	25	12	1	0	0	1	0	1	5	17	21	0	0	0	0	0	0	0	21
SBR	42	0	0	0	5	0	5	15	57	51	1	1	2	4	0	4	23	74	44	1	0	0	2	0	2	8	52
EBL	21	0	0	0	3	0	3	9	30	48	2	1	1	4	0	4	22	70	32	0	0	0	1	0	1	3	35
EBT	648	13	4	15	41	0	41	206	854	703	15	13	19	44	0	44	258	961	979	14	0	6	42	0	42	172	1,151
EBR	61	0	0	0	2	0	2	6	67	72	0	0	0	1	0	1	3	75	71	0	0	0	1	0	1	3	74
WBL	26	0	0	0	3	0	3	9	35	19	0	0	0	1	0	1	3	22	46	0	0	0	2	0	2	6	52
WBT	742	10	2	8	64	0	64	242	984	648	20	9	15	39	0	39	229	877	888	11	4	11	18	0	18	121	1,009
WBR	41	1	0	0	1	0	1	5	46	28	0	0	1	0	0	0	3	31	35	0	0	0	2	0	2	6	41
19 . Drumm Avenue/PCH																											
NBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SBL	1	8	8	77	8	0	8	295	296	3	28	12	44	5	0	5	239	242	2	33	6	27	1	0	1	168	170
SBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SBR	3	0	0	5	6	0	6	33	36	0	2	1	8	0	0	0	31	31	7	1	0	5	2	0	2	23	30
EBL	0	0	0	3	0	0	0	9	9	3	3	2	4	2	0	2	30	33	2	5	0	2	3	0	3	25	27
EBT	664	9	5	16	37	0	37	192	856	732	20	10	15	39	0	39	232	964	1,018	13	2	4	36	0	36	152	1,170
EBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WBT	764	9	2	11	55	0	55	222	986	699	17	7	15	29	0	29	187	886	958	11	3	5	19	0	19	103	1,061
WBR	9	51	11	28	6	0	6	237	246	9	14	32	84	9	0	9	403	412	22	22	8	36	10	0	10	206	228
20 . Gamble Avenue/Sandison Avenue																											
NBL	5	0	0	0	1	1	0	2	7	4	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
NBT	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	1	3	5
NBR	0	0	0	0	1	0	1	3	3	1	0	0	1	0	0	0	3	4	1	0	0	0	0	0	0	0	1
SBL	4	3	1	2	0	0	0	15	19	3	1	0	2	0	0	0	8	11	0	0	0	4	0	0	0	12	12
SBT	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SBR	2	0	0	0	0	0	0	0	2	5	2	0	1	1	0	1	10	15	9	0	0	0	0	0	0	0	9
EBL	4	0	0	0	0	0	0	0	4	4	2	0	0	1	0	1	7	11	4	1	0	0	0	0	0	2	6
EBT	11	1	0	1	3	0	3	14	25	2	4	0	1	0	0	0	11	13	8	2	0	1	1	0	1	10	18
EBR	1	0	0	0	1	0	1	3	4	8	0	0	0	1	1	0	2	10	4	0	0	0	0	0	0	0	4
WBL	2	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	2	3	0	0	0	0	0	0	0	3
WBT	4	1	0	0	2	0	2	8	12	7	1	3	8	4	0	4	47	54	14	2	2	4	3	0	3	31	45
WBR	6	1	0	0	0	0	0	2	8	1	2	4	5	0	0	0	31	32	2	1	2	2	1	0	1	17	19
21 . Coil Avenue/PCH																											
NBL	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	4	2	1	0	0	0	0	0	2	4
NBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NBR	59	0	0	3	5	0	5	24	83	90	1	7	0	5	0	5	38	128	87	0	0	1	2	0	2	9	96
SBL	0	3	5	2	8	0	8	51	51	8	1	0	6	5	0	5	35	43	5	1	1	3	0	0	0	14	19
SBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SBR	4	0	0	0	1	0	1	3	7	10	0	2	2	2	0	2	18	28	21	0	2	1	0	0	0	9	30
EBL	16	0	0	0	6	0	6	18	34	20	0	1	2	2	0	2	15	35	13	1	0	1	0	0	0	5	18
EBT	633	19	7	84	37	0	37	422	1,055	680	49	23	63	43	0	43	485	1,165	997	42	7	36	37	0	37	324	1,321
EBR	2	0	0	0	1	0	1	3	5	10	0	0	0	2	0	2	6	16	5	2	0	0	2	0	2	10	15
WBL	42	0	0	0	6	0	6	18	60	55	1	0	0	5	0	5	17	72	54	0	1	1	0	0	0	6	60
WBT	783	67	15	33	54	0	54	440	1,223	661	27	39	88	51	0	51	588	1,249	943	33	12	39	32	0	32	315	1,258
WBR	27	1	1	1	11	0	11	41	68	12	3	2	10	9	0	9	69	81	8	1	2	4	3	0	3	29	37

Appendix A-1: Existing Peak Hour Volumes
(Intersections With Classification Counts)

	AM Peak Hour									Midday Hour									PM Peak Hour								
	Pass. Veh.	Trucks Bobtail	Chassis	Container	Other	Delivery Trucks	Net Other	Truck PCE	Total PCE Volume	Pass. Veh.	Trucks Bobtail	Chassis	Container	Other	Delivery Trucks	Net Other	Truck PCE	Total PCE Volume	Pass. Veh.	Trucks Bobtail	Chassis	Container	Other	Delivery Trucks	Net Other	Truck PCE	Total PCE Volume
22 . Drumm Avenue/Sandison Avenue																											
NBL	5	1	0	1	0	0	0	5	10	3	3	6	13	4	0	4	75	78	6	3	7	6	1	0	1	48	54
NBT	8	65	13	18	4	0	4	235	243	1	14	29	73	8	0	8	358	359	2	21	15	51	5	0	5	255	257
NBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SBT	1	6	5	84	8	0	8	303	304	2	31	16	48	3	0	3	263	265	1	33	13	33	4	0	4	216	217
SBR	2	1	0	0	0	0	0	2	4	1	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	3	3
EBL	2	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	2
EBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EBR	6	4	1	3	3	0	3	29	35	2	4	0	3	0	0	0	17	19	4	2	1	3	0	0	0	16	20
WBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 . Alameda Street/Sepulveda Boulevard																											
NBL	1	0	0	0	4	0	4	12	13	1	0	0	0	1	0	1	3	4	0	0	0	0	0	0	0	0	0
NBT	0	0	0	0	11	0	11	33	33	2	0	0	0	7	0	7	21	23	5	0	0	0	6	0	6	18	23
NBR	3	0	0	0	2	0	2	6	9	2	0	0	0	0	0	0	0	2	2	0	0	0	1	0	1	3	5
SBL	18	98	6	18	18	0	18	322	340	25	56	9	39	29	0	29	343	368	34	32	7	24	21	0	21	220	254
SBT	3	0	0	0	17	0	17	51	54	1	0	0	0	3	0	3	9	10	1	0	0	0	9	0	9	27	28
SBR	69	9	5	12	14	0	14	111	180	38	14	4	28	19	0	19	181	219	98	20	2	29	11	0	11	166	264
EBL	48	4	4	8	8	0	8	68	116	67	4	3	11	23	0	23	119	186	91	17	2	11	15	0	15	118	209
EBT	205	43	17	42	21	0	21	326	531	311	26	14	27	41	0	41	298	609	482	24	8	13	41	0	41	234	716
EBR	3	0	0	0	3	0	3	9	12	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	2	6	7
WBL	1	0	0	0	2	0	2	6	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WBT	334	8	6	30	34	0	34	226	560	186	20	8	60	27	0	27	325	511	280	32	9	24	14	0	14	205	485
WBR	33	16	0	53	20	0	20	251	284	30	46	15	92	7	0	7	434	464	55	68	13	83	14	0	14	466	521
24 . Alameda Street/O Street																											
NBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NBT	61	50	2	38	23	0	23	289	350	187	63	24	143	36	0	36	735	922	281	71	24	140	24	0	24	706	987
NBR	43	30	10	11	8	0	8	147	190	56	19	10	29	6	0	6	173	229	66	14	5	21	2	0	2	112	178
SBL	165	27	15	25	22	0	22	240	405	143	12	6	37	21	0	21	216	359	213	14	7	23	5	0	5	133	346
SBT	325	44	27	138	38	0	38	697	1,022	182	34	18	119	50	0	50	629	811	375	38	14	105	12	0	12	469	844
SBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WBL	47	5	7	20	12	0	12	127	174	40	15	11	13	11	0	11	135	175	77	15	6	15	4	0	4	105	182
WBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WBR	163	17	4	12	20	0	20	142	305	183	31	6	40	25	0	25	275	458	263	20	11	42	12	0	12	235	498
25 . O Street/PCH																											
NBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SBL	55	26	11	30	20	0	20	235	290	56	26	8	36	22	0	22	250	306	76	19	7	14	9	0	9	128	204
SBT	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	11	33	33	0	0	0	0	0	0	0	0	0
SBR	149	20	2	8	7	0	7	91	240	160	10	11	22	0	0	0	119	279	252	7	5	13	8	0	8	92	344
EBL	154	4	1	10	14	0	14	83	237	144	16	9	8	12	0	12	119	263	203	23	6	8	12	0	12	124	327
EBT	567	21	25	57	45	0	45	423	990	581	31	19	50	44	0	44	401	982	810	38	10	28	36	0	36	298	1,108
EBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WBT	742	46	6	25	47	0	47	326	1,068	530	23	33	89	36	0	36	520	1,050	771	25	17	41	25	0	25	299	1,070
WBR	66	17	4	12	18	0	18	136	202	75	28	6	51	24	0	24	299	374	120	26	6	28	10	0	10	184	304

APPENDIX A-2:

SUMMARY OF EXISTING AVERAGE DAILY TRAFFIC COUNTS AT STUDY ROADWAY SEGMENTS

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Carson
Lomita Boulevard
B/ Wilmington Avenue - Eubank Avenue
24 Hour Directional Classification Count

CRS002
Site Code: 999-21183

Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	24	1	0	0	5	0	0	12	0	0	0	0	42
01:00	0	18	3	0	0	9	0	0	16	0	0	0	0	46
02:00	0	1	1	0	0	7	0	0	18	0	0	0	0	27
03:00	0	8	4	0	0	3	0	0	13	0	0	0	0	28
04:00	0	27	6	0	3	16	0	0	11	0	0	**1**	0	64
05:00	0	55	14	0	0	22	0	0	8	0	0	0	0	99
06:00	**2**	102	32	0	4	**35**	**1**	**6**	27	0	2	0	0	211
07:00	1	**111**	29	0	10	32	0	4	30	1	0	1	0	219
08:00	1	101	**33**	0	11	33	1	1	43	**4**	2	0	0	**230**
09:00	0	83	27	0	8	22	1	0	**65**	0	4	0	0	210
10:00	0	80	30	0	16	14	1	4	61	0	**5**	0	0	211
11:00	0	97	24	0	**18**	19	0	1	54	0	3	0	0	216
12 PM	0	126	26	0	**13**	15	**2**	2	81	0	**3**	0	0	268
13:00	0	111	26	0	12	11	0	**3**	56	0	0	0	0	219
14:00	0	142	41	0	10	17	0	2	**85**	0	2	0	0	299
15:00	1	168	31	0	7	15	0	3	46	0	0	0	0	271
16:00	1	202	**47**	0	7	10	0	1	38	0	0	0	0	**306**
17:00	1	**204**	28	0	3	26	0	0	21	0	0	0	0	283
18:00	0	124	21	0	1	**27**	1	0	23	**1**	0	0	0	198
19:00	**2**	135	19	**1**	0	6	0	1	21	0	0	0	0	185
20:00	2	106	19	0	0	7	0	0	24	0	0	0	0	158
21:00	0	99	10	0	3	10	0	0	10	0	0	0	0	132
22:00	1	71	8	0	0	9	0	0	11	0	0	0	0	100
23:00	1	35	2	0	0	3	0	0	16	0	0	0	0	57
Total	13	2230	482	1	126	373	7	28	790	6	21	2	0	4079
Percent	0.3%	54.7%	11.8%	0.0%	3.1%	9.1%	0.2%	0.7%	19.4%	0.1%	0.5%	0.0%	0.0%	
AM Peak	06:00	07:00	08:00		11:00	06:00	06:00	06:00	09:00	08:00	10:00	04:00		08:00
Vol.	2	111	33		18	35	1	6	65	4	5	1		230
PM Peak	19:00	17:00	16:00	19:00	12:00	18:00	12:00	13:00	14:00	18:00	12:00			16:00
Vol.	2	204	47	1	13	27	2	3	85	1	3			306
Grand Total	13	2230	482	1	126	373	7	28	790	6	21	2	0	4079
Percent	0.3%	54.7%	11.8%	0.0%	3.1%	9.1%	0.2%	0.7%	19.4%	0.1%	0.5%	0.0%	0.0%	

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Carson
Lomita Boulevard
B/ Wilmington Avenue - Eubank Avenue
24 Hour Directional Classification Count

CRS002
Site Code: 999-21183

Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	16	0	0	0	7	0	0	9	0	0	0	0	32
01:00	0	14	0	0	0	8	0	0	22	0	0	0	0	44
02:00	0	28	3	0	0	11	0	0	12	0	0	0	0	54
03:00	1	16	2	0	0	4	0	0	13	0	0	0	0	36
04:00	0	41	7	0	0	2	0	0	21	0	0	0	0	71
05:00	0	57	9	0	2	3	0	0	33	0	0	0	0	104
06:00	1	134	19	0	1	10	0	3	31	2	0	0	0	201
07:00	**2**	**145**	**27**	0	4	5	0	0	50	2	2	0	0	237
08:00	0	114	21	0	8	13	0	4	**74**	4	**4**	0	0	242
09:00	0	78	25	0	4	24	0	6	53	4	2	**1**	0	197
10:00	0	106	23	0	**9**	**32**	0	**7**	52	4	2	0	0	235
11:00	0	117	21	0	5	29	0	3	62	**7**	2	0	0	**246**
12 PM	0	119	33	0	**14**	31	0	1	60	4	**4**	0	0	266
13:00	1	118	21	0	11	**40**	0	2	**73**	**9**	0	0	0	275
14:00	1	134	27	0	6	29	0	**5**	52	3	0	0	0	257
15:00	0	152	29	0	12	38	0	1	32	7	0	0	0	271
16:00	**3**	161	**40**	0	2	33	0	1	40	3	1	0	0	**284**
17:00	2	**180**	28	0	2	14	0	0	19	2	0	0	0	247
18:00	0	95	24	0	3	16	0	0	23	1	0	0	0	162
19:00	1	95	26	0	2	13	0	1	18	1	0	0	0	157
20:00	1	76	8	0	0	15	0	0	11	0	0	0	0	111
21:00	0	56	9	0	1	7	0	0	15	0	0	0	0	88
22:00	0	39	3	0	0	11	0	0	9	0	0	0	0	62
23:00	0	15	2	0	0	6	0	0	10	0	0	0	0	33
Total	13	2106	407	0	86	401	0	34	794	53	17	1	0	3912
Percent	0.3%	53.8%	10.4%	0.0%	2.2%	10.3%	0.0%	0.9%	20.3%	1.4%	0.4%	0.0%	0.0%	
AM Peak	07:00	07:00	07:00		10:00	10:00		10:00	08:00	11:00	08:00	09:00		11:00
Vol.	2	145	27		9	32		7	74	7	4	1		246
PM Peak	16:00	17:00	16:00		12:00	13:00		14:00	13:00	13:00	12:00			16:00
Vol.	3	180	40		14	40		5	73	9	4			284
Grand Total	13	2106	407	0	86	401	0	34	794	53	17	1	0	3912
Percent	0.3%	53.8%	10.4%	0.0%	2.2%	10.3%	0.0%	0.9%	20.3%	1.4%	0.4%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Carson
Lomita Boulevard
B/ Wilmington Avenue - Eubank Avenue
24 Hour Directional Classification Count

CRS002
Site Code: 999-21183

Eastbound, Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	40	1	0	0	12	0	0	21	0	0	0	0	74
01:00	0	32	3	0	0	17	0	0	38	0	0	0	0	90
02:00	0	29	4	0	0	18	0	0	30	0	0	0	0	81
03:00	1	24	6	0	0	7	0	0	26	0	0	0	0	64
04:00	0	68	13	0	3	18	0	0	32	0	0	**1**	0	135
05:00	0	112	23	0	2	25	0	0	41	0	0	0	0	203
06:00	**3**	236	51	0	5	45	**1**	9	58	2	2	0	0	412
07:00	3	**256**	**56**	0	14	37	0	4	80	3	2	1	0	456
08:00	1	215	54	0	19	46	1	5	117	**8**	6	0	0	**472**
09:00	0	161	52	0	12	46	1	6	**118**	4	6	1	0	407
10:00	0	186	53	0	**25**	46	1	**11**	113	4	**7**	0	0	446
11:00	0	214	45	0	23	**48**	0	4	116	7	5	0	0	462
12 PM	0	245	59	0	**27**	46	**2**	3	**141**	4	**7**	0	0	534
13:00	1	229	47	0	23	51	0	5	129	**9**	0	0	0	494
14:00	1	276	68	0	16	46	0	**7**	137	3	2	0	0	556
15:00	1	320	60	0	19	**53**	0	4	78	7	0	0	0	542
16:00	**4**	363	**87**	0	9	43	0	2	78	3	1	0	0	**590**
17:00	3	**384**	56	0	5	40	0	0	40	2	0	0	0	530
18:00	0	219	45	0	4	43	1	0	46	2	0	0	0	360
19:00	3	230	45	**1**	2	19	0	2	39	1	0	0	0	342
20:00	3	182	27	0	0	22	0	0	35	0	0	0	0	269
21:00	0	155	19	0	4	17	0	0	25	0	0	0	0	220
22:00	1	110	11	0	0	20	0	0	20	0	0	0	0	162
23:00	1	50	4	0	0	9	0	0	26	0	0	0	0	90
Total	26	4336	889	1	212	774	7	62	1584	59	38	3	0	7991
Percent	0.3%	54.3%	11.1%	0.0%	2.7%	9.7%	0.1%	0.8%	19.8%	0.7%	0.5%	0.0%	0.0%	
AM Peak	06:00	07:00	07:00		10:00	11:00	06:00	10:00	09:00	08:00	10:00	04:00		08:00
Vol.	3	256	56		25	48	1	11	118	8	7	1		472
PM Peak	16:00	17:00	16:00	19:00	12:00	15:00	12:00	14:00	12:00	13:00	12:00			16:00
Vol.	4	384	87	1	27	53	2	7	141	9	7			590
Grand Total	26	4336	889	1	212	774	7	62	1584	59	38	3	0	7991
Percent	0.3%	54.3%	11.1%	0.0%	2.7%	9.7%	0.1%	0.8%	19.8%	0.7%	0.5%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Carson
Wilmington Avenue
B/ Lomita Boulevard - Railroad Crossing
24 Hour Directional Classification Count

CRS001
Site Code: 999-21183

Northbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	40	1	0	0	4	0	0	8	0	0	0	0	53
01:00	0	35	5	0	0	6	0	0	23	0	0	0	0	69
02:00	0	30	6	0	0	9	0	0	13	0	0	0	0	58
03:00	**1**	34	4	0	0	3	0	0	12	0	0	0	0	54
04:00	0	83	17	0	0	2	0	0	21	0	0	0	0	123
05:00	0	181	**62**	0	5	4	0	0	34	0	0	0	0	286
06:00	1	261	59	0	4	8	0	3	29	2	0	0	0	367
07:00	1	**295**	41	0	6	4	0	1	50	2	2	0	0	**402**
08:00	0	249	40	0	7	14	0	4	**62**	3	**4**	0	0	383
09:00	1	163	38	**1**	8	19	0	5	44	3	2	**1**	0	285
10:00	1	188	34	0	11	**29**	0	**7**	47	4	2	0	0	323
11:00	0	197	38	0	**13**	25	0	3	61	**7**	2	0	0	346
12 PM	0	198	39	0	11	28	0	2	59	4	**4**	0	0	345
13:00	1	267	43	0	13	36	0	2	**67**	**8**	0	0	0	437
14:00	2	350	65	0	14	29	0	**7**	46	3	0	0	0	516
15:00	0	495	**101**	0	**21**	**39**	0	2	35	6	0	0	0	**699**
16:00	**3**	482	78	0	15	35	0	1	36	3	1	0	0	654
17:00	1	**529**	92	0	4	15	0	1	18	2	0	0	0	662
18:00	0	382	71	0	1	12	0	0	25	0	0	0	0	491
19:00	2	275	42	0	4	12	0	2	12	1	1	0	0	351
20:00	0	172	21	0	2	13	0	0	13	0	0	0	0	221
21:00	0	150	13	0	1	8	0	0	14	0	0	0	0	186
22:00	0	111	13	0	0	11	0	0	9	0	0	0	0	144
23:00	0	66	9	0	0	7	0	0	15	0	0	0	0	97
Total	14	5233	932	1	140	372	0	40	753	48	18	1	0	7552
Percent	0.2%	69.3%	12.3%	0.0%	1.9%	4.9%	0.0%	0.5%	10.0%	0.6%	0.2%	0.0%	0.0%	
AM Peak	03:00	07:00	05:00	09:00	11:00	10:00		10:00	08:00	11:00	08:00	09:00		07:00
Vol.	1	295	62	1	13	29		7	62	7	4	1		402
PM Peak	16:00	17:00	15:00		15:00	15:00		14:00	13:00	13:00	12:00			15:00
Vol.	3	529	101		21	39		7	67	8	4			699
Grand Total	14	5233	932	1	140	372	0	40	753	48	18	1	0	7552
Percent	0.2%	69.3%	12.3%	0.0%	1.9%	4.9%	0.0%	0.5%	10.0%	0.6%	0.2%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Carson
Wilmington Avenue
B/ Lomita Boulevard - Railroad Crossing
24 Hour Directional Classification Count

CRS001
Site Code: 999-21183

Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	51	5	0	0	5	0	0	12	0	0	0	0	73
01:00	0	31	3	0	0	8	0	0	15	0	0	0	0	57
02:00	0	19	0	0	0	7	0	0	17	0	0	0	0	43
03:00	0	38	3	0	0	1	0	0	13	0	0	0	0	55
04:00	0	50	11	0	2	7	0	0	12	0	0	**1**	0	83
05:00	0	115	32	0	4	17	0	0	8	0	0	0	0	176
06:00	1	251	**49**	0	10	33	0	**6**	26	0	2	0	0	378
07:00	0	**369**	46	**1**	15	28	0	3	26	1	0	1	0	**490**
08:00	1	234	48	0	11	**34**	**1**	2	38	**4**	2	0	0	375
09:00	0	193	38	0	10	20	1	0	**61**	0	4	0	0	327
10:00	**2**	180	38	0	**16**	16	0	4	55	0	**5**	0	0	316
11:00	0	200	32	0	15	17	0	1	50	0	2	0	0	317
12 PM	0	204	27	0	**12**	15	**1**	2	73	0	**3**	0	0	337
13:00	0	229	45	0	12	10	0	1	50	0	0	0	0	347
14:00	0	242	53	0	7	16	0	1	**79**	0	2	0	0	400
15:00	**1**	320	57	0	7	17	0	**4**	36	0	0	0	0	442
16:00	0	351	**77**	0	5	10	0	2	37	0	0	0	0	**482**
17:00	1	**380**	51	0	2	**21**	0	0	21	0	0	0	0	476
18:00	1	278	49	0	3	21	1	2	22	**1**	0	0	0	378
19:00	1	233	31	0	0	4	0	2	20	0	0	0	0	291
20:00	0	184	28	0	0	6	0	0	22	0	0	0	0	240
21:00	0	151	17	0	3	9	0	0	9	0	0	0	0	189
22:00	1	113	15	0	0	9	0	0	11	0	0	0	0	149
23:00	0	65	10	0	0	3	0	0	15	0	0	0	0	93
Total	9	4481	765	1	134	334	4	30	728	6	20	2	0	6514
Percent	0.1%	68.8%	11.7%	0.0%	2.1%	5.1%	0.1%	0.5%	11.2%	0.1%	0.3%	0.0%	0.0%	
AM Peak	10:00	07:00	06:00	07:00	10:00	08:00	08:00	06:00	09:00	08:00	10:00	04:00		07:00
Vol.	2	369	49	1	16	34	1	6	61	4	5	1		490
PM Peak	15:00	17:00	16:00		12:00	17:00	12:00	15:00	14:00	18:00	12:00			16:00
Vol.	1	380	77		12	21	1	4	79	1	3			482
Grand Total	9	4481	765	1	134	334	4	30	728	6	20	2	0	6514
Percent	0.1%	68.8%	11.7%	0.0%	2.1%	5.1%	0.1%	0.5%	11.2%	0.1%	0.3%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Carson
Wilmington Avenue
B/ Lomita Boulevard - Railroad Crossing
24 Hour Directional Classification Count

CRS001
Site Code: 999-21183

Northbound, Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	91	6	0	0	9	0	0	20	0	0	0	0	126
01:00	0	66	8	0	0	14	0	0	38	0	0	0	0	126
02:00	0	49	6	0	0	16	0	0	30	0	0	0	0	101
03:00	1	72	7	0	0	4	0	0	25	0	0	0	0	109
04:00	0	133	28	0	2	9	0	0	33	0	0	**1**	0	206
05:00	0	296	94	0	9	21	0	0	42	0	0	0	0	462
06:00	2	512	**108**	0	14	41	0	9	55	2	2	0	0	745
07:00	1	**664**	87	**1**	21	32	0	4	76	3	2	1	0	**892**
08:00	1	483	88	0	18	**48**	**1**	6	100	**7**	6	0	0	758
09:00	1	356	76	1	18	39	1	5	105	3	6	1	0	612
10:00	**3**	368	72	0	27	45	0	**11**	102	4	**7**	0	0	639
11:00	0	397	70	0	**28**	42	0	4	**111**	7	4	0	0	663
12 PM	0	402	66	0	23	43	**1**	4	**132**	4	**7**	0	0	682
13:00	1	496	88	0	25	46	0	3	117	**8**	0	0	0	784
14:00	2	592	118	0	21	45	0	**8**	125	3	2	0	0	916
15:00	1	815	**158**	0	**28**	**56**	0	6	71	6	0	0	0	**1141**
16:00	**3**	833	155	0	20	45	0	3	73	3	1	0	0	1136
17:00	2	**909**	143	0	6	36	0	1	39	2	0	0	0	1138
18:00	1	660	120	0	4	33	1	2	47	1	0	0	0	869
19:00	3	508	73	0	4	16	0	4	32	1	1	0	0	642
20:00	0	356	49	0	2	19	0	0	35	0	0	0	0	461
21:00	0	301	30	0	4	17	0	0	23	0	0	0	0	375
22:00	1	224	28	0	0	20	0	0	20	0	0	0	0	293
23:00	0	131	19	0	0	10	0	0	30	0	0	0	0	190
Total	23	9714	1697	2	274	706	4	70	1481	54	38	3	0	14066
Percent	0.2%	69.1%	12.1%	0.0%	1.9%	5.0%	0.0%	0.5%	10.5%	0.4%	0.3%	0.0%	0.0%	
AM Peak	10:00	07:00	06:00	07:00	11:00	08:00	08:00	10:00	11:00	08:00	10:00	04:00		07:00
Vol.	3	664	108	1	28	48	1	11	111	7	7	1		892
PM Peak	16:00	17:00	15:00		15:00	15:00	12:00	14:00	12:00	13:00	12:00			15:00
Vol.	3	909	158		28	56	1	8	132	8	7			1141
Grand Total	23	9714	1697	2	274	706	4	70	1481	54	38	3	0	14066
Percent	0.2%	69.1%	12.1%	0.0%	1.9%	5.0%	0.0%	0.5%	10.5%	0.4%	0.3%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Blinn Avenue
B/ Colon Street - Pacific Coast Highway
24 Hour Directional Classification Count

LAC013
Site Code: 999-21183

Northbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	11	3	0	1	0	0	0	2	0	0	0	0	17
01:00	0	5	0	0	0	1	0	0	0	0	0	0	0	6
02:00	0	6	0	0	0	1	0	0	0	0	0	0	0	7
03:00	0	7	1	0	0	0	0	0	0	0	0	0	0	8
04:00	0	13	1	0	0	0	0	0	0	0	0	0	0	14
05:00	0	17	2	0	1	3	0	0	0	0	0	0	0	23
06:00	0	40	**23**	0	1	1	0	0	0	0	0	0	0	65
07:00	0	64	17	0	5	2	0	0	1	0	0	0	0	89
08:00	0	61	13	0	1	1	0	0	**4**	0	0	0	0	80
09:00	0	40	10	0	10	**5**	0	**1**	3	0	0	0	0	69
10:00	0	50	21	0	**11**	1	0	0	2	0	0	0	0	85
11:00	0	**74**	13	0	3	3	0	0	1	0	0	0	0	**94**
12 PM	0	69	17	0	3	2	0	0	4	**1**	0	0	0	96
13:00	**2**	55	8	0	4	3	0	0	1	0	0	0	0	73
14:00	0	65	**19**	0	**6**	3	0	0	2	0	0	0	0	95
15:00	0	**101**	14	0	3	**6**	0	0	1	0	0	0	0	**125**
16:00	0	75	13	0	2	3	0	0	3	0	0	0	0	96
17:00	0	73	17	0	3	1	0	0	0	0	0	0	0	94
18:00	0	56	18	0	2	1	0	0	**5**	0	0	0	0	82
19:00	0	63	8	0	3	1	0	0	0	0	0	0	0	75
20:00	1	56	4	0	1	0	0	0	1	0	0	0	0	63
21:00	0	53	7	0	0	2	0	0	0	0	0	0	0	62
22:00	1	33	3	0	0	0	0	0	1	0	0	0	0	38
23:00	0	27	3	0	1	2	0	0	1	0	0	0	0	34
Total	4	1114	235	0	61	42	0	1	32	1	0	0	0	1490
Percent	0.3%	74.8%	15.8%	0.0%	4.1%	2.8%	0.0%	0.1%	2.1%	0.1%	0.0%	0.0%	0.0%	
AM Peak		11:00	06:00		10:00	09:00		09:00	08:00					11:00
Vol.		74	23		11	5		1	4					94
PM Peak	13:00	15:00	14:00		14:00	15:00			18:00	12:00				15:00
Vol.	2	101	19		6	6			5	1				125
Grand Total	4	1114	235	0	61	42	0	1	32	1	0	0	0	1490
Percent	0.3%	74.8%	15.8%	0.0%	4.1%	2.8%	0.0%	0.1%	2.1%	0.1%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Blinn Avenue
B/ Colon Street - Pacific Coast Highway
24 Hour Directional Classification Count

LAC013
Site Code: 999-21183

Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	10	1	0	0	3	0	0	0	0	0	0	0	14
01:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6
02:00	0	9	2	0	0	0	0	0	0	0	0	0	0	11
03:00	0	8	0	0	0	0	0	0	0	0	0	0	0	8
04:00	0	19	5	0	0	0	0	0	1	0	0	0	0	25
05:00	**1**	29	6	0	1	0	0	0	0	0	0	0	0	37
06:00	1	60	14	0	2	0	0	0	1	0	0	0	0	78
07:00	0	**83**	14	0	2	2	0	0	2	0	0	0	0	103
08:00	0	63	18	0	6	3	0	**3**	1	0	0	0	0	94
09:00	0	53	19	0	8	4	0	0	**7**	0	0	0	0	91
10:00	0	80	23	0	7	**7**	0	0	7	0	0	0	0	**124**
11:00	0	74	**24**	0	**11**	2	0	3	1	0	0	0	0	115
12 PM	1	82	16	0	5	7	0	**1**	5	0	0	0	0	117
13:00	0	73	11	0	**9**	7	0	0	5	0	0	0	0	105
14:00	1	82	13	0	6	**12**	0	1	4	**1**	0	0	0	120
15:00	0	104	**25**	0	7	1	0	0	5	0	0	**1**	0	143
16:00	**3**	**114**	22	0	5	12	0	0	**10**	1	0	0	0	**167**
17:00	0	95	20	0	2	3	0	0	3	0	0	0	0	123
18:00	0	77	16	0	2	4	0	0	6	0	0	0	0	105
19:00	0	47	15	0	2	3	0	0	3	0	0	0	0	70
20:00	0	40	8	0	1	2	0	0	6	0	0	0	0	57
21:00	0	39	4	0	1	1	0	0	4	0	0	0	0	49
22:00	0	40	2	0	1	1	0	0	4	0	0	0	0	48
23:00	0	26	1	0	0	1	0	0	2	0	0	0	0	30
Total	7	1312	280	0	78	75	0	8	77	2	0	1	0	1840
Percent	0.4%	71.3%	15.2%	0.0%	4.2%	4.1%	0.0%	0.4%	4.2%	0.1%	0.0%	0.1%	0.0%	
AM Peak	05:00	07:00	11:00		11:00	10:00		08:00	09:00					10:00
Vol.	1	83	24		11	7		3	7					124
PM Peak	16:00	16:00	15:00		13:00	14:00		12:00	16:00	14:00		15:00		16:00
Vol.	3	114	25		9	12		1	10	1		1		167
Grand Total	7	1312	280	0	78	75	0	8	77	2	0	1	0	1840
Percent	0.4%	71.3%	15.2%	0.0%	4.2%	4.1%	0.0%	0.4%	4.2%	0.1%	0.0%	0.1%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Blinn Avenue
B/ Colon Street - Pacific Coast Highway
24 Hour Directional Classification Count

LAC013
Site Code: 999-21183

Northbound, Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	21	4	0	1	3	0	0	2	0	0	0	0	31
01:00	0	10	1	0	0	1	0	0	0	0	0	0	0	12
02:00	0	15	2	0	0	1	0	0	0	0	0	0	0	18
03:00	0	15	1	0	0	0	0	0	0	0	0	0	0	16
04:00	0	32	6	0	0	0	0	0	1	0	0	0	0	39
05:00	**1**	46	8	0	2	3	0	0	0	0	0	0	0	60
06:00	1	100	37	0	3	1	0	0	1	0	0	0	0	143
07:00	0	147	31	0	7	4	0	0	3	0	0	0	0	192
08:00	0	124	31	0	7	4	0	**3**	5	0	0	0	0	174
09:00	0	93	29	0	**18**	**9**	0	1	**10**	0	0	0	0	160
10:00	0	130	**44**	0	18	8	0	0	9	0	0	0	0	**209**
11:00	0	**148**	37	0	14	5	0	3	2	0	0	0	0	209
12 PM	1	151	33	0	8	9	0	**1**	9	**1**	0	0	0	213
13:00	2	128	19	0	**13**	10	0	0	6	0	0	0	0	178
14:00	1	147	32	0	12	**15**	0	1	6	1	0	0	0	215
15:00	0	**205**	**39**	0	10	7	0	0	6	0	0	**1**	0	**268**
16:00	**3**	189	35	0	7	15	0	0	**13**	1	0	0	0	263
17:00	0	168	37	0	5	4	0	0	3	0	0	0	0	217
18:00	0	133	34	0	4	5	0	0	11	0	0	0	0	187
19:00	0	110	23	0	5	4	0	0	3	0	0	0	0	145
20:00	1	96	12	0	2	2	0	0	7	0	0	0	0	120
21:00	0	92	11	0	1	3	0	0	4	0	0	0	0	111
22:00	1	73	5	0	1	1	0	0	5	0	0	0	0	86
23:00	0	53	4	0	1	3	0	0	3	0	0	0	0	64
Total	11	2426	515	0	139	117	0	9	109	3	0	1	0	3330
Percent	0.3%	72.9%	15.5%	0.0%	4.2%	3.5%	0.0%	0.3%	3.3%	0.1%	0.0%	0.0%	0.0%	
AM Peak	05:00	11:00	10:00		09:00	09:00		08:00	09:00					10:00
Vol.	1	148	44		18	9		3	10					209
PM Peak	16:00	15:00	15:00		13:00	14:00		12:00	16:00	12:00		15:00		15:00
Vol.	3	205	39		13	15		1	13	1		1		268
Grand Total	11	2426	515	0	139	117	0	9	109	3	0	1	0	3330
Percent	0.3%	72.9%	15.5%	0.0%	4.2%	3.5%	0.0%	0.3%	3.3%	0.1%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Blinn Avenue
B/ Lomita Boulevard - Q Street
24 Hour Directional Classification Count

LAC012
Site Code: 999-21183

Northbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	0	0	0	0	8	0	0	27	0	0	0	0	35
01:00	0	1	0	0	0	3	0	0	21	0	0	0	0	25
02:00	0	0	1	0	0	2	0	0	7	0	0	0	0	10
03:00	0	0	0	0	0	2	0	0	2	0	0	0	0	4
04:00	0	2	0	0	0	6	0	0	3	0	0	0	0	11
05:00	0	5	0	0	0	22	0	0	11	0	0	0	0	38
06:00	0	15	11	0	1	42	0	0	10	2	0	0	0	81
07:00	0	**21**	**12**	0	3	**57**	0	1	26	0	0	0	0	120
08:00	0	5	3	0	3	34	0	**2**	55	**3**	0	0	0	105
09:00	0	3	6	0	**5**	25	0	2	71	1	0	0	0	113
10:00	0	8	2	0	2	16	0	2	85	0	0	0	0	115
11:00	0	3	2	0	4	14	0	0	**102**	1	0	0	0	**126**
12 PM	0	**7**	**2**	0	**2**	13	0	**1**	76	8	0	0	0	109
13:00	0	3	0	0	1	18	0	1	**85**	9	0	0	0	**117**
14:00	0	0	1	0	1	14	0	0	70	**11**	0	0	0	97
15:00	0	3	2	0	2	19	0	1	74	3	0	0	0	104
16:00	0	2	0	0	0	14	0	0	58	2	0	0	0	76
17:00	0	1	2	0	2	**20**	0	0	23	2	0	0	0	50
18:00	0	0	1	0	0	20	0	0	19	3	0	0	0	43
19:00	0	1	1	0	0	9	0	0	28	0	0	0	0	39
20:00	0	1	0	0	0	7	0	0	24	0	0	0	0	32
21:00	0	3	0	0	0	4	0	1	28	0	0	0	0	36
22:00	0	3	0	0	1	3	0	0	8	0	0	0	0	15
23:00	0	0	0	0	0	3	0	0	16	0	0	0	0	19
Total	0	87	46	0	27	375	0	11	929	45	0	0	0	1520
Percent	0.0%	5.7%	3.0%	0.0%	1.8%	24.7%	0.0%	0.7%	61.1%	3.0%	0.0%	0.0%	0.0%	
AM Peak		07:00	07:00		09:00	07:00		08:00	11:00	08:00				11:00
Vol.		21	12		5	57		2	102	3				126
PM Peak		12:00	12:00		12:00	17:00		12:00	13:00	14:00				13:00
Vol.		7	2		2	20		1	85	11				117
Grand Total	0	87	46	0	27	375	0	11	929	45	0	0	0	1520
Percent	0.0%	5.7%	3.0%	0.0%	1.8%	24.7%	0.0%	0.7%	61.1%	3.0%	0.0%	0.0%	0.0%	

City of Los Angeles
Blinn Avenue
B/ Lomita Boulevard - Q Street
24 Hour Directional Classification Count

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

LAC012
Site Code: 999-21183

Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	1	0	0	3	**19**	0	0	8	0	0	0	0	31
01:00	0	1	0	0	0	14	0	0	15	0	0	0	0	30
02:00	0	2	0	0	0	13	0	0	2	0	0	0	0	17
03:00	0	0	0	0	0	4	0	0	1	0	0	0	0	5
04:00	0	0	0	0	0	5	0	0	2	0	0	0	0	7
05:00	0	2	0	0	0	2	0	0	5	0	0	0	0	9
06:00	**1**	3	0	0	0	5	0	0	15	0	0	0	0	24
07:00	0	3	0	0	0	5	0	**1**	**49**	0	0	0	0	58
08:00	0	2	3	0	2	5	0	0	46	1	0	0	0	59
09:00	0	5	0	0	2	10	0	0	36	**2**	0	0	0	55
10:00	0	**8**	1	0	**4**	16	0	0	37	2	0	0	0	**68**
11:00	0	2	**4**	0	3	6	0	1	30	1	0	0	0	47
12 PM	0	7	2	0	**3**	15	0	0	32	4	0	0	0	63
13:00	0	2	1	0	1	17	0	0	20	**5**	0	0	0	46
14:00	0	7	3	0	0	22	0	0	28	5	0	0	0	65
15:00	0	5	2	0	0	**31**	0	0	15	2	0	0	0	55
16:00	0	**27**	**8**	0	2	31	0	0	18	1	0	0	0	**87**
17:00	0	7	4	0	1	20	0	0	20	0	0	0	0	52
18:00	0	8	2	0	1	9	0	**1**	**42**	1	0	0	0	64
19:00	0	4	1	0	0	11	0	0	25	1	0	0	0	42
20:00	0	2	0	**1**	0	11	0	1	18	0	0	0	0	33
21:00	0	6	0	0	0	9	0	0	24	0	0	0	0	39
22:00	0	5	0	0	0	4	0	0	22	1	0	0	0	32
23:00	0	1	0	0	1	6	0	0	11	0	0	0	0	19
Total	1	110	31	1	23	290	0	4	521	26	0	0	0	1007
Percent	0.1%	10.9%	3.1%	0.1%	2.3%	28.8%	0.0%	0.4%	51.7%	2.6%	0.0%	0.0%	0.0%	
AM Peak	06:00	10:00	11:00		10:00	00:00		07:00	07:00	09:00				10:00
Vol.	1	8	4		4	19		1	49	2				68
PM Peak		16:00	16:00	20:00	12:00	15:00		18:00	18:00	13:00				16:00
Vol.		27	8	1	3	31		1	42	5				87
Grand Total	1	110	31	1	23	290	0	4	521	26	0	0	0	1007
Percent	0.1%	10.9%	3.1%	0.1%	2.3%	28.8%	0.0%	0.4%	51.7%	2.6%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Blinn Avenue
B/ Lomita Boulevard - Q Street
24 Hour Directional Classification Count

LAC012
Site Code: 999-21183

Northbound, Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	1	0	0	3	27	0	0	35	0	0	0	0	66
01:00	0	2	0	0	0	17	0	0	36	0	0	0	0	55
02:00	0	2	1	0	0	15	0	0	9	0	0	0	0	27
03:00	0	0	0	0	0	6	0	0	3	0	0	0	0	9
04:00	0	2	0	0	0	11	0	0	5	0	0	0	0	18
05:00	0	7	0	0	0	24	0	0	16	0	0	0	0	47
06:00	**1**	18	11	0	1	47	0	0	25	2	0	0	0	105
07:00	0	**24**	**12**	0	3	**62**	0	**2**	75	0	0	0	0	178
08:00	0	7	6	0	5	39	0	2	101	**4**	0	0	0	164
09:00	0	8	6	0	**7**	35	0	2	107	3	0	0	0	168
10:00	0	16	3	0	6	32	0	2	122	2	0	0	0	**183**
11:00	0	5	6	0	7	20	0	1	**132**	2	0	0	0	173
12 PM	0	14	4	0	**5**	28	0	**1**	**108**	12	0	0	0	**172**
13:00	0	5	1	0	2	35	0	1	105	14	0	0	0	163
14:00	0	7	4	0	1	36	0	0	98	**16**	0	0	0	162
15:00	0	8	4	0	2	**50**	0	1	89	5	0	0	0	159
16:00	0	**29**	**8**	0	2	45	0	0	76	3	0	0	0	163
17:00	0	8	6	0	3	40	0	0	43	2	0	0	0	102
18:00	0	8	3	0	1	29	0	1	61	4	0	0	0	107
19:00	0	5	2	0	0	20	0	0	53	1	0	0	0	81
20:00	0	3	0	**1**	0	18	0	1	42	0	0	0	0	65
21:00	0	9	0	0	0	13	0	1	52	0	0	0	0	75
22:00	0	8	0	0	1	7	0	0	30	1	0	0	0	47
23:00	0	1	0	0	1	9	0	0	27	0	0	0	0	38
Total	1	197	77	1	50	665	0	15	1450	71	0	0	0	2527
Percent	0.0%	7.8%	3.0%	0.0%	2.0%	26.3%	0.0%	0.6%	57.4%	2.8%	0.0%	0.0%	0.0%	
AM Peak	06:00	07:00	07:00		09:00	07:00		07:00	11:00	08:00				10:00
Vol.	1	24	12		7	62		2	132	4				183
PM Peak		16:00	16:00	20:00	12:00	15:00		12:00	12:00	14:00				12:00
Vol.		29	8	1	5	50		1	108	16				172
Grand Total	1	197	77	1	50	665	0	15	1450	71	0	0	0	2527
Percent	0.0%	7.8%	3.0%	0.0%	2.0%	26.3%	0.0%	0.6%	57.4%	2.8%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Watson Avenue
B/ Colon Street - Pacific Coast Highway
24 Hour Directional Classification Count

LAC011
Site Code: 999-21183

Northbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	10	1	0	**1**	0	0	0	0	0	0	0	0	12
01:00	0	8	0	0	0	0	0	0	0	0	0	0	0	8
02:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
03:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
04:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
05:00	0	24	1	0	0	0	0	0	0	0	0	0	0	25
06:00	0	38	4	0	1	0	0	0	0	0	0	0	0	43
07:00	0	37	3	1	0	**2**	0	0	0	0	0	0	0	43
08:00	0	**49**	**8**	0	0	1	0	**1**	0	0	0	0	0	**59**
09:00	0	40	6	**2**	0	0	0	0	0	0	0	0	0	48
10:00	0	40	3	1	1	0	0	0	0	0	0	0	0	45
11:00	**1**	46	6	1	0	0	0	0	0	0	0	0	0	54
12 PM	0	73	10	0	**3**	0	0	0	0	0	0	0	0	86
13:00	0	60	14	0	1	0	0	0	**1**	0	0	0	0	76
14:00	0	56	4	0	1	0	0	0	0	0	0	0	0	61
15:00	0	63	**16**	0	1	0	0	0	0	0	0	0	0	80
16:00	0	**86**	12	0	1	0	0	**1**	0	0	0	0	0	**100**
17:00	**1**	81	7	0	1	0	0	0	0	0	0	0	0	90
18:00	0	77	8	0	2	0	0	0	0	0	0	0	0	87
19:00	1	62	7	0	0	0	0	0	0	0	0	0	0	70
20:00	0	40	4	0	0	0	0	0	0	0	0	0	0	44
21:00	0	43	3	0	0	0	0	0	0	0	0	0	0	46
22:00	0	38	4	0	0	0	0	0	0	0	0	0	0	42
23:00	0	16	1	0	0	0	0	0	0	0	0	0	0	17
Total	3	997	122	5	13	3	0	2	1	0	0	0	0	1146
Percent	0.3%	87.0%	10.6%	0.4%	1.1%	0.3%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	08:00	08:00	09:00	00:00	07:00		08:00						08:00
Vol.	1	49	8	2	1	2		1						59
PM Peak	17:00	16:00	15:00		12:00			16:00	13:00					16:00
Vol.	1	86	16		3			1	1					100
Grand Total	3	997	122	5	13	3	0	2	1	0	0	0	0	1146
Percent	0.3%	87.0%	10.6%	0.4%	1.1%	0.3%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	

City of Los Angeles
Watson Avenue
B/ Colon Street - Pacific Coast Highway
24 Hour Directional Classification Count

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

LAC011
Site Code: 999-21183

Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	6	1	0	0	0	0	0	0	0	0	0	0	7
01:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
02:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
03:00	0	7	2	0	0	0	0	0	0	0	0	0	0	9
04:00	0	21	2	0	0	0	0	0	0	0	0	0	0	23
05:00	0	37	8	0	0	0	0	0	0	0	0	0	0	45
06:00	0	39	6	0	0	0	0	0	0	0	0	0	0	45
07:00	**1**	59	8	0	**5**	0	0	0	0	0	0	0	0	73
08:00	0	**67**	**10**	**1**	2	**1**	0	0	0	0	0	0	0	**81**
09:00	0	41	2	0	0	0	0	0	0	0	0	0	0	43
10:00	0	56	5	1	0	0	0	0	0	0	0	0	0	62
11:00	0	67	7	0	0	0	0	0	**1**	0	0	0	0	75
12 PM	0	68	12	**1**	**2**	1	0	0	0	0	0	0	0	84
13:00	**1**	65	12	0	2	0	0	0	0	0	0	0	0	80
14:00	1	56	3	0	0	1	0	0	**1**	0	0	0	0	62
15:00	0	65	11	0	2	**2**	0	0	0	0	0	0	0	80
16:00	1	**91**	**14**	0	1	1	0	**1**	0	0	0	0	0	**109**
17:00	0	80	5	0	1	0	0	0	0	0	0	0	0	86
18:00	1	67	6	0	2	0	0	0	0	0	0	0	0	76
19:00	0	63	7	0	0	0	0	0	0	0	0	0	0	70
20:00	0	45	8	0	0	0	0	0	0	0	0	0	0	53
21:00	0	32	3	0	0	0	0	0	0	0	0	0	0	35
22:00	0	33	3	0	0	0	0	0	0	0	0	0	0	36
23:00	0	22	0	0	0	0	0	0	0	0	0	0	0	22
Total	5	1095	135	3	17	6	0	1	2	0	0	0	0	1264
Percent	0.4%	86.6%	10.7%	0.2%	1.3%	0.5%	0.0%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	08:00	08:00	08:00	07:00	08:00			11:00					08:00
Vol.	1	67	10	1	5	1			1					81
PM Peak	13:00	16:00	16:00	12:00	12:00	15:00		16:00	14:00					16:00
Vol.	1	91	14	1	2	2		1	1					109
Grand Total	5	1095	135	3	17	6	0	1	2	0	0	0	0	1264
Percent	0.4%	86.6%	10.7%	0.2%	1.3%	0.5%	0.0%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Watson Avenue
B/ Colon Street - Pacific Coast Highway
24 Hour Directional Classification Count

LAC011
Site Code: 999-21183

Northbound, Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	16	2	0	1	0	0	0	0	0	0	0	0	19
01:00	0	13	0	0	0	0	0	0	0	0	0	0	0	13
02:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
03:00	0	10	2	0	0	0	0	0	0	0	0	0	0	12
04:00	0	24	2	0	0	0	0	0	0	0	0	0	0	26
05:00	0	61	9	0	0	0	0	0	0	0	0	0	0	70
06:00	0	77	10	0	1	0	0	0	0	0	0	0	0	88
07:00	**1**	96	11	1	**5**	**2**	0	0	0	0	0	0	0	116
08:00	0	**116**	**18**	1	2	2	0	**1**	0	0	0	0	0	**140**
09:00	0	81	8	**2**	0	0	0	0	0	0	0	0	0	91
10:00	0	96	8	2	1	0	0	0	0	0	0	0	0	107
11:00	1	113	13	1	0	0	0	0	**1**	0	0	0	0	129
12 PM	0	141	22	**1**	**5**	1	0	0	0	0	0	0	0	170
13:00	**1**	125	26	0	3	0	0	0	**1**	0	0	0	0	156
14:00	1	112	7	0	1	1	0	0	1	0	0	0	0	123
15:00	0	128	**27**	0	3	**2**	0	0	0	0	0	0	0	160
16:00	1	**177**	26	0	2	1	0	**2**	0	0	0	0	0	**209**
17:00	1	161	12	0	2	0	0	0	0	0	0	0	0	176
18:00	1	144	14	0	4	0	0	0	0	0	0	0	0	163
19:00	1	125	14	0	0	0	0	0	0	0	0	0	0	140
20:00	0	85	12	0	0	0	0	0	0	0	0	0	0	97
21:00	0	75	6	0	0	0	0	0	0	0	0	0	0	81
22:00	0	71	7	0	0	0	0	0	0	0	0	0	0	78
23:00	0	38	1	0	0	0	0	0	0	0	0	0	0	39
Total	8	2092	257	8	30	9	0	3	3	0	0	0	0	2410
Percent	0.3%	86.8%	10.7%	0.3%	1.2%	0.4%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	08:00	08:00	09:00	07:00	07:00		08:00	11:00					08:00
Vol.	1	116	18	2	5	2		1	1					140
PM Peak	13:00	16:00	15:00	12:00	12:00	15:00		16:00	13:00					16:00
Vol.	1	177	27	1	5	2		2	1					209
Grand Total	8	2092	257	8	30	9	0	3	3	0	0	0	0	2410
Percent	0.3%	86.8%	10.7%	0.3%	1.2%	0.4%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Sanford Avenue
B/ Colon Street - Pacific Coast Highway
24 Hour Directional Classification Count

LAC010
Site Code: 999-21183

Northbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	18	2	0	0	1	0	0	0	0	0	0	0	21
01:00	0	5	1	0	0	2	0	0	0	0	0	0	0	8
02:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5
03:00	0	5	2	0	0	1	0	0	0	0	0	0	0	8
04:00	0	17	0	0	0	0	0	0	0	0	0	0	0	17
05:00	0	17	5	0	0	0	0	0	0	0	0	0	0	22
06:00	0	18	5	0	0	**3**	0	0	2	0	0	0	0	28
07:00	0	33	2	0	**2**	1	0	0	3	0	0	0	0	41
08:00	0	31	**14**	0	1	1	0	**1**	5	0	0	0	0	53
09:00	0	**38**	8	0	2	1	0	0	**6**	0	0	0	0	**55**
10:00	0	34	5	0	1	2	0	0	0	0	0	0	0	42
11:00	0	33	14	0	2	0	0	0	1	0	0	0	0	50
12 PM	0	55	11	0	1	3	0	0	1	0	0	0	0	71
13:00	0	48	5	0	0	1	0	0	**4**	0	0	0	0	58
14:00	0	41	8	0	0	3	0	0	0	0	0	0	0	52
15:00	0	36	12	0	3	5	0	0	1	0	0	0	0	57
16:00	**1**	63	11	0	0	**9**	0	0	1	0	0	0	0	85
17:00	0	**90**	12	0	0	6	0	0	1	0	0	0	0	**109**
18:00	0	70	9	0	**4**	5	0	0	1	0	0	0	0	89
19:00	0	66	5	0	0	0	0	0	0	0	0	0	0	71
20:00	0	50	**16**	0	0	0	0	0	0	0	0	0	0	66
21:00	0	37	1	0	0	1	0	0	0	0	0	0	0	39
22:00	0	29	3	0	0	1	0	0	0	0	0	0	0	33
23:00	0	24	0	0	0	0	0	0	0	0	0	0	0	24
Total	1	862	152	0	16	46	0	1	26	0	0	0	0	1104
Percent	0.1%	78.1%	13.8%	0.0%	1.4%	4.2%	0.0%	0.1%	2.4%	0.0%	0.0%	0.0%	0.0%	
AM Peak		09:00	08:00		07:00	06:00		08:00	09:00					09:00
Vol.		38	14		2	3		1	6					55
PM Peak	16:00	17:00	20:00		18:00	16:00			13:00					17:00
Vol.	1	90	16		4	9			4					109
Grand Total	1	862	152	0	16	46	0	1	26	0	0	0	0	1104
Percent	0.1%	78.1%	13.8%	0.0%	1.4%	4.2%	0.0%	0.1%	2.4%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Sanford Avenue
B/ Colon Street - Pacific Coast Highway
24 Hour Directional Classification Count

LAC010
Site Code: 999-21183

Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	9	0	0	0	0	0	0	0	0	0	0	0	9
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	1	0	0	0	1	0	0	1	0	0	0	0	3
03:00	0	9	1	0	0	3	0	0	0	0	0	0	0	13
04:00	0	12	2	0	0	4	0	0	0	0	0	0	0	18
05:00	**1**	28	7	0	1	3	0	0	0	0	0	0	0	40
06:00	1	38	8	0	0	**7**	0	0	2	0	0	0	0	56
07:00	0	**54**	9	0	2	7	0	0	1	0	0	0	0	**73**
08:00	0	39	6	0	1	6	0	**1**	**5**	0	0	0	0	58
09:00	0	37	0	0	2	2	0	0	3	0	0	0	0	44
10:00	0	38	8	0	**5**	1	0	0	4	0	0	0	0	56
11:00	0	35	**10**	0	1	2	0	0	2	0	0	0	0	50
12 PM	0	37	**11**	0	1	1	0	0	0	0	0	0	0	50
13:00	0	42	8	0	1	**2**	0	0	0	0	0	0	0	53
14:00	0	39	9	0	**3**	0	0	0	**3**	0	0	0	0	54
15:00	0	35	8	0	3	0	0	0	0	0	0	0	0	46
16:00	0	46	10	0	0	1	0	0	0	0	0	0	0	57
17:00	0	**52**	10	0	0	1	0	0	0	0	0	0	0	**63**
18:00	0	43	3	0	0	1	0	0	1	0	0	0	0	48
19:00	0	33	6	0	0	0	0	0	1	0	0	0	0	40
20:00	0	29	7	0	0	0	0	0	0	0	0	0	0	36
21:00	0	42	5	0	0	0	0	0	0	0	0	0	0	47
22:00	0	14	3	0	0	0	0	0	0	0	0	0	0	17
23:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6
Total	2	718	132	0	20	42	0	1	23	0	0	0	0	938
Percent	0.2%	76.5%	14.1%	0.0%	2.1%	4.5%	0.0%	0.1%	2.5%	0.0%	0.0%	0.0%	0.0%	
AM Peak	05:00	07:00	11:00		10:00	06:00		08:00	08:00					07:00
Vol.	1	54	10		5	7		1	5					73
PM Peak		17:00	12:00		14:00	13:00			14:00					17:00
Vol.		52	11		3	2			3					63
Grand Total	2	718	132	0	20	42	0	1	23	0	0	0	0	938
Percent	0.2%	76.5%	14.1%	0.0%	2.1%	4.5%	0.0%	0.1%	2.5%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Sanford Avenue
B/ Colon Street - Pacific Coast Highway
24 Hour Directional Classification Count

LAC010
Site Code: 999-21183

Northbound, Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	27	2	0	0	1	0	0	0	0	0	0	0	30
01:00	0	6	1	0	0	2	0	0	0	0	0	0	0	9
02:00	0	5	1	0	0	1	0	0	1	0	0	0	0	8
03:00	0	14	3	0	0	4	0	0	0	0	0	0	0	21
04:00	0	29	2	0	0	4	0	0	0	0	0	0	0	35
05:00	**1**	45	12	0	1	3	0	0	0	0	0	0	0	62
06:00	1	56	13	0	0	**10**	0	0	4	0	0	0	0	84
07:00	0	**87**	11	0	4	8	0	0	4	0	0	0	0	**114**
08:00	0	70	20	0	2	7	0	**2**	**10**	0	0	0	0	111
09:00	0	75	8	0	4	3	0	0	9	0	0	0	0	99
10:00	0	72	13	0	**6**	3	0	0	4	0	0	0	0	98
11:00	0	68	**24**	0	3	2	0	0	3	0	0	0	0	100
12 PM	0	92	22	0	2	4	0	0	1	0	0	0	0	121
13:00	0	90	13	0	1	3	0	0	**4**	0	0	0	0	111
14:00	0	80	17	0	3	3	0	0	3	0	0	0	0	106
15:00	0	71	20	0	**6**	5	0	0	1	0	0	0	0	103
16:00	**1**	109	21	0	0	**10**	0	0	1	0	0	0	0	142
17:00	0	**142**	22	0	0	7	0	0	1	0	0	0	0	**172**
18:00	0	113	12	0	4	6	0	0	2	0	0	0	0	137
19:00	0	99	11	0	0	0	0	0	1	0	0	0	0	111
20:00	0	79	**23**	0	0	0	0	0	0	0	0	0	0	102
21:00	0	79	6	0	0	1	0	0	0	0	0	0	0	86
22:00	0	43	6	0	0	1	0	0	0	0	0	0	0	50
23:00	0	29	1	0	0	0	0	0	0	0	0	0	0	30
Total	3	1580	284	0	36	88	0	2	49	0	0	0	0	2042
Percent	0.1%	77.4%	13.9%	0.0%	1.8%	4.3%	0.0%	0.1%	2.4%	0.0%	0.0%	0.0%	0.0%	
AM Peak	05:00	07:00	11:00		10:00	06:00		08:00	08:00					07:00
Vol.	1	87	24		6	10		2	10					114
PM Peak	16:00	17:00	20:00		15:00	16:00			13:00					17:00
Vol.	1	142	23		6	10			4					172
Grand Total	3	1580	284	0	36	88	0	2	49	0	0	0	0	2042
Percent	0.1%	77.4%	13.9%	0.0%	1.8%	4.3%	0.0%	0.1%	2.4%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Sandison Street
B/ Sanford Avenue - Watson Avenue
24 Hour Directional Classification Count

LAC005
Site Code: 999-21183

Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	5	0	0	0	1	0	0	0	0	0	0	0	6
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
05:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
06:00	0	3	0	0	0	1	0	0	0	0	0	0	0	4
07:00	0	4	1	0	1	**2**	0	0	0	0	0	0	0	8
08:00	0	4	1	0	1	0	0	0	0	0	0	0	0	6
09:00	0	8	3	0	0	0	0	0	0	0	0	0	0	11
10:00	0	**11**	2	0	**3**	1	0	0	0	0	0	0	0	**17**
11:00	0	7	**4**	0	2	0	0	0	0	0	0	0	0	13
12 PM	0	12	0	0	0	0	0	0	0	0	0	0	0	12
13:00	0	13	0	0	**3**	0	**1**	0	0	0	0	0	0	**17**
14:00	0	9	1	0	1	0	0	0	**1**	0	0	0	0	12
15:00	0	3	2	0	1	0	0	0	0	0	0	0	0	6
16:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
17:00	0	11	0	0	1	0	0	0	0	0	0	0	0	12
18:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
19:00	0	**14**	1	0	0	0	0	0	0	0	0	0	0	15
20:00	0	7	**3**	0	0	0	0	0	0	0	0	0	0	10
21:00	0	9	0	0	0	0	0	0	0	0	0	0	0	9
22:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
23:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
Total	0	145	19	0	13	5	1	0	1	0	0	0	0	184
Percent	0.0%	78.8%	10.3%	0.0%	7.1%	2.7%	0.5%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	
AM Peak		10:00	11:00		10:00	07:00								10:00
Vol.		11	4		3	2								17
PM Peak		19:00	20:00		13:00		13:00		14:00					13:00
Vol.		14	3		3		1		1					17
Grand Total	0	145	19	0	13	5	1	0	1	0	0	0	0	184
Percent	0.0%	78.8%	10.3%	0.0%	7.1%	2.7%	0.5%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Sandison Street
B/ Sanford Avenue - Watson Avenue
24 Hour Directional Classification Count

LAC005
Site Code: 999-21183

Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	1	0	0	0	**1**	0	0	0	0	0	0	0	2
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
05:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	3	**3**	0	0	0	0	0	0	0	0	0	0	6
07:00	**1**	**9**	0	0	1	0	0	0	0	0	0	0	0	**11**
08:00	0	2	1	0	2	0	0	0	0	0	0	0	0	5
09:00	0	8	1	0	0	0	0	0	0	0	0	0	0	9
10:00	0	5	0	0	**3**	0	0	0	0	0	0	0	0	8
11:00	0	7	2	0	2	0	0	0	0	0	0	0	0	11
12 PM	0	8	0	0	**3**	0	0	0	0	0	0	0	0	11
13:00	0	7	**2**	0	1	**1**	0	0	0	0	0	0	0	11
14:00	0	7	0	0	3	0	0	0	**1**	0	0	0	0	11
15:00	0	10	0	0	2	0	0	0	0	0	0	0	0	12
16:00	0	11	1	0	0	0	0	0	0	0	0	0	0	12
17:00	0	**13**	2	0	0	0	0	0	0	0	0	0	0	**15**
18:00	0	11	0	0	1	0	0	0	0	0	0	0	0	12
19:00	0	13	2	0	0	0	0	0	0	0	0	0	0	15
20:00	0	12	0	0	1	0	0	0	0	0	0	0	0	13
21:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
22:00	0	3	0	0	1	0	0	0	0	0	0	0	0	4
23:00	0	3	0	0	1	0	0	0	0	0	0	0	0	4
Total	1	143	14	0	21	2	0	0	1	0	0	0	0	182
Percent	0.5%	78.6%	7.7%	0.0%	11.5%	1.1%	0.0%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	07:00	06:00		10:00	00:00								07:00
Vol.	1	9	3		3	1								11
PM Peak		17:00	13:00		12:00	13:00			14:00					17:00
Vol.		13	2		3	1			1					15
Grand Total	1	143	14	0	21	2	0	0	1	0	0	0	0	182
Percent	0.5%	78.6%	7.7%	0.0%	11.5%	1.1%	0.0%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	

City of Los Angeles
Sandison Street
B/ Sanford Avenue - Watson Avenue
24 Hour Directional Classification Count

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

LAC005
Site Code: 999-21183

Eastbound, Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	6	0	0	0	**2**	0	0	0	0	0	0	0	8
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
05:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
06:00	0	6	3	0	0	1	0	0	0	0	0	0	0	10
07:00	**1**	13	1	0	2	2	0	0	0	0	0	0	0	19
08:00	0	6	2	0	3	0	0	0	0	0	0	0	0	11
09:00	0	**16**	4	0	0	0	0	0	0	0	0	0	0	20
10:00	0	16	2	0	**6**	1	0	0	0	0	0	0	0	**25**
11:00	0	14	**6**	0	4	0	0	0	0	0	0	0	0	24
12 PM	0	20	0	0	3	0	0	0	0	0	0	0	0	23
13:00	0	20	2	0	**4**	**1**	**1**	0	0	0	0	0	0	28
14:00	0	16	1	0	4	0	0	0	**2**	0	0	0	0	23
15:00	0	13	2	0	3	0	0	0	0	0	0	0	0	18
16:00	0	17	2	0	0	0	0	0	0	0	0	0	0	19
17:00	0	24	2	0	1	0	0	0	0	0	0	0	0	27
18:00	0	15	0	0	1	0	0	0	0	0	0	0	0	16
19:00	0	**27**	**3**	0	0	0	0	0	0	0	0	0	0	**30**
20:00	0	19	3	0	1	0	0	0	0	0	0	0	0	23
21:00	0	13	0	0	0	0	0	0	0	0	0	0	0	13
22:00	0	7	0	0	1	0	0	0	0	0	0	0	0	8
23:00	0	8	0	0	1	0	0	0	0	0	0	0	0	9
Total	1	288	33	0	34	7	1	0	2	0	0	0	0	366
Percent	0.3%	78.7%	9.0%	0.0%	9.3%	1.9%	0.3%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	09:00	11:00		10:00	00:00								10:00
Vol.	1	16	6		6	2								25
PM Peak		19:00	19:00		13:00	13:00	13:00		14:00					19:00
Vol.		27	3		4	1	1		2					30
Grand Total	1	288	33	0	34	7	1	0	2	0	0	0	0	366
Percent	0.3%	78.7%	9.0%	0.0%	9.3%	1.9%	0.3%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Sandison Street
B/ Blinn Avenue - Gamble Avenue
24 Hour Directional Classification Count

LAC006
Site Code: 999-21183

Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	1	0	0	0	2	0	0	4	0	0	0	0	7
01:00	0	4	0	0	0	1	0	0	3	0	0	0	0	8
02:00	0	1	0	0	0	1	0	0	3	0	0	0	0	5
03:00	0	4	0	0	0	1	0	0	0	0	0	0	0	5
04:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
05:00	0	5	0	0	0	0	0	0	1	0	0	0	0	6
06:00	0	10	0	0	1	1	0	0	6	0	0	0	0	18
07:00	0	**20**	0	0	**2**	3	0	**1**	0	0	0	0	0	26
08:00	0	20	0	0	0	2	0	0	6	0	0	0	0	28
09:00	0	13	0	0	0	**5**	0	0	3	0	0	0	0	21
10:00	0	17	**5**	0	1	4	0	1	**19**	0	0	0	0	**47**
11:00	0	17	5	0	0	1	0	0	10	0	0	0	0	33
12 PM	0	15	1	0	0	2	0	0	4	0	0	0	0	22
13:00	**1**	16	3	0	**1**	3	0	0	3	**3**	0	0	0	30
14:00	0	15	2	0	1	**7**	0	0	2	0	0	0	0	27
15:00	0	**20**	**5**	0	1	4	0	0	**5**	0	0	0	0	**35**
16:00	0	13	3	0	0	4	0	0	0	0	0	0	0	20
17:00	0	16	5	0	0	1	0	0	1	0	0	0	0	23
18:00	1	12	2	0	1	0	0	0	0	1	0	0	0	17
19:00	0	14	1	0	1	1	0	0	4	0	0	0	0	21
20:00	0	6	5	0	0	2	0	0	2	0	0	0	0	15
21:00	0	10	0	0	1	1	0	0	3	0	0	0	0	15
22:00	1	5	0	0	0	0	0	0	3	0	0	0	0	9
23:00	0	6	0	0	0	1	0	0	4	0	0	0	0	11
Total	3	262	37	0	10	47	0	2	86	4	0	0	0	451
Percent	0.7%	58.1%	8.2%	0.0%	2.2%	10.4%	0.0%	0.4%	19.1%	0.9%	0.0%	0.0%	0.0%	
AM Peak		07:00	10:00		07:00	09:00		07:00	10:00					10:00
Vol.		20	5		2	5		1	19					47
PM Peak	13:00	15:00	15:00		13:00	14:00			15:00	13:00				15:00
Vol.	1	20	5		1	7			5	3				35
Grand Total	3	262	37	0	10	47	0	2	86	4	0	0	0	451
Percent	0.7%	58.1%	8.2%	0.0%	2.2%	10.4%	0.0%	0.4%	19.1%	0.9%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Sandison Street
B/ Blinn Avenue - Gamble Avenue
24 Hour Directional Classification Count

LAC006
Site Code: 999-21183

Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	2	1	0	0	0	0	0	3	0	0	0	0	6
01:00	0	3	0	0	0	2	0	0	1	0	0	0	0	6
02:00	0	2	0	0	0	2	0	0	2	0	0	0	0	6
03:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	9	0	0	1	**7**	0	0	1	0	0	0	0	18
07:00	0	15	0	0	0	0	0	0	1	0	0	0	0	16
08:00	0	12	1	0	0	3	0	0	3	0	0	0	0	19
09:00	0	**16**	0	0	2	3	0	**3**	5	0	0	0	0	29
10:00	0	14	2	0	2	5	0	0	6	0	0	0	0	29
11:00	0	13	**7**	0	**3**	3	0	0	**10**	0	**1**	0	0	**37**
12 PM	**1**	**21**	4	0	0	3	0	0	4	1	0	0	0	34
13:00	0	14	2	0	1	4	0	0	10	**2**	0	0	0	33
14:00	1	19	4	0	**3**	3	0	**1**	**11**	1	0	0	0	**43**
15:00	0	19	**7**	0	3	**5**	0	0	3	1	0	0	0	38
16:00	0	19	2	0	0	1	**1**	1	6	1	0	0	0	31
17:00	0	17	5	0	2	0	0	0	5	0	0	0	0	29
18:00	1	20	5	0	0	2	0	0	1	0	0	0	0	29
19:00	0	11	1	0	0	1	0	0	4	0	0	0	0	17
20:00	0	13	4	0	1	0	0	0	3	0	0	0	0	21
21:00	0	4	0	0	0	0	0	0	5	0	0	0	0	9
22:00	0	4	2	0	0	2	0	0	3	0	0	0	0	11
23:00	0	6	0	0	0	2	0	0	3	0	0	0	0	11
Total	3	257	47	0	18	48	1	5	90	6	1	0	0	476
Percent	0.6%	54.0%	9.9%	0.0%	3.8%	10.1%	0.2%	1.1%	18.9%	1.3%	0.2%	0.0%	0.0%	
AM Peak		09:00	11:00		11:00	06:00		09:00	11:00		11:00			11:00
Vol.		16	7		3	7		3	10		1			37
PM Peak	12:00	12:00	15:00		14:00	15:00	16:00	14:00	14:00	13:00				14:00
Vol.	1	21	7		3	5	1	1	11	2				43
Grand Total	3	257	47	0	18	48	1	5	90	6	1	0	0	476
Percent	0.6%	54.0%	9.9%	0.0%	3.8%	10.1%	0.2%	1.1%	18.9%	1.3%	0.2%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Sandison Street
B/ Blinn Avenue - Gamble Avenue
24 Hour Directional Classification Count

LAC006
Site Code: 999-21183

Eastbound, Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	3	1	0	0	2	0	0	7	0	0	0	0	13
01:00	0	7	0	0	0	3	0	0	4	0	0	0	0	14
02:00	0	3	0	0	0	3	0	0	5	0	0	0	0	11
03:00	0	6	0	0	0	1	0	0	0	0	0	0	0	7
04:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
05:00	0	6	0	0	0	0	0	0	1	0	0	0	0	7
06:00	0	19	0	0	2	8	0	0	7	0	0	0	0	36
07:00	0	**35**	0	0	2	3	0	1	1	0	0	0	0	42
08:00	0	32	1	0	0	5	0	0	9	0	0	0	0	47
09:00	0	29	0	0	2	8	0	**3**	8	0	0	0	0	50
10:00	0	31	7	0	**3**	**9**	0	1	**25**	0	0	0	0	**76**
11:00	0	30	**12**	0	3	4	0	0	20	0	**1**	0	0	70
12 PM	1	36	5	0	0	5	0	0	8	1	0	0	0	56
13:00	1	30	5	0	2	7	0	0	**13**	**5**	0	0	0	63
14:00	1	34	6	0	**4**	**10**	0	**1**	13	1	0	0	0	70
15:00	0	**39**	**12**	0	4	9	0	0	8	1	0	0	0	**73**
16:00	0	32	5	0	0	5	**1**	1	6	1	0	0	0	51
17:00	0	33	10	0	2	1	0	0	6	0	0	0	0	52
18:00	**2**	32	7	0	1	2	0	0	1	1	0	0	0	46
19:00	0	25	2	0	1	2	0	0	8	0	0	0	0	38
20:00	0	19	9	0	1	2	0	0	5	0	0	0	0	36
21:00	0	14	0	0	1	1	0	0	8	0	0	0	0	24
22:00	1	9	2	0	0	2	0	0	6	0	0	0	0	20
23:00	0	12	0	0	0	3	0	0	7	0	0	0	0	22
Total	6	519	84	0	28	95	1	7	176	10	1	0	0	927
Percent	0.6%	56.0%	9.1%	0.0%	3.0%	10.2%	0.1%	0.8%	19.0%	1.1%	0.1%	0.0%	0.0%	
AM Peak		07:00	11:00		10:00	10:00		09:00	10:00		11:00			10:00
Vol.		35	12		3	9		3	25		1			76
PM Peak	18:00	15:00	15:00		14:00	14:00	16:00	14:00	13:00	13:00				15:00
Vol.	2	39	12		4	10	1	1	13	5				73
Grand Total	6	519	84	0	28	95	1	7	176	10	1	0	0	927
Percent	0.6%	56.0%	9.1%	0.0%	3.0%	10.2%	0.1%	0.8%	19.0%	1.1%	0.1%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Q Street
B/ Lakme Avenue - Banning Boulevard
24 Hour Directional Classification Count

LAC003
Site Code: 999-21183

Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	2	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
06:00	0	10	2	0	0	0	0	0	0	0	0	0	0	12
07:00	0	11	4	0	0	0	0	0	0	0	0	0	0	15
08:00	**1**	**31**	**8**	0	1	**1**	0	0	0	0	0	0	0	**42**
09:00	0	22	5	0	0	0	0	0	0	0	0	0	0	27
10:00	0	22	6	0	**2**	0	0	0	0	0	0	0	0	30
11:00	0	19	3	0	0	0	0	0	0	0	0	0	0	22
12 PM	0	21	5	0	0	0	0	0	0	0	0	0	0	26
13:00	0	22	1	0	1	0	0	0	0	0	0	0	0	24
14:00	**1**	28	5	0	**2**	**3**	0	0	0	0	0	0	0	39
15:00	0	25	3	0	0	0	0	0	0	0	0	0	0	28
16:00	0	42	**6**	0	1	0	0	0	0	0	0	0	0	49
17:00	0	**44**	5	0	1	0	0	0	0	0	0	0	0	**50**
18:00	1	36	5	0	0	0	0	0	0	0	0	0	0	42
19:00	0	33	3	0	0	0	0	0	0	0	0	0	0	36
20:00	0	22	3	0	0	0	0	0	0	0	0	0	0	25
21:00	0	26	1	0	1	0	0	0	0	0	0	0	0	28
22:00	0	12	0	0	0	0	0	0	0	0	0	0	0	12
23:00	0	8	1	0	0	0	0	0	0	0	0	0	0	9
Total	3	447	66	0	9	4	0	0	0	0	0	0	0	529
Percent	0.6%	84.5%	12.5%	0.0%	1.7%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	08:00	08:00		10:00	08:00								08:00
Vol.	1	31	8		2	1								42
PM Peak	14:00	17:00	16:00		14:00	14:00								17:00
Vol.	1	44	6		2	3								50
Grand Total	3	447	66	0	9	4	0	0	0	0	0	0	0	529
Percent	0.6%	84.5%	12.5%	0.0%	1.7%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Q Street
B/ Lakme Avenue - Banning Boulevard
24 Hour Directional Classification Count

LAC003
Site Code: 999-21183

Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	4	0	0	0	0	0	0	0	0	0	0	0	4
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
04:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
05:00	0	8	1	0	0	0	0	0	0	0	0	0	0	9
06:00	0	17	0	0	0	0	0	0	0	0	0	0	0	17
07:00	0	**48**	4	0	0	0	0	0	0	0	0	0	0	**52**
08:00	0	39	**9**	0	0	0	0	0	0	0	0	0	0	48
09:00	0	20	3	0	0	**1**	0	0	0	0	0	0	0	24
10:00	0	27	3	0	**2**	1	0	0	0	0	0	0	0	33
11:00	0	30	5	0	0	0	0	0	0	0	0	0	0	35
12 PM	0	27	9	0	0	0	0	0	0	0	0	0	0	36
13:00	0	25	2	0	0	0	0	0	0	0	0	0	0	27
14:00	0	31	**10**	**1**	**2**	**2**	0	0	0	0	0	0	0	**46**
15:00	0	**41**	4	0	0	1	0	0	0	0	0	0	0	46
16:00	0	34	6	0	0	0	0	0	0	0	0	0	0	40
17:00	**1**	37	7	0	0	0	0	0	0	0	0	0	0	45
18:00	0	32	2	0	0	0	0	0	0	0	0	0	0	34
19:00	0	20	3	0	0	0	0	0	0	0	0	0	0	23
20:00	0	14	1	0	0	0	0	0	0	0	0	0	0	15
21:00	0	29	0	0	1	0	0	0	0	0	0	0	0	30
22:00	1	11	0	0	0	1	0	0	0	0	0	0	0	13
23:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
Total	2	514	69	1	5	6	0	0	0	0	0	0	0	597
Percent	0.3%	86.1%	11.6%	0.2%	0.8%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		07:00	08:00		10:00	09:00								07:00
Vol.		48	9		2	1								52
PM Peak	17:00	15:00	14:00	14:00	14:00	14:00								14:00
Vol.	1	41	10	1	2	2								46
Grand Total	2	514	69	1	5	6	0	0	0	0	0	0	0	597
Percent	0.3%	86.1%	11.6%	0.2%	0.8%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Q Street
B/ Lakme Avenue - Banning Boulevard
24 Hour Directional Classification Count

LAC003
Site Code: 999-21183

Eastbound, Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	6	0	0	0	0	0	0	0	0	0	0	0	6
01:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
02:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
03:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
04:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
05:00	0	11	1	0	0	0	0	0	0	0	0	0	0	12
06:00	0	27	2	0	0	0	0	0	0	0	0	0	0	29
07:00	0	59	8	0	0	0	0	0	0	0	0	0	0	67
08:00	**1**	**70**	**17**	0	1	**1**	0	0	0	0	0	0	0	**90**
09:00	0	42	8	0	0	1	0	0	0	0	0	0	0	51
10:00	0	49	9	0	**4**	1	0	0	0	0	0	0	0	63
11:00	0	49	8	0	0	0	0	0	0	0	0	0	0	57
12 PM	0	48	14	0	0	0	0	0	0	0	0	0	0	62
13:00	0	47	3	0	1	0	0	0	0	0	0	0	0	51
14:00	**1**	59	**15**	**1**	**4**	**5**	0	0	0	0	0	0	0	85
15:00	0	66	7	0	0	1	0	0	0	0	0	0	0	74
16:00	0	76	12	0	1	0	0	0	0	0	0	0	0	89
17:00	1	**81**	12	0	1	0	0	0	0	0	0	0	0	**95**
18:00	1	68	7	0	0	0	0	0	0	0	0	0	0	76
19:00	0	53	6	0	0	0	0	0	0	0	0	0	0	59
20:00	0	36	4	0	0	0	0	0	0	0	0	0	0	40
21:00	0	55	1	0	2	0	0	0	0	0	0	0	0	58
22:00	1	23	0	0	0	1	0	0	0	0	0	0	0	25
23:00	0	15	1	0	0	0	0	0	0	0	0	0	0	16
Total	5	961	135	1	14	10	0	0	0	0	0	0	0	1126
Percent	0.4%	85.3%	12.0%	0.1%	1.2%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	08:00	08:00		10:00	08:00								08:00
Vol.	1	70	17		4	1								90
PM Peak	14:00	17:00	14:00	14:00	14:00	14:00								17:00
Vol.	1	81	15	1	4	5								95
Grand Total	5	961	135	1	14	10	0	0	0	0	0	0	0	1126
Percent	0.4%	85.3%	12.0%	0.1%	1.2%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
O Street
B/ Sanford Avenue - Watson Avenue
24 Hour Directional Classification Count

LAC009
Site Code: 999-21183

Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
05:00	0	10	0	0	0	0	0	0	0	0	0	0	0	10
06:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
07:00	0	**11**	**3**	0	0	**1**	0	0	0	0	0	0	0	**15**
08:00	0	7	2	0	0	1	0	0	0	0	0	0	0	10
09:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
10:00	0	6	2	0	0	0	0	0	0	0	0	0	0	8
11:00	0	7	3	0	0	0	0	0	0	0	0	0	0	10
12 PM	0	8	**3**	0	**1**	0	0	0	0	0	0	0	0	12
13:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
14:00	0	4	3	0	1	0	0	0	0	0	0	0	0	8
15:00	0	12	0	0	0	0	0	0	0	0	0	0	0	12
16:00	0	14	1	0	0	0	0	0	0	0	0	0	0	15
17:00	0	**17**	2	0	0	0	0	0	0	0	0	0	0	**19**
18:00	0	16	3	0	0	0	0	0	0	0	0	0	0	19
19:00	0	11	2	0	0	0	0	0	0	0	0	0	0	13
20:00	0	9	0	0	0	0	0	0	0	0	0	0	0	9
21:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
22:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
23:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	169	24	0	2	2	0	0	0	0	0	0	0	197
Percent	0.0%	85.8%	12.2%	0.0%	1.0%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		07:00	07:00			07:00								07:00
Vol.		11	3			1								15
PM Peak		17:00	12:00		12:00									17:00
Vol.		17	3		1									19
Grand Total	0	169	24	0	2	2	0	0	0	0	0	0	0	197
Percent	0.0%	85.8%	12.2%	0.0%	1.0%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
O Street
B/ Sanford Avenue - Watson Avenue
24 Hour Directional Classification Count

LAC009
Site Code: 999-21183

Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	4	0	0	**1**	0	0	0	0	0	0	0	0	5
06:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6
07:00	0	2	1	0	0	**1**	0	0	0	0	0	0	0	4
08:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
09:00	0	5	**2**	0	1	0	0	0	0	0	0	0	0	**8**
10:00	0	4	2	0	0	0	0	0	0	0	0	0	0	6
11:00	0	**6**	2	0	0	0	0	0	0	0	0	0	0	8
12 PM	0	5	2	0	0	0	0	0	0	0	0	0	0	7
13:00	0	6	**3**	0	0	0	0	0	0	0	0	0	0	9
14:00	**1**	10	1	0	0	0	0	0	0	0	0	0	0	12
15:00	0	**20**	2	0	0	0	0	0	0	0	0	0	0	**22**
16:00	0	10	0	0	0	0	0	0	0	0	0	0	0	10
17:00	0	6	2	0	0	0	0	0	0	0	0	0	0	8
18:00	0	9	2	0	**2**	0	0	0	0	0	0	0	0	13
19:00	0	8	0	0	1	0	0	0	0	0	0	0	0	9
20:00	0	12	0	0	0	0	0	0	0	0	0	0	0	12
21:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
22:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	126	20	0	5	1	0	0	0	0	0	0	0	153
Percent	0.7%	82.4%	13.1%	0.0%	3.3%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		11:00	09:00		05:00	07:00								09:00
Vol.		6	2		1	1								8
PM Peak	14:00	15:00	13:00		18:00									15:00
Vol.	1	20	3		2									22
Grand Total	1	126	20	0	5	1	0	0	0	0	0	0	0	153
Percent	0.7%	82.4%	13.1%	0.0%	3.3%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
O Street
B/ Sanford Avenue - Watson Avenue
24 Hour Directional Classification Count

LAC009
Site Code: 999-21183

Eastbound, Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
05:00	0	**14**	0	0	**1**	0	0	0	0	0	0	0	0	15
06:00	0	10	1	0	0	0	0	0	0	0	0	0	0	11
07:00	0	13	4	0	0	**2**	0	0	0	0	0	0	0	**19**
08:00	0	12	2	0	0	1	0	0	0	0	0	0	0	15
09:00	0	11	2	0	1	0	0	0	0	0	0	0	0	14
10:00	0	10	4	0	0	0	0	0	0	0	0	0	0	14
11:00	0	13	**5**	0	0	0	0	0	0	0	0	0	0	18
12 PM	0	13	**5**	0	1	0	0	0	0	0	0	0	0	19
13:00	0	13	3	0	0	0	0	0	0	0	0	0	0	16
14:00	**1**	14	4	0	1	0	0	0	0	0	0	0	0	20
15:00	0	**32**	2	0	0	0	0	0	0	0	0	0	0	**34**
16:00	0	24	1	0	0	0	0	0	0	0	0	0	0	25
17:00	0	23	4	0	0	0	0	0	0	0	0	0	0	27
18:00	0	25	5	0	**2**	0	0	0	0	0	0	0	0	32
19:00	0	19	2	0	1	0	0	0	0	0	0	0	0	22
20:00	0	21	0	0	0	0	0	0	0	0	0	0	0	21
21:00	0	12	0	0	0	0	0	0	0	0	0	0	0	12
22:00	0	8	0	0	0	0	0	0	0	0	0	0	0	8
23:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Total	1	295	44	0	7	3	0	0	0	0	0	0	0	350
Percent	0.3%	84.3%	12.6%	0.0%	2.0%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		05:00	11:00		05:00	07:00								07:00
Vol.		14	5		1	2								19
PM Peak	14:00	15:00	12:00		18:00									15:00
Vol.	1	32	5		2									34
Grand Total	1	295	44	0	7	3	0	0	0	0	0	0	0	350
Percent	0.3%	84.3%	12.6%	0.0%	2.0%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
O Street
B/ Blinn Avenue - Drumm Avenue
24 Hour Directional Classification Count

LAC017
Site Code: 999-21183

Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
05:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	1	0	0	0	**1**	0	0	0	0	0	0	0	2
07:00	0	4	0	0	0	1	0	0	0	0	0	0	0	5
08:00	0	5	**2**	0	**2**	0	0	0	0	0	0	0	0	9
09:00	0	5	0	0	0	1	0	0	0	0	0	0	0	6
10:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
11:00	0	**12**	0	0	0	0	0	0	0	0	0	0	0	**12**
12 PM	0	6	**4**	0	0	0	0	0	0	0	0	0	0	10
13:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
14:00	0	9	2	0	**1**	0	0	0	0	0	0	0	0	12
15:00	0	**14**	2	0	0	0	0	0	0	0	0	0	0	**16**
16:00	0	14	1	0	0	0	0	0	**1**	0	0	0	0	16
17:00	0	11	0	0	0	0	0	0	0	0	0	0	0	11
18:00	0	5	3	0	0	0	0	0	0	0	0	0	0	8
19:00	0	8	0	0	1	0	0	0	0	0	0	0	0	9
20:00	0	7	4	0	0	0	0	0	0	0	0	0	0	11
21:00	0	9	1	0	0	0	0	0	0	0	0	0	0	10
22:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
23:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
Total	0	136	20	0	4	3	0	0	1	0	0	0	0	164
Percent	0.0%	82.9%	12.2%	0.0%	2.4%	1.8%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	
AM Peak		11:00	08:00		08:00	06:00								11:00
Vol.		12	2		2	1								12
PM Peak		15:00	12:00		14:00				16:00					15:00
Vol.		14	4		1				1					16
Grand Total	0	136	20	0	4	3	0	0	1	0	0	0	0	164
Percent	0.0%	82.9%	12.2%	0.0%	2.4%	1.8%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
O Street
B/ Blinn Avenue - Drumm Avenue
24 Hour Directional Classification Count

LAC017
Site Code: 999-21183

Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
05:00	0	7	0	0	1	0	0	0	0	0	0	0	0	8
06:00	0	9	0	0	0	0	0	0	0	0	0	0	0	9
07:00	0	9	0	0	1	**2**	0	0	0	0	0	0	0	12
08:00	0	10	**2**	0	1	0	0	0	0	0	0	0	0	13
09:00	0	4	2	0	0	1	0	0	0	0	0	0	0	7
10:00	0	11	1	0	**3**	0	0	0	0	0	0	0	0	15
11:00	0	**16**	2	0	0	0	0	0	0	0	0	0	0	**18**
12 PM	0	5	2	0	0	0	**1**	0	0	0	0	0	0	8
13:00	0	7	2	0	0	0	0	0	0	0	0	0	0	9
14:00	0	8	**4**	0	0	0	0	0	0	0	0	0	0	12
15:00	0	**14**	2	0	0	0	0	0	0	0	0	0	0	**16**
16:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
17:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5
18:00	0	8	0	0	**1**	0	0	0	0	0	0	0	0	9
19:00	0	4	1	0	1	0	0	0	0	0	0	0	0	6
20:00	0	3	1	0	1	0	0	0	0	0	0	0	0	5
21:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6
22:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
23:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	139	21	0	9	3	1	0	0	0	0	0	0	173
Percent	0.0%	80.3%	12.1%	0.0%	5.2%	1.7%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		11:00	08:00		10:00	07:00								11:00
Vol.		16	2		3	2								18
PM Peak		15:00	14:00		18:00		12:00							15:00
Vol.		14	4		1		1							16
Grand Total	0	139	21	0	9	3	1	0	0	0	0	0	0	173
Percent	0.0%	80.3%	12.1%	0.0%	5.2%	1.7%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
O Street
B/ Blinn Avenue - Drumm Avenue
24 Hour Directional Classification Count

LAC017
Site Code: 999-21183

Eastbound, Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
05:00	0	8	0	0	1	0	0	0	0	0	0	0	0	9
06:00	0	10	0	0	0	1	0	0	0	0	0	0	0	11
07:00	0	13	0	0	1	**3**	0	0	0	0	0	0	0	17
08:00	0	15	**4**	0	**3**	0	0	0	0	0	0	0	0	22
09:00	0	9	2	0	0	2	0	0	0	0	0	0	0	13
10:00	0	15	1	0	3	0	0	0	0	0	0	0	0	19
11:00	0	**28**	2	0	0	0	0	0	0	0	0	0	0	**30**
12 PM	0	11	**6**	0	0	0	**1**	0	0	0	0	0	0	18
13:00	0	14	2	0	0	0	0	0	0	0	0	0	0	16
14:00	0	17	6	0	1	0	0	0	0	0	0	0	0	24
15:00	0	**28**	4	0	0	0	0	0	0	0	0	0	0	**32**
16:00	0	21	1	0	0	0	0	0	**1**	0	0	0	0	23
17:00	0	15	1	0	0	0	0	0	0	0	0	0	0	16
18:00	0	13	3	0	1	0	0	0	0	0	0	0	0	17
19:00	0	12	1	0	**2**	0	0	0	0	0	0	0	0	15
20:00	0	10	5	0	1	0	0	0	0	0	0	0	0	16
21:00	0	14	2	0	0	0	0	0	0	0	0	0	0	16
22:00	0	10	0	0	0	0	0	0	0	0	0	0	0	10
23:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
Total	0	275	41	0	13	6	1	0	1	0	0	0	0	337
Percent	0.0%	81.6%	12.2%	0.0%	3.9%	1.8%	0.3%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	
AM Peak		11:00	08:00		08:00	07:00								11:00
Vol.		28	4		3	3								30
PM Peak		15:00	12:00		19:00		12:00		16:00					15:00
Vol.		28	6		2		1		1					32
Grand Total	0	275	41	0	13	6	1	0	1	0	0	0	0	337
Percent	0.0%	81.6%	12.2%	0.0%	3.9%	1.8%	0.3%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Eubank Avenue
B/ Sandison Street - O Street
24 Hour Directional Classification Count

LAC004
Site Code: 999-21183

Northbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	12	3	0	0	1	0	0	0	0	0	0	0	16
01:00	0	12	2	0	0	1	0	0	0	0	0	0	0	15
02:00	0	16	3	0	0	1	0	0	1	0	0	0	0	21
03:00	1	15	4	0	0	0	0	0	0	0	0	0	0	20
04:00	0	32	6	0	1	0	0	0	0	0	0	0	0	39
05:00	0	56	13	0	3	1	0	0	1	0	0	0	0	74
06:00	0	119	19	0	1	2	0	0	4	1	0	0	0	146
07:00	1	**178**	22	0	**6**	7	0	0	8	0	0	0	0	**222**
08:00	**2**	130	26	0	1	4	0	0	8	1	0	0	0	172
09:00	0	81	19	0	2	4	0	1	**14**	2	0	0	0	123
10:00	0	94	24	**1**	6	**8**	0	0	9	3	0	0	0	145
11:00	0	120	**27**	1	5	5	0	**6**	14	**5**	0	0	0	183
12 PM	1	116	29	0	**7**	2	0	**5**	6	1	0	0	0	167
13:00	0	109	22	0	4	3	0	0	**12**	**4**	0	0	0	154
14:00	1	126	29	0	3	**10**	0	0	10	4	0	0	0	183
15:00	0	140	19	0	6	4	0	0	10	2	0	0	0	181
16:00	**2**	141	**34**	0	3	2	0	0	2	0	0	0	0	184
17:00	0	**156**	26	0	1	1	0	0	2	0	0	0	0	**186**
18:00	0	103	18	0	2	3	0	0	3	0	0	0	0	129
19:00	0	99	16	0	1	2	**1**	0	0	0	0	0	0	119
20:00	0	90	8	0	1	1	0	0	2	0	0	0	0	102
21:00	0	66	7	0	0	0	0	0	1	0	0	0	0	74
22:00	0	37	5	0	0	0	0	0	0	1	0	0	0	43
23:00	0	23	2	0	1	0	0	0	1	0	0	0	0	27
Total	8	2071	383	2	54	62	1	12	108	24	0	0	0	2725
Percent	0.3%	76.0%	14.1%	0.1%	2.0%	2.3%	0.0%	0.4%	4.0%	0.9%	0.0%	0.0%	0.0%	
AM Peak	08:00	07:00	11:00	10:00	07:00	10:00		11:00	09:00	11:00				07:00
Vol.	2	178	27	1	6	8		6	14	5				222
PM Peak	16:00	17:00	16:00		12:00	14:00	19:00	12:00	13:00	13:00				17:00
Vol.	2	156	34		7	10	1	5	12	4				186
Grand Total	8	2071	383	2	54	62	1	12	108	24	0	0	0	2725
Percent	0.3%	76.0%	14.1%	0.1%	2.0%	2.3%	0.0%	0.4%	4.0%	0.9%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Eubank Avenue
B/ Sandison Street - O Street
24 Hour Directional Classification Count

LAC004
Site Code: 999-21183

Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	24	4	0	0	2	0	0	1	0	0	0	0	31
01:00	0	20	4	0	0	0	0	0	1	0	0	0	0	25
02:00	0	7	3	0	0	1	0	0	0	0	0	0	0	11
03:00	0	6	2	0	0	0	0	0	1	0	0	0	0	9
04:00	0	11	3	0	2	0	0	0	1	0	0	0	0	17
05:00	0	35	7	0	0	3	0	0	0	0	0	0	0	45
06:00	1	57	20	0	3	2	0	0	1	0	0	0	0	84
07:00	0	97	21	0	6	1	0	0	3	0	0	0	0	128
08:00	**2**	98	22	0	7	6	0	0	13	1	0	0	0	149
09:00	0	76	**28**	0	5	5	0	0	**17**	2	0	0	0	133
10:00	0	93	25	0	3	4	0	0	16	0	0	0	0	141
11:00	0	**105**	24	0	**8**	**7**	0	0	8	**3**	0	0	0	**155**
12 PM	0	126	27	0	3	7	0	0	11	3	0	0	0	177
13:00	0	110	20	0	**5**	3	0	0	13	2	0	0	0	153
14:00	0	127	35	0	5	8	0	0	11	1	0	0	0	187
15:00	**1**	163	35	0	5	**9**	0	0	**16**	**4**	0	0	0	233
16:00	0	211	**52**	0	2	5	0	0	7	0	0	0	0	**277**
17:00	1	**222**	39	0	2	2	0	0	2	1	0	0	0	269
18:00	0	148	15	0	0	2	0	0	2	0	0	0	0	167
19:00	1	120	22	**1**	1	1	0	0	3	0	0	0	0	149
20:00	1	98	13	0	0	1	0	0	2	0	0	0	0	115
21:00	0	90	12	0	1	1	0	0	0	0	0	0	0	104
22:00	0	72	6	0	0	2	0	0	1	0	0	0	0	81
23:00	0	34	2	0	1	0	0	0	2	0	0	0	0	39
Total	7	2150	441	1	59	72	0	0	132	17	0	0	0	2879
Percent	0.2%	74.7%	15.3%	0.0%	2.0%	2.5%	0.0%	0.0%	4.6%	0.6%	0.0%	0.0%	0.0%	
AM Peak	08:00	11:00	09:00		11:00	11:00			09:00	11:00				11:00
Vol.	2	105	28		8	7			17	3				155
PM Peak	15:00	17:00	16:00	19:00	13:00	15:00			15:00	15:00				16:00
Vol.	1	222	52	1	5	9			16	4				277
Grand Total	7	2150	441	1	59	72	0	0	132	17	0	0	0	2879
Percent	0.2%	74.7%	15.3%	0.0%	2.0%	2.5%	0.0%	0.0%	4.6%	0.6%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Eubank Avenue
B/ Sandison Street - O Street
24 Hour Directional Classification Count

LAC004
Site Code: 999-21183

Northbound, Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	36	7	0	0	3	0	0	1	0	0	0	0	47
01:00	0	32	6	0	0	1	0	0	1	0	0	0	0	40
02:00	0	23	6	0	0	2	0	0	1	0	0	0	0	32
03:00	1	21	6	0	0	0	0	0	1	0	0	0	0	29
04:00	0	43	9	0	3	0	0	0	1	0	0	0	0	56
05:00	0	91	20	0	3	4	0	0	1	0	0	0	0	119
06:00	1	176	39	0	4	4	0	0	5	1	0	0	0	230
07:00	1	**275**	43	0	12	8	0	0	11	0	0	0	0	**350**
08:00	**4**	228	48	0	8	10	0	0	21	2	0	0	0	321
09:00	0	157	47	0	7	9	0	1	**31**	4	0	0	0	256
10:00	0	187	49	**1**	9	**12**	0	0	25	3	0	0	0	286
11:00	0	225	**51**	1	**13**	12	0	**6**	22	**8**	0	0	0	338
12 PM	1	242	56	0	10	9	0	**5**	17	4	0	0	0	344
13:00	0	219	42	0	9	6	0	0	25	**6**	0	0	0	307
14:00	1	253	64	0	8	**18**	0	0	21	5	0	0	0	370
15:00	1	303	54	0	**11**	13	0	0	**26**	6	0	0	0	414
16:00	**2**	352	**86**	0	5	7	0	0	9	0	0	0	0	**461**
17:00	1	**378**	65	0	3	3	0	0	4	1	0	0	0	455
18:00	0	251	33	0	2	5	0	0	5	0	0	0	0	296
19:00	1	219	38	**1**	2	3	**1**	0	3	0	0	0	0	268
20:00	1	188	21	0	1	2	0	0	4	0	0	0	0	217
21:00	0	156	19	0	1	1	0	0	1	0	0	0	0	178
22:00	0	109	11	0	0	2	0	0	1	1	0	0	0	124
23:00	0	57	4	0	2	0	0	0	3	0	0	0	0	66
Total	15	4221	824	3	113	134	1	12	240	41	0	0	0	5604
Percent	0.3%	75.3%	14.7%	0.1%	2.0%	2.4%	0.0%	0.2%	4.3%	0.7%	0.0%	0.0%	0.0%	
AM Peak	08:00	07:00	11:00	10:00	11:00	10:00		11:00	09:00	11:00				07:00
Vol.	4	275	51	1	13	12		6	31	8				350
PM Peak	16:00	17:00	16:00	19:00	15:00	14:00	19:00	12:00	15:00	13:00				16:00
Vol.	2	378	86	1	11	18	1	5	26	6				461
Grand Total	15	4221	824	3	113	134	1	12	240	41	0	0	0	5604
Percent	0.3%	75.3%	14.7%	0.1%	2.0%	2.4%	0.0%	0.2%	4.3%	0.7%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Drumm Avenue
B/ Q Street - Sandison Street
24 Hour Directional Classification Count

LAC014
Site Code: 999-21183

Northbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	0	0	0	0	7	0	0	45	0	0	0	0	52
01:00	0	1	0	0	0	8	0	**2**	31	0	0	1	0	43
02:00	0	0	0	0	0	2	0	0	11	0	0	0	0	13
03:00	0	0	0	0	0	4	0	0	3	0	0	0	0	7
04:00	0	0	0	0	1	10	0	0	3	0	0	0	0	14
05:00	0	0	0	0	1	28	0	0	16	1	0	0	0	46
06:00	0	**6**	1	0	1	66	0	0	16	**3**	1	**2**	0	96
07:00	0	4	**3**	0	1	**69**	0	0	30	0	0	0	0	107
08:00	0	0	2	0	4	38	0	0	63	1	0	0	0	108
09:00	0	0	1	0	3	26	0	2	75	2	**2**	0	0	111
10:00	0	3	1	0	1	24	0	1	95	1	0	0	0	126
11:00	0	2	1	0	**6**	11	0	0	**112**	1	1	0	0	**134**
12 PM	0	5	**1**	0	1	17	0	1	93	5	0	0	0	123
13:00	0	3	0	0	**3**	17	0	3	**98**	5	0	0	0	**129**
14:00	0	0	0	0	1	14	0	1	95	**12**	0	0	0	123
15:00	0	2	1	0	0	14	0	3	83	2	0	0	0	105
16:00	0	3	1	0	0	21	0	7	64	0	0	0	0	96
17:00	0	**6**	1	0	1	**28**	0	**8**	32	1	0	0	0	77
18:00	0	1	0	0	1	26	0	2	37	0	0	0	0	67
19:00	0	1	0	0	0	12	0	0	47	0	0	0	0	60
20:00	0	1	0	0	0	10	0	0	39	0	0	0	0	50
21:00	0	1	0	0	0	6	0	0	40	1	0	0	0	48
22:00	0	0	0	0	0	7	0	1	22	0	0	0	0	30
23:00	0	1	0	0	1	1	0	1	25	0	0	0	0	29
Total	0	40	13	0	26	466	0	32	1175	35	4	3	0	1794
Percent	0.0%	2.2%	0.7%	0.0%	1.4%	26.0%	0.0%	1.8%	65.5%	2.0%	0.2%	0.2%	0.0%	
AM Peak		06:00	07:00		11:00	07:00		01:00	11:00	06:00	09:00	06:00		11:00
Vol.		6	3		6	69		2	112	3	2	2		134
PM Peak		17:00	12:00		13:00	17:00		17:00	13:00	14:00				13:00
Vol.		6	1		3	28		8	98	12				129
Grand Total	0	40	13	0	26	466	0	32	1175	35	4	3	0	1794
Percent	0.0%	2.2%	0.7%	0.0%	1.4%	26.0%	0.0%	1.8%	65.5%	2.0%	0.2%	0.2%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Drumm Avenue
B/ Q Street - Sandison Street
24 Hour Directional Classification Count

LAC014
Site Code: 999-21183

Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	1	0	0	0	**25**	0	0	13	0	0	0	0	39
01:00	0	2	0	0	0	13	0	0	27	0	0	0	0	42
02:00	0	0	0	0	1	15	0	0	6	0	0	**1**	0	23
03:00	0	0	0	0	0	5	0	0	2	0	0	0	0	7
04:00	0	0	0	0	0	3	0	0	9	0	0	0	0	12
05:00	0	1	0	0	0	1	0	0	19	0	0	0	0	21
06:00	0	2	0	0	2	2	0	0	36	2	0	0	0	44
07:00	0	**3**	0	0	3	8	0	6	**87**	2	0	0	0	109
08:00	0	2	0	0	1	9	0	**10**	83	1	0	0	0	106
09:00	0	2	0	0	2	8	0	7	85	1	0	0	0	105
10:00	0	3	**3**	0	4	18	0	5	72	2	0	0	0	107
11:00	0	2	2	0	**5**	13	0	5	85	**4**	0	0	0	**116**
12 PM	0	**4**	**1**	0	**2**	25	0	**3**	62	4	0	0	0	101
13:00	0	2	0	0	2	23	0	2	**74**	6	0	0	0	**109**
14:00	**1**	2	1	0	2	29	0	2	59	4	0	0	0	100
15:00	0	3	0	0	0	**36**	0	2	64	3	0	0	0	108
16:00	0	1	0	0	2	32	0	0	41	**8**	0	0	0	84
17:00	0	2	1	0	0	31	0	0	41	0	0	0	0	75
18:00	0	4	0	0	0	18	0	0	58	0	0	0	0	80
19:00	0	3	0	0	0	25	0	0	38	0	0	0	0	66
20:00	0	1	0	0	0	18	0	2	23	0	0	0	0	44
21:00	0	0	0	0	0	12	0	1	27	0	**1**	0	0	41
22:00	0	1	0	0	0	9	0	0	34	2	1	0	0	47
23:00	1	1	0	0	0	9	0	1	13	0	0	**2**	0	27
Total	2	42	8	0	26	387	0	46	1058	39	2	3	0	1613
Percent	0.1%	2.6%	0.5%	0.0%	1.6%	24.0%	0.0%	2.9%	65.6%	2.4%	0.1%	0.2%	0.0%	
AM Peak		07:00	10:00		11:00	00:00		08:00	07:00	11:00		02:00		11:00
Vol.		3	3		5	25		10	87	4		1		116
PM Peak	14:00	12:00	12:00		12:00	15:00		12:00	13:00	16:00	21:00	23:00		13:00
Vol.	1	4	1		2	36		3	74	8	1	2		109
Grand Total	2	42	8	0	26	387	0	46	1058	39	2	3	0	1613
Percent	0.1%	2.6%	0.5%	0.0%	1.6%	24.0%	0.0%	2.9%	65.6%	2.4%	0.1%	0.2%	0.0%	

City of Los Angeles
Drumm Avenue
B/ Q Street - Sandison Street
24 Hour Directional Classification Count

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

LAC014
Site Code: 999-21183

Northbound, Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	1	0	0	0	32	0	0	58	0	0	0	0	91
01:00	0	3	0	0	0	21	0	2	58	0	0	1	0	85
02:00	0	0	0	0	1	17	0	0	17	0	0	1	0	36
03:00	0	0	0	0	0	9	0	0	5	0	0	0	0	14
04:00	0	0	0	0	1	13	0	0	12	0	0	0	0	26
05:00	0	1	0	0	1	29	0	0	35	1	0	0	0	67
06:00	0	**8**	1	0	3	68	0	0	52	**5**	1	**2**	0	140
07:00	0	7	3	0	4	**77**	0	6	117	2	0	0	0	216
08:00	0	2	2	0	5	47	0	**10**	146	2	0	0	0	214
09:00	0	2	1	0	5	34	0	9	160	3	**2**	0	0	216
10:00	0	6	**4**	0	5	42	0	6	167	3	0	0	0	233
11:00	0	4	3	0	**11**	24	0	5	**197**	5	1	0	0	**250**
12 PM	0	**9**	**2**	0	3	42	0	4	155	9	0	0	0	224
13:00	0	5	0	0	**5**	40	0	5	**172**	11	0	0	0	**238**
14:00	**1**	2	1	0	3	43	0	3	154	**16**	0	0	0	223
15:00	0	5	1	0	0	50	0	5	147	5	0	0	0	213
16:00	0	4	1	0	2	53	0	7	105	8	0	0	0	180
17:00	0	8	2	0	1	**59**	0	**8**	73	1	0	0	0	152
18:00	0	5	0	0	1	44	0	2	95	0	0	0	0	147
19:00	0	4	0	0	0	37	0	0	85	0	0	0	0	126
20:00	0	2	0	0	0	28	0	2	62	0	0	0	0	94
21:00	0	1	0	0	0	18	0	1	67	1	**1**	0	0	89
22:00	0	1	0	0	0	16	0	1	56	2	1	0	0	77
23:00	1	2	0	0	1	10	0	2	38	0	0	**2**	0	56
Total	2	82	21	0	52	853	0	78	2233	74	6	6	0	3407
Percent	0.1%	2.4%	0.6%	0.0%	1.5%	25.0%	0.0%	2.3%	65.5%	2.2%	0.2%	0.2%	0.0%	
AM Peak		06:00	10:00		11:00	07:00		08:00	11:00	06:00	09:00	06:00		11:00
Vol.		8	4		11	77		10	197	5	2	2		250
PM Peak	14:00	12:00	12:00		13:00	17:00		17:00	13:00	14:00	21:00	23:00		13:00
Vol.	1	9	2		5	59		8	172	16	1	2		238
Grand Total	2	82	21	0	52	853	0	78	2233	74	6	6	0	3407
Percent	0.1%	2.4%	0.6%	0.0%	1.5%	25.0%	0.0%	2.3%	65.5%	2.2%	0.2%	0.2%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Drumm Avenue
B/ O Street - Colon Street
24 Hour Directional Classification Count

LAC015
Site Code: 999-21183

Northbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/06/21	0	4	0	0	0	3	0	0	**38**	0	0	0	0	45
01:00	0	1	0	0	0	11	0	0	33	0	0	0	0	45
02:00	0	0	0	0	0	5	0	0	34	0	0	0	0	39
03:00	0	1	0	0	0	4	0	0	5	0	0	0	0	10
04:00	0	1	1	0	0	11	0	0	2	0	0	0	0	15
05:00	0	**10**	0	0	1	32	0	0	11	0	0	0	0	54
06:00	0	5	**6**	0	**2**	**50**	0	0	9	**1**	0	0	0	**73**
07:00	0	3	1	0	0	15	0	**1**	1	0	0	0	0	21
08:00	0	1	0	0	2	0	0	0	0	0	0	0	0	3
09:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
10:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
11:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
12 PM	0	1	2	0	2	0	0	0	0	0	0	0	0	5
13:00	0	5	0	0	0	4	0	0	9	0	0	0	0	18
14:00	0	9	4	0	**5**	13	0	**3**	62	3	0	0	0	99
15:00	0	9	**5**	0	1	15	0	0	**71**	**7**	0	0	0	**108**
16:00	0	7	1	0	1	**30**	0	0	61	2	0	0	0	102
17:00	0	**18**	5	0	1	26	0	0	26	0	0	0	0	76
18:00	0	7	5	0	1	26	0	0	35	0	0	0	0	74
19:00	0	7	1	0	0	10	0	0	33	0	0	0	0	51
20:00	0	8	1	0	1	8	0	0	35	0	0	0	0	53
21:00	0	5	0	0	0	15	0	0	46	0	0	0	0	66
22:00	0	7	1	0	0	9	0	0	15	0	0	0	0	32
23:00	0	4	0	0	0	8	0	0	25	0	0	0	0	37
Total	0	115	33	0	18	295	0	4	551	13	0	0	0	1029
Percent	0.0%	11.2%	3.2%	0.0%	1.7%	28.7%	0.0%	0.4%	53.5%	1.3%	0.0%	0.0%	0.0%	
AM Peak		05:00	06:00		06:00	06:00		07:00	00:00	06:00				06:00
Vol.		10	6		2	50		1	38	1				73
PM Peak		17:00	15:00		14:00	16:00		14:00	15:00	15:00				15:00
Vol.		18	5		5	30		3	71	7				108
Grand Total	0	115	33	0	18	295	0	4	551	13	0	0	0	1029
Percent	0.0%	11.2%	3.2%	0.0%	1.7%	28.7%	0.0%	0.4%	53.5%	1.3%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Drumm Avenue
B/ O Street - Colon Street
24 Hour Directional Classification Count

LAC015
Site Code: 999-21183

Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/06/21	0	6	0	0	0	16	0	0	25	0	0	0	0	47
01:00	0	0	0	0	0	**32**	0	0	26	0	0	0	0	58
02:00	0	6	0	0	0	25	0	0	12	0	0	0	0	43
03:00	**1**	4	0	0	0	9	0	0	10	0	0	0	0	24
04:00	0	8	0	0	0	2	0	0	11	0	0	0	0	21
05:00	0	**10**	0	0	1	4	0	0	15	0	0	0	0	30
06:00	0	8	**3**	0	0	4	0	1	36	0	0	0	0	52
07:00	0	6	1	0	**6**	9	0	4	79	0	0	0	0	105
08:00	0	7	2	0	1	5	0	**10**	72	5	0	0	0	102
09:00	0	5	0	0	5	11	0	10	**83**	**10**	**1**	0	0	**125**
10:00	0	6	2	0	4	8	0	4	69	10	0	0	0	103
11:00	0	8	1	0	2	16	0	3	56	3	0	0	0	89
12 PM	0	2	0	0	1	16	0	1	61	4	0	0	0	85
13:00	0	7	1	0	1	19	0	**2**	59	**5**	0	0	0	94
14:00	0	9	**4**	0	**3**	25	0	2	**64**	4	0	0	0	**111**
15:00	0	3	0	0	1	**40**	0	1	56	4	0	0	0	105
16:00	0	11	2	0	0	39	0	0	35	1	0	0	0	88
17:00	0	9	0	0	2	17	0	0	45	0	0	0	0	73
18:00	0	5	0	0	0	17	0	0	36	5	0	0	0	63
19:00	0	**12**	1	0	0	21	0	0	40	1	0	0	0	75
20:00	0	9	0	0	0	14	0	0	26	0	0	0	0	49
21:00	0	5	0	0	0	27	0	0	39	0	0	0	0	71
22:00	0	7	2	0	0	14	0	0	36	0	0	0	0	59
23:00	0	2	0	0	0	3	0	0	27	0	0	0	0	32
Total	1	155	19	0	27	393	0	38	1018	52	1	0	0	1704
Percent	0.1%	9.1%	1.1%	0.0%	1.6%	23.1%	0.0%	2.2%	59.7%	3.1%	0.1%	0.0%	0.0%	
AM Peak	03:00	05:00	06:00		07:00	01:00		08:00	09:00	09:00	09:00			09:00
Vol.	1	10	3		6	32		10	83	10	1			125
PM Peak		19:00	14:00		14:00	15:00		13:00	14:00	13:00				14:00
Vol.		12	4		3	40		2	64	5				111
Grand Total	1	155	19	0	27	393	0	38	1018	52	1	0	0	1704
Percent	0.1%	9.1%	1.1%	0.0%	1.6%	23.1%	0.0%	2.2%	59.7%	3.1%	0.1%	0.0%	0.0%	

City of Los Angeles
Drumm Avenue
B/ O Street - Colon Street
24 Hour Directional Classification Count

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

LAC015
Site Code: 999-21183

Northbound, Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/06/21	0	10	0	0	0	19	0	0	63	0	0	0	0	92
01:00	0	1	0	0	0	43	0	0	59	0	0	0	0	103
02:00	0	6	0	0	0	30	0	0	46	0	0	0	0	82
03:00	**1**	5	0	0	0	13	0	0	15	0	0	0	0	34
04:00	0	9	1	0	0	13	0	0	13	0	0	0	0	36
05:00	0	**20**	0	0	2	36	0	0	26	0	0	0	0	84
06:00	0	13	**9**	0	2	**54**	0	1	45	1	0	0	0	125
07:00	0	9	2	0	**6**	24	0	5	80	0	0	0	0	**126**
08:00	0	8	2	0	3	5	0	**10**	72	5	0	0	0	105
09:00	0	5	0	0	6	11	0	10	**83**	**10**	**1**	0	0	126
10:00	0	7	2	0	4	8	0	4	69	10	0	0	0	104
11:00	0	9	1	0	2	16	0	3	56	3	0	0	0	90
12 PM	0	3	2	0	3	16	0	1	61	4	0	0	0	90
13:00	0	12	1	0	1	23	0	2	68	5	0	0	0	112
14:00	0	18	**8**	0	**8**	38	0	**5**	126	7	0	0	0	210
15:00	0	12	5	0	2	55	0	1	**127**	**11**	0	0	0	**213**
16:00	0	18	3	0	1	**69**	0	0	96	3	0	0	0	190
17:00	0	**27**	5	0	3	43	0	0	71	0	0	0	0	149
18:00	0	12	5	0	1	43	0	0	71	5	0	0	0	137
19:00	0	19	2	0	0	31	0	0	73	1	0	0	0	126
20:00	0	17	1	0	1	22	0	0	61	0	0	0	0	102
21:00	0	10	0	0	0	42	0	0	85	0	0	0	0	137
22:00	0	14	3	0	0	23	0	0	51	0	0	0	0	91
23:00	0	6	0	0	0	11	0	0	52	0	0	0	0	69
Total	1	270	52	0	45	688	0	42	1569	65	1	0	0	2733
Percent	0.0%	9.9%	1.9%	0.0%	1.6%	25.2%	0.0%	1.5%	57.4%	2.4%	0.0%	0.0%	0.0%	
AM Peak	03:00	05:00	06:00		07:00	06:00		08:00	09:00	09:00	09:00			07:00
Vol.	1	20	9		6	54		10	83	10	1			126
PM Peak		17:00	14:00		14:00	16:00		14:00	15:00	15:00				15:00
Vol.		27	8		8	69		5	127	11				213
Grand Total	1	270	52	0	45	688	0	42	1569	65	1	0	0	2733
Percent	0.0%	9.9%	1.9%	0.0%	1.6%	25.2%	0.0%	1.5%	57.4%	2.4%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Cruces Street
B/ Watson Avenue - Blinn Avenue
24 Hour Directional Classification Count

LAC007
Site Code: 999-21183

Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
06:00	0	6	0	0	0	**1**	0	0	0	0	0	0	0	7
07:00	0	12	**1**	0	0	1	0	0	0	0	0	0	0	14
08:00	0	2	0	0	0	1	0	0	0	0	0	0	0	3
09:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
10:00	0	9	1	0	**2**	0	0	0	0	0	0	0	0	12
11:00	0	**14**	1	0	0	0	0	0	0	0	0	0	0	**15**
12 PM	0	6	0	0	0	0	0	0	0	0	0	0	0	6
13:00	0	6	2	0	0	**1**	0	0	0	0	0	0	0	9
14:00	**1**	8	1	0	0	0	0	0	0	0	0	0	0	10
15:00	0	2	**4**	0	0	0	0	0	0	0	0	0	0	6
16:00	0	**13**	2	0	0	0	0	0	0	0	0	0	0	**15**
17:00	0	8	3	0	0	0	0	0	0	0	0	0	0	11
18:00	0	7	4	0	**1**	0	0	0	0	0	0	0	0	12
19:00	0	10	1	0	0	0	0	0	0	0	0	0	0	11
20:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
21:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
22:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
23:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
Total	1	132	21	0	3	4	0	0	0	0	0	0	0	161
Percent	0.6%	82.0%	13.0%	0.0%	1.9%	2.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		11:00	07:00		10:00	06:00								11:00
Vol.		14	1		2	1								15
PM Peak	14:00	16:00	15:00		18:00	13:00								16:00
Vol.	1	13	4		1	1								15
Grand Total	1	132	21	0	3	4	0	0	0	0	0	0	0	161
Percent	0.6%	82.0%	13.0%	0.0%	1.9%	2.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Cruces Street
B/ Watson Avenue - Blinn Avenue
24 Hour Directional Classification Count

LAC007
Site Code: 999-21183

Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	2	0	0	**1**	0	0	0	0	0	0	0	0	3
01:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
06:00	**1**	1	0	0	0	**2**	0	0	0	0	0	0	0	4
07:00	0	5	1	0	0	1	0	0	0	0	0	0	0	7
08:00	0	7	**2**	0	0	0	0	0	0	0	0	0	0	9
09:00	0	8	1	0	0	0	0	0	0	0	0	0	0	9
10:00	0	8	0	0	1	0	0	0	0	0	0	0	0	9
11:00	0	**13**	2	0	0	0	0	0	0	0	0	0	0	**15**
12 PM	0	**11**	0	0	0	0	0	0	0	0	0	0	0	11
13:00	0	4	2	0	0	**1**	0	0	0	0	0	0	0	7
14:00	**1**	11	1	0	**2**	0	0	0	0	0	0	0	0	**15**
15:00	0	6	0	0	1	0	0	0	0	0	0	0	0	7
16:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
17:00	0	9	1	0	1	0	0	0	0	0	0	0	0	11
18:00	0	7	**5**	0	0	0	0	0	0	0	0	0	0	12
19:00	0	4	2	0	0	0	0	0	0	0	0	0	0	6
20:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
21:00	0	9	0	0	0	0	0	0	0	0	0	0	0	9
22:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
23:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
Total	2	128	19	0	6	4	0	0	0	0	0	0	0	159
Percent	1.3%	80.5%	11.9%	0.0%	3.8%	2.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	06:00	11:00	08:00		00:00	06:00								11:00
Vol.	1	13	2		1	2								15
PM Peak	14:00	12:00	18:00		14:00	13:00								14:00
Vol.	1	11	5		2	1								15
Grand Total	2	128	19	0	6	4	0	0	0	0	0	0	0	159
Percent	1.3%	80.5%	11.9%	0.0%	3.8%	2.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Cruces Street
B/ Watson Avenue - Blinn Avenue
24 Hour Directional Classification Count

LAC007
Site Code: 999-21183

Eastbound, Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	3	0	0	1	0	0	0	0	0	0	0	0	4
01:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
06:00	**1**	7	0	0	0	**3**	0	0	0	0	0	0	0	11
07:00	0	17	2	0	0	2	0	0	0	0	0	0	0	21
08:00	0	9	2	0	0	1	0	0	0	0	0	0	0	12
09:00	0	14	2	0	0	0	0	0	0	0	0	0	0	16
10:00	0	17	1	0	**3**	0	0	0	0	0	0	0	0	21
11:00	0	**27**	**3**	0	0	0	0	0	0	0	0	0	0	**30**
12 PM	0	17	0	0	0	0	0	0	0	0	0	0	0	17
13:00	0	10	4	0	0	**2**	0	0	0	0	0	0	0	16
14:00	**2**	**19**	2	0	**2**	0	0	0	0	0	0	0	0	**25**
15:00	0	8	4	0	1	0	0	0	0	0	0	0	0	13
16:00	0	19	3	0	0	0	0	0	0	0	0	0	0	22
17:00	0	17	4	0	1	0	0	0	0	0	0	0	0	22
18:00	0	14	**9**	0	1	0	0	0	0	0	0	0	0	24
19:00	0	14	3	0	0	0	0	0	0	0	0	0	0	17
20:00	0	10	0	0	0	0	0	0	0	0	0	0	0	10
21:00	0	15	0	0	0	0	0	0	0	0	0	0	0	15
22:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
23:00	0	10	0	0	0	0	0	0	0	0	0	0	0	10
Total	3	260	40	0	9	8	0	0	0	0	0	0	0	320
Percent	0.9%	81.3%	12.5%	0.0%	2.8%	2.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	06:00	11:00	11:00		10:00	06:00								11:00
Vol.	1	27	3		3	3								30
PM Peak	14:00	14:00	18:00		14:00	13:00								14:00
Vol.	2	19	9		2	2								25
Grand Total	3	260	40	0	9	8	0	0	0	0	0	0	0	320
Percent	0.9%	81.3%	12.5%	0.0%	2.8%	2.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Cruces Street
B/ Gamble Avenue - Drumm Avenue
24 Hour Directional Classification Count

LAC018
Site Code: 999-21183

Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/06/21	0	4	0	0	0	0	0	0	0	0	0	0	0	4
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	**1**	3	0	0	0	0	0	0	0	0	0	0	0	4
04:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
05:00	0	0	1	0	**1**	0	0	0	0	0	0	0	0	2
06:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
07:00	0	5	**2**	0	0	0	0	0	0	0	0	0	0	7
08:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
11:00	0	**7**	1	0	0	0	0	0	0	0	0	0	0	**8**
12 PM	**1**	2	0	0	0	0	0	0	0	0	0	0	0	3
13:00	0	4	0	0	**1**	0	0	0	0	0	0	0	0	5
14:00	0	3	**2**	0	0	0	0	0	0	0	0	0	0	5
15:00	0	**9**	0	0	0	0	0	0	0	0	0	0	0	**9**
16:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
17:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
18:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
19:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
20:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
21:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
22:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	77	9	0	2	0	0	0	0	0	0	0	0	90
Percent	2.2%	85.6%	10.0%	0.0%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	03:00	11:00	07:00		05:00									11:00
Vol.	1	7	2		1									8
PM Peak	12:00	15:00	14:00		13:00									15:00
Vol.	1	9	2		1									9
Grand Total	2	77	9	0	2	0	0	0	0	0	0	0	0	90
Percent	2.2%	85.6%	10.0%	0.0%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Cruces Street
B/ Gamble Avenue - Drumm Avenue
24 Hour Directional Classification Count

LAC018
Site Code: 999-21183

Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/06/21	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	**5**	**1**	0	0	0	0	0	0	0	0	0	0	**6**
08:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
09:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
10:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
11:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
12 PM	0	3	1	0	0	0	0	0	0	0	0	0	0	4
13:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
14:00	0	7	1	0	**1**	1	0	0	0	0	0	0	0	**10**
15:00	0	3	1	0	0	**2**	0	0	0	0	0	0	0	6
16:00	0	7	**3**	0	0	0	0	0	0	0	0	0	0	10
17:00	0	**8**	2	0	0	0	0	0	0	0	0	0	0	10
18:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
19:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
20:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
21:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	58	11	0	1	3	0	0	0	0	0	0	0	73
Percent	0.0%	79.5%	15.1%	0.0%	1.4%	4.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		07:00	07:00											07:00
Vol.		5	1											6
PM Peak		17:00	16:00		14:00	15:00								14:00
Vol.		8	3		1	2								10
Grand Total	0	58	11	0	1	3	0	0	0	0	0	0	0	73
Percent	0.0%	79.5%	15.1%	0.0%	1.4%	4.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Cruces Street
B/ Gamble Avenue - Drumm Avenue
24 Hour Directional Classification Count

LAC018
Site Code: 999-21183

Eastbound, Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/06/21	0	5	0	0	0	0	0	0	0	0	0	0	0	5
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	**1**	3	0	0	0	0	0	0	0	0	0	0	0	4
04:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
05:00	0	2	1	0	**1**	0	0	0	0	0	0	0	0	4
06:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
07:00	0	**10**	**3**	0	0	0	0	0	0	0	0	0	0	**13**
08:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
09:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
10:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
11:00	0	9	1	0	0	0	0	0	0	0	0	0	0	10
12 PM	**1**	5	1	0	0	0	0	0	0	0	0	0	0	7
13:00	0	6	1	0	**1**	0	0	0	0	0	0	0	0	8
14:00	0	10	3	0	1	1	0	0	0	0	0	0	0	15
15:00	0	12	1	0	0	**2**	0	0	0	0	0	0	0	15
16:00	0	13	**4**	0	0	0	0	0	0	0	0	0	0	**17**
17:00	0	**14**	2	0	0	0	0	0	0	0	0	0	0	16
18:00	0	8	1	0	0	0	0	0	0	0	0	0	0	9
19:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
20:00	0	10	0	0	0	0	0	0	0	0	0	0	0	10
21:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
22:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
23:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Total	2	135	20	0	3	3	0	0	0	0	0	0	0	163
Percent	1.2%	82.8%	12.3%	0.0%	1.8%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	03:00	07:00	07:00		05:00									07:00
Vol.	1	10	3		1									13
PM Peak	12:00	17:00	16:00		13:00	15:00								16:00
Vol.	1	14	4		1	2								17
Grand Total	2	135	20	0	3	3	0	0	0	0	0	0	0	163
Percent	1.2%	82.8%	12.3%	0.0%	1.8%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Cruces Street
B/ Blinn Avenue - Gamble Avenue
24 Hour Directional Classification Count

LAC008
Site Code: 999-21183

Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	4	0	0	0	0	0	0	0	0	0	0	0	4
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	1	0	0	2	0	0	0	0	0	0	0	0	3
06:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
07:00	0	3	0	0	0	**2**	0	0	0	0	0	0	0	5
08:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
09:00	0	7	1	0	0	1	0	0	0	0	0	0	0	9
10:00	0	6	1	0	**3**	0	0	0	0	0	0	0	0	10
11:00	0	**10**	**2**	0	1	0	0	0	0	0	0	0	0	**13**
12 PM	0	10	1	0	0	0	0	0	0	0	0	0	0	11
13:00	**1**	5	0	0	0	**1**	0	0	0	0	0	0	0	7
14:00	0	10	1	0	0	0	0	0	0	0	0	0	0	11
15:00	0	6	2	0	0	0	0	0	0	0	0	0	0	8
16:00	0	12	**3**	0	**1**	0	0	0	0	0	0	0	0	**16**
17:00	0	10	2	0	0	0	0	0	0	0	0	0	0	12
18:00	0	9	0	0	1	0	0	0	0	0	0	0	0	10
19:00	0	**13**	2	0	1	0	0	0	0	0	0	0	0	16
20:00	0	12	0	0	0	0	0	0	0	0	0	0	0	12
21:00	0	11	0	0	0	0	0	0	0	0	0	0	0	11
22:00	0	8	0	0	0	0	0	0	0	0	0	0	0	8
23:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
Total	1	152	16	0	9	4	0	0	0	0	0	0	0	182
Percent	0.5%	83.5%	8.8%	0.0%	4.9%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		11:00	11:00		10:00	07:00								11:00
Vol.		10	2		3	2								13
PM Peak	13:00	19:00	16:00		16:00	13:00								16:00
Vol.	1	13	3		1	1								16
Grand Total	1	152	16	0	9	4	0	0	0	0	0	0	0	182
Percent	0.5%	83.5%	8.8%	0.0%	4.9%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Cruces Street
B/ Blinn Avenue - Gamble Avenue
24 Hour Directional Classification Count

LAC008
Site Code: 999-21183

Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
05:00	**1**	3	0	0	0	0	0	0	0	0	0	0	0	4
06:00	0	6	2	0	0	**2**	0	0	0	0	0	0	0	10
07:00	0	13	1	0	0	1	0	0	0	0	0	0	0	15
08:00	0	12	3	0	**2**	0	0	0	0	0	0	0	0	17
09:00	0	11	**5**	0	0	0	0	0	0	0	0	0	0	16
10:00	0	3	2	0	2	1	0	0	0	0	0	0	0	8
11:00	0	**18**	1	0	2	0	0	0	0	0	0	0	0	**21**
12 PM	0	13	1	0	0	0	0	0	0	0	0	0	0	14
13:00	0	9	**3**	0	1	0	0	0	0	0	0	0	0	13
14:00	0	**20**	1	0	**2**	0	0	0	0	0	0	0	0	**23**
15:00	0	15	2	0	0	0	0	0	0	0	0	0	0	17
16:00	0	8	2	0	0	0	0	0	0	0	0	0	0	10
17:00	0	12	3	0	0	0	0	0	0	0	0	0	0	15
18:00	0	5	3	0	0	0	0	0	0	0	0	0	0	8
19:00	0	10	2	0	1	0	0	0	0	0	0	0	0	13
20:00	0	10	0	0	0	0	0	0	0	0	0	0	0	10
21:00	0	9	0	0	0	0	0	0	0	0	0	0	0	9
22:00	0	7	1	0	0	0	0	0	0	0	0	0	0	8
23:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
Total	1	194	32	0	10	4	0	0	0	0	0	0	0	241
Percent	0.4%	80.5%	13.3%	0.0%	4.1%	1.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	05:00	11:00	09:00		08:00	06:00								11:00
Vol.	1	18	5		2	2								21
PM Peak		14:00	13:00		14:00									14:00
Vol.		20	3		2									23
Grand Total	1	194	32	0	10	4	0	0	0	0	0	0	0	241
Percent	0.4%	80.5%	13.3%	0.0%	4.1%	1.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Cruces Street
B/ Blinn Avenue - Gamble Avenue
24 Hour Directional Classification Count

LAC008
Site Code: 999-21183

Eastbound, Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/29/21	0	5	0	0	0	0	0	0	0	0	0	0	0	5
01:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
04:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
05:00	**1**	4	0	0	2	0	0	0	0	0	0	0	0	7
06:00	0	9	3	0	0	2	0	0	0	0	0	0	0	14
07:00	0	16	1	0	0	**3**	0	0	0	0	0	0	0	20
08:00	0	17	3	0	2	0	0	0	0	0	0	0	0	22
09:00	0	18	**6**	0	0	1	0	0	0	0	0	0	0	25
10:00	0	9	3	0	**5**	1	0	0	0	0	0	0	0	18
11:00	0	**28**	3	0	3	0	0	0	0	0	0	0	0	**34**
12 PM	0	23	2	0	0	0	0	0	0	0	0	0	0	25
13:00	**1**	14	3	0	1	**1**	0	0	0	0	0	0	0	20
14:00	0	**30**	2	0	**2**	0	0	0	0	0	0	0	0	**34**
15:00	0	21	4	0	0	0	0	0	0	0	0	0	0	25
16:00	0	20	**5**	0	1	0	0	0	0	0	0	0	0	26
17:00	0	22	5	0	0	0	0	0	0	0	0	0	0	27
18:00	0	14	3	0	1	0	0	0	0	0	0	0	0	18
19:00	0	23	4	0	2	0	0	0	0	0	0	0	0	29
20:00	0	22	0	0	0	0	0	0	0	0	0	0	0	22
21:00	0	20	0	0	0	0	0	0	0	0	0	0	0	20
22:00	0	15	1	0	0	0	0	0	0	0	0	0	0	16
23:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
Total	2	346	48	0	19	8	0	0	0	0	0	0	0	423
Percent	0.5%	81.8%	11.3%	0.0%	4.5%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	05:00	11:00	09:00		10:00	07:00								11:00
Vol.	1	28	6		5	3								34
PM Peak	13:00	14:00	16:00		14:00	13:00								14:00
Vol.	1	30	5		2	1								34
Grand Total	2	346	48	0	19	8	0	0	0	0	0	0	0	423
Percent	0.5%	81.8%	11.3%	0.0%	4.5%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

City of Los Angeles
Colon Street
B/ Blinn Avenue - Drumm Avenue
24 Hour Directional Classification Count

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

LAC016
Site Code: 999-21183

Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/06/21	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	1	0	0	0	0	0	0	0	1
07:00	0	0	0	0	0	**3**	0	0	0	0	0	0	0	3
08:00	0	1	**1**	0	**2**	0	0	0	0	0	0	0	0	**4**
09:00	0	2	0	0	1	0	0	0	0	0	0	0	0	3
10:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
11:00	0	**3**	0	0	1	0	0	0	0	0	0	0	0	4
12 PM	0	2	**2**	0	**2**	0	0	0	0	0	0	0	0	6
13:00	0	**7**	0	0	2	0	0	0	0	0	0	0	0	**9**
14:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
15:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
16:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
17:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
18:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
19:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
20:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
21:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
22:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
23:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	36	5	0	8	4	0	0	0	0	0	0	0	53
Percent	0.0%	67.9%	9.4%	0.0%	15.1%	7.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		11:00	08:00		08:00	07:00								08:00
Vol.		3	1		2	3								4
PM Peak		13:00	12:00		12:00									13:00
Vol.		7	2		2									9
Grand Total	0	36	5	0	8	4	0	0	0	0	0	0	0	53
Percent	0.0%	67.9%	9.4%	0.0%	15.1%	7.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Colon Street
B/ Blinn Avenue - Drumm Avenue
24 Hour Directional Classification Count

LAC016
Site Code: 999-21183

Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/06/21	0	3	0	0	0	0	0	0	0	0	0	0	0	3
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	1	0	0	0	**1**	0	0	0	0	0	0	0	2
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	1	0	0	1	0	0	0	0	0	0	0	0	2
06:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
07:00	0	**5**	**2**	0	1	0	0	0	0	0	0	0	0	**8**
08:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
09:00	0	3	0	0	**2**	0	0	0	0	0	0	0	0	5
10:00	0	2	2	0	1	0	0	0	0	0	0	0	0	5
11:00	0	3	1	0	1	0	0	0	0	0	0	0	0	5
12 PM	0	1	0	0	**1**	0	0	0	0	0	0	0	0	2
13:00	0	3	1	0	1	**2**	0	**2**	0	0	0	0	0	9
14:00	0	7	**3**	0	0	0	0	0	**1**	0	0	0	0	**11**
15:00	0	4	0	0	0	1	0	1	0	0	0	0	0	6
16:00	0	7	0	0	0	1	0	0	0	0	0	0	0	8
17:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
18:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
19:00	0	**8**	0	0	0	0	0	0	0	0	0	0	0	8
20:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
21:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
22:00	0	0	2	0	0	0	0	0	0	0	0	0	0	2
23:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	71	13	0	8	5	0	3	1	0	0	0	0	101
Percent	0.0%	70.3%	12.9%	0.0%	7.9%	5.0%	0.0%	3.0%	1.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		07:00	07:00		09:00	02:00								07:00
Vol.		5	2		2	1								8
PM Peak		19:00	14:00		12:00	13:00		13:00	14:00					14:00
Vol.		8	3		1	2		2	1					11
Grand Total	0	71	13	0	8	5	0	3	1	0	0	0	0	101
Percent	0.0%	70.3%	12.9%	0.0%	7.9%	5.0%	0.0%	3.0%	1.0%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Los Angeles
Colon Street
B/ Blinn Avenue - Drumm Avenue
24 Hour Directional Classification Count

LAC016
Site Code: 999-21183

Eastbound, Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/06/21	0	3	0	0	0	0	0	0	0	0	0	0	0	3
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	1	0	0	0	1	0	0	0	0	0	0	0	2
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	1	0	0	1	0	0	0	0	0	0	0	0	2
06:00	0	3	1	0	0	1	0	0	0	0	0	0	0	5
07:00	0	5	**2**	0	1	**3**	0	0	0	0	0	0	0	**11**
08:00	0	5	1	0	2	0	0	0	0	0	0	0	0	8
09:00	0	5	0	0	**3**	0	0	0	0	0	0	0	0	8
10:00	0	3	2	0	1	0	0	0	0	0	0	0	0	6
11:00	0	**6**	1	0	2	0	0	0	0	0	0	0	0	9
12 PM	0	3	2	0	**3**	0	0	0	0	0	0	0	0	8
13:00	0	**10**	1	0	3	**2**	0	**2**	0	0	0	0	0	**18**
14:00	0	10	**3**	0	0	0	0	0	**1**	0	0	0	0	14
15:00	0	5	1	0	0	1	0	1	0	0	0	0	0	8
16:00	0	8	0	0	0	1	0	0	0	0	0	0	0	9
17:00	0	9	0	0	0	0	0	0	0	0	0	0	0	9
18:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
19:00	0	10	1	0	0	0	0	0	0	0	0	0	0	11
20:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
21:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
22:00	0	1	2	0	0	0	0	0	0	0	0	0	0	3
23:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
Total	0	107	18	0	16	9	0	3	1	0	0	0	0	154
Percent	0.0%	69.5%	11.7%	0.0%	10.4%	5.8%	0.0%	1.9%	0.6%	0.0%	0.0%	0.0%	0.0%	
AM Peak		11:00	07:00		09:00	07:00								07:00
Vol.		6	2		3	3								11
PM Peak		13:00	14:00		12:00	13:00		13:00	14:00					13:00
Vol.		10	3		3	2		2	1					18
Grand Total	0	107	18	0	16	9	0	3	1	0	0	0	0	154
Percent	0.0%	69.5%	11.7%	0.0%	10.4%	5.8%	0.0%	1.9%	0.6%	0.0%	0.0%	0.0%	0.0%	

APPENDIX B: EXISTING LOS WORKSHEETS

DETAILED EXISTING LEVEL OF SERVICE CALCULATION WORKSHEETS. WORKSHEETS CALCULATE THE DELAY, QUEUING, AND CORRESPONDING LOS AT ALL THE STUDY AREA INTERSECTIONS DURING AM, MIDDAY, AND PM PEAK HOUR CONDITIONS.

SYNCHRO LOS WORKSHEETS – EXISTING AM

HCM 6th Signalized Intersection Summary
1: Avalon Blvd & Sepulveda Blvd 07/07/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	350	114	61	520	64	129	367	85	70	327	128
Future Volume (veh/h)	98	350	114	61	520	64	129	367	85	70	327	128
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	104	372	121	65	553	68	137	390	90	74	348	136
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	346	1545	620	85	1023	411	197	983	394	96	782	314
Arrive On Green	0.19	0.43	0.43	0.05	0.28	0.28	0.11	0.27	0.27	0.05	0.22	0.22
Sat Flow, veh/h	1810	3610	1449	1810	3610	1449	1810	3610	1449	1810	3610	1449
Grp Volume(v), veh/h	104	372	121	65	553	68	137	390	90	74	348	136
Grp Sat Flow(s),veh/h/ln	1810	1805	1449	1810	1805	1449	1810	1805	1449	1810	1805	1449
Q Serve(g_s), s	4.4	5.9	3.0	3.2	11.7	3.2	6.6	7.9	3.5	3.6	7.5	7.3
Cycle Q Clear(g_c), s	4.4	5.9	3.0	3.2	11.7	3.2	6.6	7.9	3.5	3.6	7.5	7.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	346	1545	620	85	1023	411	197	983	394	96	782	314
V/C Ratio(X)	0.30	0.24	0.20	0.77	0.54	0.17	0.70	0.40	0.23	0.77	0.44	0.43
Avail Cap(c_a), veh/h	346	1545	620	191	1023	411	292	983	394	191	782	314
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.74	0.74	0.74	0.95	0.95	0.95	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.2	16.4	6.5	42.4	27.3	24.3	38.7	26.7	16.2	42.1	30.6	30.5
Incr Delay (d2), s/veh	0.5	0.4	0.7	10.3	1.5	0.6	4.2	1.1	1.3	12.1	1.8	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	2.4	1.6	1.7	5.1	1.1	3.1	3.5	1.6	1.9	3.4	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.7	16.8	7.2	52.7	28.8	24.9	42.9	27.9	17.5	54.2	32.4	34.8
LnGrp LOS	C	B	A	D	C	C	D	C	B	D	C	C
Approach Vol, veh/h		597			686			617			558	
Approach Delay, s/veh		17.4			30.7			29.7			35.9	
Approach LOS		B			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	43.0	14.3	24.0	21.7	30.0	9.3	29.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.5	28.5	14.5	19.5	12.5	25.5	9.5	24.5
Max Q Clear Time (g_c+I1), s	5.2	7.9	8.6	9.5	6.4	13.7	5.6	9.9
Green Ext Time (p_c), s	0.0	2.8	0.2	1.9	0.1	3.1	0.0	2.4

Intersection Summary	
HCM 6th Ctrl Delay	28.4
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	173	361	146	89	506	28	191	309	102	41	322	165
Future Volume (veh/h)	173	361	146	89	506	28	191	309	102	41	322	165
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	194	406	164	100	569	31	215	347	115	46	362	185
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	311	879	353	315	718	288	651	1654	664	289	890	357
Arrive On Green	0.10	0.24	0.24	0.06	0.20	0.20	0.50	0.92	0.92	0.04	0.25	0.25
Sat Flow, veh/h	1810	3610	1449	1810	3610	1449	1810	3610	1449	1810	3610	1449
Grp Volume(v), veh/h	194	406	164	100	569	31	215	347	115	46	362	185
Grp Sat Flow(s),veh/h/ln	1810	1805	1449	1810	1805	1449	1810	1805	1449	1810	1805	1449
Q Serve(g_s), s	7.3	8.6	4.7	3.9	13.5	1.6	0.0	0.9	0.7	1.8	7.6	7.2
Cycle Q Clear(g_c), s	7.3	8.6	4.7	3.9	13.5	1.6	0.0	0.9	0.7	1.8	7.6	7.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	311	879	353	315	718	288	651	1654	664	289	890	357
V/C Ratio(X)	0.62	0.46	0.46	0.32	0.79	0.11	0.33	0.21	0.17	0.16	0.41	0.52
Avail Cap(c_a), veh/h	378	1195	480	337	943	378	651	1654	664	331	890	357
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	0.99	0.92	0.92	0.92
Uniform Delay (d), s/veh	24.9	29.0	8.4	26.3	34.3	29.5	13.5	2.1	2.1	28.2	28.4	15.5
Incr Delay (d2), s/veh	2.3	0.4	1.0	0.6	3.5	0.2	0.3	0.3	0.6	0.2	1.3	4.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	3.7	2.9	1.7	6.1	0.6	2.2	0.4	0.3	0.8	3.4	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.1	29.4	9.4	26.8	37.8	29.7	13.8	2.4	2.6	28.5	29.7	20.4
LnGrp LOS	C	C	A	C	D	C	B	A	A	C	C	C
Approach Vol, veh/h		764			700			677			593	
Approach Delay, s/veh		24.5			35.8			6.1			26.7	
Approach LOS		C			D			A			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.9	45.7	9.9	26.4	27.0	26.7	13.9	22.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.5	30.2	6.5	29.8	13.5	22.2	12.8	23.5				
Max Q Clear Time (g_c+I1), s	3.8	2.9	5.9	10.6	2.0	9.6	9.3	15.5				
Green Ext Time (p_c), s	0.0	2.7	0.0	3.1	0.5	2.4	0.2	2.4				
Intersection Summary												
HCM 6th Ctrl Delay			23.3									
HCM 6th LOS			C									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	32	21	17	18	61	15	519	37	76	488	23
Future Volume (veh/h)	14	32	21	17	18	61	15	519	37	76	488	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	15	35	23	18	20	66	16	564	40	83	530	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
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	68	86	49	63	36	92	785	2936	1179	725	2936	1179
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.81	0.81	0.81	1.00	1.00	1.00
Sat Flow, veh/h	228	992	561	189	421	1059	867	3610	1449	829	3610	1449
Grp Volume(v), veh/h	73	0	0	104	0	0	16	564	40	83	530	25
Grp Sat Flow(s),veh/h/ln	1781	0	0	1669	0	0	867	1805	1449	829	1805	1449
Q Serve(g_s), s	0.0	0.0	0.0	1.9	0.0	0.0	0.3	3.1	0.5	0.4	0.0	0.0
Cycle Q Clear(g_c), s	3.5	0.0	0.0	5.4	0.0	0.0	0.3	3.1	0.5	3.5	0.0	0.0
Prop In Lane	0.21		0.32	0.17		0.63	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	203	0	0	192	0	0	785	2936	1179	725	2936	1179
V/C Ratio(X)	0.36	0.00	0.00	0.54	0.00	0.00	0.02	0.19	0.03	0.11	0.18	0.02
Avail Cap(c_a), veh/h	640	0	0	615	0	0	785	2936	1179	725	2936	1179
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.86	0.86	0.86	0.95	0.95	0.95
Uniform Delay (d), s/veh	39.1	0.0	0.0	40.0	0.0	0.0	1.6	1.9	1.6	0.1	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	0.0	2.4	0.0	0.0	0.0	0.1	0.0	0.3	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	0.0	2.3	0.0	0.0	0.0	0.7	0.1	0.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.2	0.0	0.0	42.3	0.0	0.0	1.6	2.0	1.7	0.4	0.1	0.0
LnGrp LOS	D	A	A	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		73			104			620			638	
Approach Delay, s/veh		40.2			42.3			2.0			0.2	
Approach LOS		D			D			A			A	

Timer - Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		77.7		12.3		77.7		12.3
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		49.5		31.5		49.5		31.5
Max Q Clear Time (g_c+I1), s		5.1		5.5		5.5		7.4
Green Ext Time (p_c), s		4.6		0.3		4.8		0.5

Intersection Summary	
HCM 6th Ctrl Delay	6.0
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	908	154	110	643	99	118	318	117	165	299	111
Future Volume (veh/h)	54	908	154	110	643	99	118	318	117	165	299	111
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1000	1000	1900	1000	1000	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	56	946	160	115	670	103	123	331	122	172	311	116
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	105	980	165	139	1041	158	154	722	290	193	800	321
Arrive On Green	0.06	0.42	0.42	0.05	0.29	0.29	0.09	0.20	0.20	0.04	0.07	0.07
Sat Flow, veh/h	1810	2352	397	1810	2391	364	1810	3610	1449	1810	3610	1449
Grp Volume(v), veh/h	56	731	375	115	508	265	123	331	122	172	311	116
Grp Sat Flow(s),veh/h/ln	1810	910	929	1810	910	935	1810	1805	1449	1810	1805	1449
Q Serve(g_s), s	2.7	35.3	35.5	5.7	21.9	22.3	6.0	7.3	6.6	8.5	7.4	5.5
Cycle Q Clear(g_c), s	2.7	35.3	35.5	5.7	21.9	22.3	6.0	7.3	6.6	8.5	7.4	5.5
Prop In Lane	1.00		0.43	1.00		0.39	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	105	758	387	139	793	407	154	722	290	193	800	321
V/C Ratio(X)	0.54	0.96	0.97	0.83	0.64	0.65	0.80	0.46	0.42	0.89	0.39	0.36
Avail Cap(c_a), veh/h	105	758	387	139	793	407	179	722	290	193	800	321
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	0.55	0.55	0.55	1.00	1.00	1.00	0.99	0.99	0.99
Uniform Delay (d), s/veh	41.2	25.6	25.7	42.1	25.7	25.9	40.4	31.7	31.4	42.9	35.9	22.7
Incr Delay (d2), s/veh	5.3	25.1	38.5	20.1	2.2	4.4	19.5	2.1	4.4	36.1	1.4	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	9.8	11.5	3.3	5.2	5.6	3.5	3.3	2.6	6.0	3.6	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.5	50.7	64.1	62.2	27.9	30.3	59.9	33.8	35.9	79.0	37.3	25.8
LnGrp LOS	D	D	E	E	C	C	E	C	D	E	D	C
Approach Vol, veh/h		1162			888			576			599	
Approach Delay, s/veh		54.8			33.1			39.8			47.0	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.4	42.0	12.2	24.4	9.7	43.7	14.1	22.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.9	37.5	8.9	18.7	5.2	39.2	9.6	18.0
Max Q Clear Time (g_c+I1), s	7.7	37.5	8.0	9.4	4.7	24.3	10.5	9.3
Green Ext Time (p_c), s	0.0	0.0	0.0	1.6	0.0	4.5	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	44.7
HCM 6th LOS	D

Intersection	
Intersection Delay, s/veh	13.5
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	311	142	125	216	231	441
Future Vol, veh/h	311	142	125	216	231	441
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	346	158	139	240	257	490
Number of Lanes	1	2	2	1	1	2

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	3	3	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	3	0	3
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	3	3
HCM Control Delay	15.3	11.5	13.4
HCM LOS	C	B	B

Lane	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	77%	0%	0%	0%	0%	100%	0%	0%
Vol Thru, %	0%	23%	100%	100%	100%	0%	0%	0%	0%
Vol Right, %	0%	0%	0%	0%	0%	100%	0%	100%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	156	203	95	63	63	216	231	221	221
LT Vol	156	156	0	0	0	0	231	0	0
Through Vol	0	47	95	63	63	0	0	0	0
RT Vol	0	0	0	0	0	216	0	221	221
Lane Flow Rate	173	225	105	69	69	240	257	245	245
Geometry Grp	8	8	8	8	8	8	7	7	7
Degree of Util (X)	0.381	0.489	0.166	0.152	0.152	0.361	0.523	0.417	0.301
Departure Headway (Hd)	7.929	7.81	5.684	7.877	7.877	5.42	7.329	6.125	4.42
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	454	462	630	455	455	662	495	590	818
Service Time	5.676	5.557	3.431	5.629	5.629	3.172	5.029	3.825	2.12
HCM Lane V/C Ratio	0.381	0.487	0.167	0.152	0.152	0.363	0.519	0.415	0.3
HCM Control Delay	15.5	17.8	9.6	12	12	11.2	17.8	13.1	9
HCM Lane LOS	C	C	A	B	B	B	C	B	A
HCM 95th-tile Q	1.8	2.6	0.6	0.5	0.5	1.6	3	2	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	133	290	25	97	327	83	24	448	121	203	541	227
Future Volume (veh/h)	133	290	25	97	327	83	24	448	121	203	541	227
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	151	330	28	110	372	94	27	509	138	231	615	258
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	188	463	186	206	500	201	287	1148	310	270	989	414
Arrive On Green	0.03	0.04	0.04	0.11	0.14	0.14	0.16	0.41	0.41	0.15	0.40	0.40
Sat Flow, veh/h	1810	3610	1449	1810	3610	1449	1810	2811	758	1810	2479	1039
Grp Volume(v), veh/h	151	330	28	110	372	94	27	326	321	231	448	425
Grp Sat Flow(s),veh/h/ln	1810	1805	1449	1810	1805	1449	1810	1805	1764	1810	1805	1713
Q Serve(g_s), s	7.5	8.1	1.7	5.2	8.9	5.4	1.1	11.7	11.8	11.2	17.8	17.9
Cycle Q Clear(g_c), s	7.5	8.1	1.7	5.2	8.9	5.4	1.1	11.7	11.8	11.2	17.8	17.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.43	1.00		0.61
Lane Grp Cap(c), veh/h	188	463	186	206	500	201	287	738	721	270	720	683
V/C Ratio(X)	0.80	0.71	0.15	0.53	0.74	0.47	0.09	0.44	0.45	0.86	0.62	0.62
Avail Cap(c_a), veh/h	251	762	306	231	722	290	287	738	721	352	720	683
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.5	41.5	38.4	37.6	37.2	35.7	32.3	19.2	19.2	37.3	21.6	21.6
Incr Delay (d2), s/veh	12.5	2.0	0.4	2.1	2.5	1.7	0.1	1.9	2.0	14.9	4.0	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	3.9	0.6	2.4	4.0	2.0	0.5	5.1	5.1	6.0	8.0	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.0	43.5	38.7	39.7	39.7	37.4	32.5	21.1	21.2	52.2	25.6	25.9
LnGrp LOS	E	D	D	D	D	D	C	C	C	D	C	C
Approach Vol, veh/h		509			576			674			1104	
Approach Delay, s/veh		46.6			39.3			21.6			31.3	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.9	41.3	14.8	16.0	18.8	40.4	13.8	17.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	17.5	24.0	11.5	19.0	5.6	35.9	12.5	18.0				
Max Q Clear Time (g_c+I1), s	13.2	13.8	7.2	10.1	3.1	19.9	9.5	10.9				
Green Ext Time (p_c), s	0.3	2.9	0.1	1.4	0.0	5.3	0.1	1.6				
Intersection Summary												
HCM 6th Ctrl Delay			33.4									
HCM 6th LOS			C									

Intersection						
Int Delay, s/veh	3.5					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱		↰↑	Y	
Traffic Vol, veh/h	257	129	35	265	152	16
Future Vol, veh/h	257	129	35	265	152	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	282	142	38	291	167	18

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	424	0	504	282
Stage 1	-	-	-	-	282	-
Stage 2	-	-	-	-	222	-
Critical Hdwy	-	-	4.1	-	6.6	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1146	-	516	762
Stage 1	-	-	-	-	770	-
Stage 2	-	-	-	-	800	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1146	-	495	762
Mov Cap-2 Maneuver	-	-	-	-	495	-
Stage 1	-	-	-	-	770	-
Stage 2	-	-	-	-	768	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	15.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	512	-	-	1146	-
HCM Lane V/C Ratio	0.361	-	-	0.034	-
HCM Control Delay (s)	15.9	-	-	8.2	0.1
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.6	-	-	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	767	48	33	1045	188	52	50	47	119	25	20
Future Volume (veh/h)	30	767	48	33	1045	188	52	50	47	119	25	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1000	1000	1900	1000	1000	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	31	799	50	34	1089	196	54	52	49	124	26	21
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	220	1678	105	501	1486	267	180	173	138	331	69	46
Arrive On Green	1.00	1.00	1.00	0.64	0.64	0.64	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	437	2627	164	660	2326	418	484	661	529	1005	263	178
Grp Volume(v), veh/h	31	553	296	34	852	433	155	0	0	171	0	0
Grp Sat Flow(s),veh/h/ln	437	910	971	660	910	925	1675	0	0	1445	0	0
Q Serve(g_s), s	3.6	0.0	0.0	1.8	28.6	28.6	0.0	0.0	0.0	2.3	0.0	0.0
Cycle Q Clear(g_c), s	32.2	0.0	0.0	1.8	28.6	28.6	6.2	0.0	0.0	8.5	0.0	0.0
Prop In Lane	1.00		0.17	1.00		0.45	0.35		0.32	0.73		0.12
Lane Grp Cap(c), veh/h	220	1163	620	501	1163	591	491	0	0	446	0	0
V/C Ratio(X)	0.14	0.48	0.48	0.07	0.73	0.73	0.32	0.00	0.00	0.38	0.00	0.00
Avail Cap(c_a), veh/h	220	1163	620	501	1163	591	491	0	0	446	0	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.25	0.25	0.25	0.64	0.64	0.64	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.0	0.0	0.0	6.2	11.0	11.0	26.9	0.0	0.0	27.6	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.4	0.7	0.2	2.7	5.1	1.7	0.0	0.0	2.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.1	0.1	0.2	5.3	5.8	2.9	0.0	0.0	3.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.4	0.4	0.7	6.4	13.7	16.2	28.6	0.0	0.0	30.1	0.0	0.0
LnGrp LOS	A	A	A	A	B	B	C	A	A	C	A	A
Approach Vol, veh/h		880			1319			155			171	
Approach Delay, s/veh		0.7			14.3			28.6			30.1	
Approach LOS		A			B			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		62.0		28.0		62.0		28.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		57.5		23.5		57.5		23.5				
Max Q Clear Time (g_c+I1), s		34.2		10.5		30.6		8.2				
Green Ext Time (p_c), s		6.4		0.7		10.8		0.7				
Intersection Summary												
HCM 6th Ctrl Delay			11.5									
HCM 6th LOS			B									

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	5	12	3	4	4	15	16	1	43	1
Future Vol, veh/h	0	0	5	12	3	4	4	15	16	1	43	1
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	6	14	4	5	5	18	19	1	52	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	6.5	7.2	6.9	7.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	0%	63%	2%
Vol Thru, %	43%	0%	16%	96%
Vol Right, %	46%	100%	21%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	35	5	19	45
LT Vol	4	0	12	1
Through Vol	15	0	3	43
RT Vol	16	5	4	1
Lane Flow Rate	42	6	23	54
Geometry Grp	1	1	1	1
Degree of Util (X)	0.044	0.006	0.026	0.06
Departure Headway (Hd)	3.738	3.482	4.07	3.971
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	958	1022	877	903
Service Time	1.762	1.524	2.107	1.991
HCM Lane V/C Ratio	0.044	0.006	0.026	0.06
HCM Control Delay	6.9	6.5	7.2	7.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0	0.1	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	837	64	51	1139	31	77	7	86	34	5	56
Future Volume (veh/h)	28	837	64	51	1139	31	77	7	86	34	5	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1000	1000	1900	1000	1000	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	29	881	67	54	1199	33	81	7	91	36	5	59
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	384	1711	130	329	1806	50	205	36	189	167	43	225
Arrive On Green	0.44	0.44	0.44	1.00	1.00	1.00	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	459	2588	196	601	2731	75	614	149	789	473	181	941
Grp Volume(v), veh/h	29	619	329	54	799	433	179	0	0	100	0	0
Grp Sat Flow(s),veh/h/ln	459	910	965	601	910	986	1552	0	0	1594	0	0
Q Serve(g_s), s	3.3	22.1	22.2	3.5	0.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.3	22.1	22.2	25.7	0.0	0.0	8.4	0.0	0.0	4.2	0.0	0.0
Prop In Lane	1.00		0.20	1.00		0.08	0.45		0.51	0.36		0.59
Lane Grp Cap(c), veh/h	384	1203	638	329	1203	652	429	0	0	435	0	0
V/C Ratio(X)	0.08	0.51	0.52	0.16	0.66	0.66	0.42	0.00	0.00	0.23	0.00	0.00
Avail Cap(c_a), veh/h	384	1203	638	329	1203	652	429	0	0	435	0	0
HCM Platoon Ratio	0.67	0.67	0.67	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	0.85	0.71	0.71	0.71	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.4	14.6	14.7	4.8	0.0	0.0	29.1	0.0	0.0	27.7	0.0	0.0
Incr Delay (d2), s/veh	0.3	1.3	2.5	0.8	2.1	3.8	3.0	0.0	0.0	1.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	5.0	5.6	0.4	0.3	0.7	3.6	0.0	0.0	1.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.7	16.0	17.2	5.6	2.1	3.8	32.1	0.0	0.0	28.9	0.0	0.0
LnGrp LOS	A	B	B	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		977			1286			179			100	
Approach Delay, s/veh		16.2			2.8			32.1			28.9	
Approach LOS		B			A			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		64.0		26.0		64.0		26.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		59.5		21.5		59.5		21.5				
Max Q Clear Time (g_c+I1), s		24.2		6.2		27.7		10.4				
Green Ext Time (p_c), s		8.1		0.4		11.1		0.7				

Intersection Summary		
HCM 6th Ctrl Delay		11.0
HCM 6th LOS		B

Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	3	10	7	6	2	9	18	7	2	6	0
Future Vol, veh/h	0	3	10	7	6	2	9	18	7	2	6	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	3	11	8	7	2	10	20	8	2	7	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	9	0	0	14	0	0	37	34	9	47	38	8
Stage 1	-	-	-	-	-	-	9	9	-	24	24	-
Stage 2	-	-	-	-	-	-	28	25	-	23	14	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1624	-	-	1617	-	-	973	863	1079	959	858	1080
Stage 1	-	-	-	-	-	-	1017	892	-	999	879	-
Stage 2	-	-	-	-	-	-	994	878	-	1000	888	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1624	-	-	1617	-	-	963	859	1079	931	854	1080
Mov Cap-2 Maneuver	-	-	-	-	-	-	963	859	-	931	854	-
Stage 1	-	-	-	-	-	-	1017	892	-	999	875	-
Stage 2	-	-	-	-	-	-	981	874	-	971	888	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	3.4	9.1	9.2
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	924	1624	-	-	1617	-	-	872
HCM Lane V/C Ratio	0.041	-	-	-	0.005	-	-	0.01
HCM Control Delay (s)	9.1	0	-	-	7.2	0	-	9.2
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	2	5	12	12	3	0	5	39	3	1	58	1
Future Vol, veh/h	2	5	12	12	3	0	5	39	3	1	58	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	2	6	14	14	3	0	6	44	3	1	66	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	6.9	7.4	7.3	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	11%	80%	2%
Vol Thru, %	83%	26%	20%	97%
Vol Right, %	6%	63%	0%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	47	19	15	60
LT Vol	5	2	12	1
Through Vol	39	5	3	58
RT Vol	3	12	0	1
Lane Flow Rate	53	22	17	68
Geometry Grp	1	1	1	1
Degree of Util (X)	0.059	0.023	0.02	0.076
Departure Headway (Hd)	4.001	3.764	4.287	4
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	894	942	829	895
Service Time	2.032	1.821	2.342	2.028
HCM Lane V/C Ratio	0.059	0.023	0.021	0.076
HCM Control Delay	7.3	6.9	7.4	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.1	0.1	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	845	67	32	1067	22	64	16	48	24	15	51
Future Volume (veh/h)	21	845	67	32	1067	22	64	16	48	24	15	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1000	1000	1900	1000	1000	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	23	909	72	34	1147	24	69	17	52	26	16	55
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	413	1763	139	478	1881	39	210	62	128	118	85	200
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	487	2580	204	583	2752	58	691	284	589	313	391	922
Grp Volume(v), veh/h	23	641	340	34	758	413	138	0	0	97	0	0
Grp Sat Flow(s),veh/h/ln	487	910	963	583	910	990	1564	0	0	1626	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	6.2	0.0	0.0	4.2	0.0	0.0
Prop In Lane	1.00		0.21	1.00		0.06	0.50		0.38	0.27		0.57
Lane Grp Cap(c), veh/h	413	1244	658	478	1244	676	399	0	0	403	0	0
V/C Ratio(X)	0.06	0.52	0.52	0.07	0.61	0.61	0.35	0.00	0.00	0.24	0.00	0.00
Avail Cap(c_a), veh/h	413	1244	658	478	1244	676	399	0	0	403	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.82	0.76	0.76	0.76	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	29.9	0.0	0.0	29.3	0.0	0.0
Incr Delay (d2), s/veh	0.2	1.3	2.4	0.2	1.7	3.1	2.4	0.0	0.0	1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.4	0.0	0.3	0.6	2.8	0.0	0.0	1.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.2	1.3	2.4	0.2	1.7	3.1	32.3	0.0	0.0	30.7	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		1004			1205			138			97	
Approach Delay, s/veh		1.6			2.1			32.3			30.7	
Approach LOS		A			A			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		66.0		24.0		66.0		24.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		61.5		19.5		61.5		19.5				
Max Q Clear Time (g_c+I1), s		2.0		6.2		2.0		8.2				
Green Ext Time (p_c), s		8.9		0.3		11.4		0.5				
Intersection Summary												
HCM 6th Ctrl Delay			4.8									
HCM 6th LOS			A									

Intersection	
Int Delay, s/veh	6.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	124	117	47	64	124	111
Future Vol, veh/h	124	117	47	64	124	111
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	146	138	55	75	146	131

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	284	0	400	215
Stage 1	-	-	-	-	215	-
Stage 2	-	-	-	-	185	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1290	-	610	830
Stage 1	-	-	-	-	826	-
Stage 2	-	-	-	-	852	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1290	-	583	830
Mov Cap-2 Maneuver	-	-	-	-	583	-
Stage 1	-	-	-	-	826	-
Stage 2	-	-	-	-	815	-

Approach	EB		WB		NB	
HCM Control Delay, s	0		3.4		13.9	
HCM LOS					B	

Minor Lane/Major Mvmt		NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)		678	-	-	1290	-
HCM Lane V/C Ratio		0.408	-	-	0.043	-
HCM Control Delay (s)		13.9	-	-	7.9	0
HCM Lane LOS		B	-	-	A	A
HCM 95th %tile Q(veh)		2	-	-	0.1	-

Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	1	17	0	195	6	45	30	161	5	0
Future Vol, veh/h	0	0	1	17	0	195	6	45	30	161	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	1	19	0	217	7	50	33	179	6	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	553	461	6	446	445	67	6	0	0	83	0	0
Stage 1	364	364	-	81	81	-	-	-	-	-	-	-
Stage 2	189	97	-	365	364	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	447	500	1083	526	511	1002	1628	-	-	1527	-	-
Stage 1	659	627	-	932	832	-	-	-	-	-	-	-
Stage 2	817	819	-	658	627	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	317	439	1083	476	449	1002	1628	-	-	1527	-	-
Mov Cap-2 Maneuver	317	439	-	476	449	-	-	-	-	-	-	-
Stage 1	656	553	-	927	828	-	-	-	-	-	-	-
Stage 2	637	815	-	580	553	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.3	10.3	0.5	7.4
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1628	-	-	1083	920	1527	-	-
HCM Lane V/C Ratio	0.004	-	-	0.001	0.256	0.117	-	-
HCM Control Delay (s)	7.2	0	-	8.3	10.3	7.7	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	1	0.4	-	-

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	6	10	8	15	7	2	8	62	21	6	15	3
Future Vol, veh/h	6	10	8	15	7	2	8	62	21	6	15	3
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	8	14	11	20	9	3	11	84	28	8	20	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.3	7.5	7.6	7.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	9%	25%	62%	25%
Vol Thru, %	68%	42%	29%	62%
Vol Right, %	23%	33%	8%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	91	24	24	24
LT Vol	8	6	15	6
Through Vol	62	10	7	15
RT Vol	21	8	2	3
Lane Flow Rate	123	32	32	32
Geometry Grp	1	1	1	1
Degree of Util (X)	0.134	0.036	0.038	0.037
Departure Headway (Hd)	3.917	4.044	4.269	4.082
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	912	875	830	871
Service Time	1.955	2.116	2.34	2.135
HCM Lane V/C Ratio	0.135	0.037	0.039	0.037
HCM Control Delay	7.6	7.3	7.5	7.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.1	0.1	0.1

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	4	8	8	0	0	7	87	8	1	104	4
Future Vol, veh/h	1	4	8	8	0	0	7	87	8	1	104	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	5	9	9	0	0	8	101	9	1	121	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	248	252	124	255	250	106	126	0	0	110	0	0
Stage 1	126	126	-	122	122	-	-	-	-	-	-	-
Stage 2	122	126	-	133	128	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	710	655	932	702	656	954	1473	-	-	1493	-	-
Stage 1	883	796	-	887	799	-	-	-	-	-	-	-
Stage 2	887	796	-	875	794	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	706	650	932	687	651	954	1473	-	-	1493	-	-
Mov Cap-2 Maneuver	706	650	-	687	651	-	-	-	-	-	-	-
Stage 1	878	795	-	882	794	-	-	-	-	-	-	-
Stage 2	882	791	-	860	793	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.6	10.3	0.5	0.1
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1473	-	-	805	687	1493	-	-
HCM Lane V/C Ratio	0.006	-	-	0.019	0.014	0.001	-	-
HCM Control Delay (s)	7.5	0	-	9.6	10.3	7.4	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	855	70	35	985	46	66	10	22	52	25	64
Future Volume (veh/h)	33	855	70	35	985	46	66	10	22	52	25	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1000	1000	1900	1000	1000	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	34	881	72	36	1015	47	68	10	23	54	26	66
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	437	1701	139	475	1768	82	291	48	80	173	93	174
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	540	2573	210	598	2674	124	936	201	335	494	389	729
Grp Volume(v), veh/h	34	622	331	36	690	372	101	0	0	146	0	0
Grp Sat Flow(s),veh/h/ln	540	910	962	598	910	978	1472	0	0	1612	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	4.6	0.0	0.0	6.3	0.0	0.0
Prop In Lane	1.00		0.22	1.00		0.13	0.67		0.23	0.37		0.45
Lane Grp Cap(c), veh/h	437	1203	636	475	1203	646	419	0	0	440	0	0
V/C Ratio(X)	0.08	0.52	0.52	0.08	0.57	0.57	0.24	0.00	0.00	0.33	0.00	0.00
Avail Cap(c_a), veh/h	437	1203	636	475	1203	646	419	0	0	440	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.82	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	27.8	0.0	0.0	28.4	0.0	0.0
Incr Delay (d2), s/veh	0.3	1.3	2.5	0.3	2.0	3.7	1.4	0.0	0.0	2.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.4	0.0	0.3	0.7	1.9	0.0	0.0	2.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.3	1.3	2.5	0.3	2.0	3.7	29.1	0.0	0.0	30.4	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		987			1098			101			146	
Approach Delay, s/veh		1.7			2.5			29.1			30.4	
Approach LOS		A			A			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		64.0		26.0		64.0		26.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		59.5		21.5		59.5		21.5				
Max Q Clear Time (g_c+I1), s		2.0		8.3		2.0		6.6				
Green Ext Time (p_c), s		8.6		0.6		9.9		0.4				
Intersection Summary												
HCM 6th Ctrl Delay			5.1									
HCM 6th LOS			A									

Intersection	
Int Delay, s/veh	73

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	856	986	246	296	36
Future Vol, veh/h	9	856	986	246	296	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	45	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	9	901	1038	259	312	38

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1297	0	-	0	1546	649
Stage 1	-	-	-	-	1168	-
Stage 2	-	-	-	-	378	-
Critical Hdwy	5.3	-	-	-	5.7	7.1
Critical Hdwy Stg 1	-	-	-	-	6.6	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	3.1	-	-	-	3.8	3.9
Pot Cap-1 Maneuver	286	-	-	-	~ 166	357
Stage 1	-	-	-	-	~ 194	-
Stage 2	-	-	-	-	612	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	286	-	-	-	~ 161	357
Mov Cap-2 Maneuver	-	-	-	-	~ 161	-
Stage 1	-	-	-	-	~ 188	-
Stage 2	-	-	-	-	612	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	$ 533.8
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	286	-	-	-	171
HCM Lane V/C Ratio	0.033	-	-	-	2.044
HCM Control Delay (s)	18	-	-	-	$ 533.8
HCM Lane LOS	C	-	-	-	F
HCM 95th %tile Q(veh)	0.1	-	-	-	27.1

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	25	4	2	12	8	7	1	3	19	2	2
Future Vol, veh/h	4	25	4	2	12	8	7	1	3	19	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	32	5	3	15	10	9	1	4	24	3	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	25	0	0	37	0	0	74	76	35	73	73	20
Stage 1	-	-	-	-	-	-	45	45	-	26	26	-
Stage 2	-	-	-	-	-	-	29	31	-	47	47	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1603	-	-	1587	-	-	921	818	1044	923	821	1064
Stage 1	-	-	-	-	-	-	974	861	-	997	878	-
Stage 2	-	-	-	-	-	-	993	873	-	972	860	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1603	-	-	1587	-	-	913	814	1044	915	817	1064
Mov Cap-2 Maneuver	-	-	-	-	-	-	913	814	-	915	817	-
Stage 1	-	-	-	-	-	-	971	858	-	994	876	-
Stage 2	-	-	-	-	-	-	986	871	-	964	857	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.7	8.9	9.1
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	935	1603	-	-	1587	-	-	917
HCM Lane V/C Ratio	0.015	0.003	-	-	0.002	-	-	0.032
HCM Control Delay (s)	8.9	7.3	0	-	7.3	0	-	9.1
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	9.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	34	1055	5	60	1223	68	0	0	83	51	0	7
Future Vol, veh/h	34	1055	5	60	1223	68	0	0	83	51	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	45	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	36	1111	5	63	1287	72	0	0	87	54	0	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1359	0	0	1116	0	0	1827	2671	558	1965	2637	680
Stage 1	-	-	-	-	-	-	1186	1186	-	1449	1449	-
Stage 2	-	-	-	-	-	-	641	1485	-	516	1188	-
Critical Hdwy	5.3	-	-	5.3	-	-	6.4	6.5	7.1	6.4	6.5	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	7.3	5.5	-	7.3	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.5	-	6.7	5.5	-
Follow-up Hdwy	3.1	-	-	3.1	-	-	3.8	4	3.9	3.8	4	3.9
Pot Cap-1 Maneuver	266	-	-	350	-	-	83	23	409	68	24	341
Stage 1	-	-	-	-	-	-	150	265	-	98	198	-
Stage 2	-	-	-	-	-	-	395	190	-	470	264	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	266	-	-	350	-	-	63	16	409	~ 41	17	341
Mov Cap-2 Maneuver	-	-	-	-	-	-	63	16	-	~ 41	17	-
Stage 1	-	-	-	-	-	-	130	229	-	85	162	-
Stage 2	-	-	-	-	-	-	317	156	-	320	228	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.8	16.2	$ 385.3
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	409	266	-	-	350	-	-	46
HCM Lane V/C Ratio	0.214	0.135	-	-	0.18	-	-	1.327
HCM Control Delay (s)	16.2	20.6	-	-	17.5	-	-	$ 385.3
HCM Lane LOS	C	C	-	-	C	-	-	F
HCM 95th %tile Q(veh)	0.8	0.5	-	-	0.6	-	-	5.8

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection						
Int Delay, s/veh	0.8					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	35	10	243	304	4
Future Vol, veh/h	2	35	10	243	304	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	38	11	267	334	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	625	336	338	0	-	0
Stage 1	336	-	-	-	-	-
Stage 2	289	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	452	711	1232	-	-	-
Stage 1	728	-	-	-	-	-
Stage 2	765	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	447	711	1232	-	-	-
Mov Cap-2 Maneuver	447	-	-	-	-	-
Stage 1	721	-	-	-	-	-
Stage 2	765	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.6	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1232	-	689	-	-
HCM Lane V/C Ratio	0.009	-	0.059	-	-
HCM Control Delay (s)	7.9	0	10.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	7	284	33	9	340	54
Future Volume (veh/h)	7	284	33	9	340	54
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	8	305	35	10	366	58
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	224	398	932	245	902	4027
Arrive On Green	0.12	0.12	0.23	0.23	0.50	0.78
Sat Flow, veh/h	1810	3220	4261	1074	1810	5358
Grp Volume(v), veh/h	8	305	29	16	366	58
Grp Sat Flow(s),veh/h/ln	1810	1610	1729	1707	1810	1729
Q Serve(g_s), s	0.4	8.3	0.6	0.7	11.4	0.2
Cycle Q Clear(g_c), s	0.4	8.3	0.6	0.7	11.4	0.2
Prop In Lane	1.00	1.00		0.63	1.00	
Lane Grp Cap(c), veh/h	224	398	788	389	902	4027
V/C Ratio(X)	0.04	0.77	0.04	0.04	0.41	0.01
Avail Cap(c_a), veh/h	412	734	788	389	902	4027
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.87	0.87	1.00	1.00
Uniform Delay (d), s/veh	34.7	38.2	27.1	27.1	14.2	2.3
Incr Delay (d2), s/veh	0.1	3.1	0.1	0.2	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	3.4	0.2	0.3	4.5	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	34.8	41.3	27.1	27.3	14.5	2.3
LnGrp LOS	C	D	C	C	B	A
Approach Vol, veh/h	313		45			424
Approach Delay, s/veh	41.1		27.2			12.8
Approach LOS	D		C			B

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	49.4	25.0				74.4		15.6
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	35.5	20.5				60.5		20.5
Max Q Clear Time (g_c+I1), s	13.4	2.7				2.2		10.3
Green Ext Time (p_c), s	1.1	0.1				0.4		0.9

Intersection Summary			
HCM 6th Ctrl Delay			25.0
HCM 6th LOS			C

Notes
User approved volume balancing among the lanes for turning movement.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	174	305	350	190	405	1022
Future Volume (veh/h)	174	305	350	190	405	1022
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	196	343	393	213	455	1148
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	400	356	772	360	734	3521
Arrive On Green	0.22	0.22	0.22	0.22	0.41	0.68
Sat Flow, veh/h	1810	1610	3629	1610	1810	5358
Grp Volume(v), veh/h	196	343	393	213	455	1148
Grp Sat Flow(s),veh/h/ln	1810	1610	1729	1610	1810	1729
Q Serve(g_s), s	8.5	19.0	9.0	10.7	18.0	8.2
Cycle Q Clear(g_c), s	8.5	19.0	9.0	10.7	18.0	8.2
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	400	356	772	360	734	3521
V/C Ratio(X)	0.49	0.96	0.51	0.59	0.62	0.33
Avail Cap(c_a), veh/h	400	356	772	360	734	3521
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.73	0.73	1.00	1.00	0.96	0.96
Uniform Delay (d), s/veh	30.6	34.7	30.6	31.3	21.2	6.0
Incr Delay (d2), s/veh	0.7	31.5	2.4	7.0	1.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	10.3	3.9	4.8	7.6	2.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	31.3	66.2	33.0	38.3	22.8	6.2
LnGrp LOS	C	E	C	D	C	A
Approach Vol, veh/h	539		606			1603
Approach Delay, s/veh	53.5		34.9			10.9
Approach LOS	D		C			B

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	41.0	24.6				65.6		24.4
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	36.5	20.1				61.1		19.9
Max Q Clear Time (g_c+I1), s	20.0	12.7				10.2		21.0
Green Ext Time (p_c), s	1.3	2.3				11.1		0.0

Intersection Summary			
HCM 6th Ctrl Delay			24.5
HCM 6th LOS			C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	237	990	1068	202	290	240
Future Volume (veh/h)	237	990	1068	202	290	240
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	260	1088	1174	222	319	264
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	412	2306	1582	299	472	420
Arrive On Green	0.23	0.64	0.36	0.36	0.26	0.26
Sat Flow, veh/h	1810	3705	4552	828	1810	1610
Grp Volume(v), veh/h	260	1088	927	469	319	264
Grp Sat Flow(s),veh/h/ln	1810	1805	1729	1751	1810	1610
Q Serve(g_s), s	11.7	14.0	21.1	21.1	14.2	13.0
Cycle Q Clear(g_c), s	11.7	14.0	21.1	21.1	14.2	13.0
Prop In Lane	1.00			0.47	1.00	1.00
Lane Grp Cap(c), veh/h	412	2306	1249	632	472	420
V/C Ratio(X)	0.63	0.47	0.74	0.74	0.68	0.63
Avail Cap(c_a), veh/h	412	2306	1249	632	472	420
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.75	0.75
Uniform Delay (d), s/veh	31.3	8.4	25.1	25.1	29.8	29.4
Incr Delay (d2), s/veh	3.1	0.7	4.0	7.7	5.7	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	5.0	9.0	9.7	6.8	12.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	34.4	9.1	29.1	32.8	35.5	34.6
LnGrp LOS	C	A	C	C	D	C
Approach Vol, veh/h		1348	1396		583	
Approach Delay, s/veh		14.0	30.3		35.1	
Approach LOS		B	C		D	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		62.0		28.0	25.0	37.0
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		57.5		23.5	20.5	32.5
Max Q Clear Time (g_c+I1), s		16.0		16.2	13.7	23.1
Green Ext Time (p_c), s		10.3		1.3	0.4	6.0

Intersection Summary						
HCM 6th Ctrl Delay			24.6			
HCM 6th LOS			C			

SYNCHRO LOS WORKSHEETS – EXISTING MID

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	183	485	196	89	506	100	132	393	76	114	410	190
Future Volume (veh/h)	183	485	196	89	506	100	132	393	76	114	410	190
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	197	522	211	96	544	108	142	423	82	123	441	204
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	364	1381	554	124	902	362	179	857	344	156	812	326
Arrive On Green	0.20	0.38	0.38	0.07	0.25	0.25	0.10	0.24	0.24	0.09	0.22	0.22
Sat Flow, veh/h	1810	3610	1449	1810	3610	1449	1810	3610	1449	1810	3610	1449
Grp Volume(v), veh/h	197	522	211	96	544	108	142	423	82	123	441	204
Grp Sat Flow(s),veh/h/ln	1810	1805	1449	1810	1805	1449	1810	1805	1449	1810	1805	1449
Q Serve(g_s), s	7.8	8.4	5.5	4.2	10.6	3.6	6.1	8.1	3.7	5.3	8.6	10.2
Cycle Q Clear(g_c), s	7.8	8.4	5.5	4.2	10.6	3.6	6.1	8.1	3.7	5.3	8.6	10.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	364	1381	554	124	903	362	179	857	344	156	812	326
V/C Ratio(X)	0.54	0.38	0.38	0.77	0.60	0.30	0.79	0.49	0.24	0.79	0.54	0.63
Avail Cap(c_a), veh/h	364	1381	554	224	903	362	238	857	344	215	812	326
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.85	0.85	0.85	0.94	0.94	0.94	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.6	17.8	7.7	36.6	26.5	13.1	35.3	26.3	24.7	35.8	27.4	28.0
Incr Delay (d2), s/veh	1.6	0.8	2.0	8.3	2.5	1.8	11.9	1.9	1.5	12.4	2.6	8.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	3.5	2.8	2.1	4.7	1.7	3.2	3.6	1.4	2.8	3.9	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.3	18.6	9.7	45.0	29.0	14.9	47.2	28.2	26.2	48.3	30.0	36.7
LnGrp LOS	C	B	A	D	C	B	D	C	C	D	C	D
Approach Vol, veh/h		930			748			647			768	
Approach Delay, s/veh		19.1			29.0			32.1			34.7	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	35.1	12.4	22.5	20.6	24.5	11.4	23.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.9	23.6	10.5	18.0	13.5	20.0	9.5	19.0
Max Q Clear Time (g_c+I1), s	6.2	10.4	8.1	12.2	9.8	12.6	7.3	10.1
Green Ext Time (p_c), s	0.1	3.5	0.1	1.8	0.2	2.4	0.1	2.0

Intersection Summary	
HCM 6th Ctrl Delay	28.1
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	470	167	96	334	48	148	333	92	48	397	174
Future Volume (veh/h)	208	470	167	96	334	48	148	333	92	48	397	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	236	534	190	109	380	55	168	378	105	55	451	198
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	372	754	302	267	529	212	498	1637	657	559	1518	609
Arrive On Green	0.13	0.21	0.21	0.07	0.15	0.15	0.15	0.91	0.91	0.04	0.42	0.42
Sat Flow, veh/h	1810	3610	1449	1810	3610	1449	1810	3610	1449	1810	3610	1449
Grp Volume(v), veh/h	236	534	190	109	380	55	168	378	105	55	451	198
Grp Sat Flow(s),veh/h/ln	1810	1805	1449	1810	1805	1449	1810	1805	1449	1810	1805	1449
Q Serve(g_s), s	8.4	11.0	9.6	4.0	8.0	2.7	4.2	1.0	0.6	1.3	6.6	7.3
Cycle Q Clear(g_c), s	8.4	11.0	9.6	4.0	8.0	2.7	4.2	1.0	0.6	1.3	6.6	7.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	372	754	302	267	529	212	498	1637	657	559	1518	609
V/C Ratio(X)	0.63	0.71	0.63	0.41	0.72	0.26	0.34	0.23	0.16	0.10	0.30	0.32
Avail Cap(c_a), veh/h	426	1124	451	290	835	335	573	1637	657	595	1518	609
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	0.99	0.86	0.86	0.86
Uniform Delay (d), s/veh	23.2	29.4	28.8	26.5	32.6	30.3	10.5	2.1	2.1	11.8	15.4	15.6
Incr Delay (d2), s/veh	2.5	1.2	2.1	1.0	1.9	0.6	0.4	0.3	0.5	0.1	0.4	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	4.7	3.4	1.8	3.6	1.0	1.4	0.4	0.3	0.5	2.7	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.7	30.6	31.0	27.5	34.4	30.9	10.9	2.4	2.6	11.9	15.8	16.8
LnGrp LOS	C	C	C	C	C	C	B	A	A	B	B	B
Approach Vol, veh/h		960			544			651			704	
Approach Delay, s/veh		29.5			32.7			4.6			15.8	
Approach LOS		C			C			A			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	40.8	10.0	21.2	10.7	38.1	15.0	16.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.1	25.5	6.5	24.9	9.5	21.1	12.9	18.5
Max Q Clear Time (g_c+I1), s	13.3	3.0	6.0	13.0	6.2	9.3	10.4	10.0
Green Ext Time (p_c), s	0.0	2.8	0.0	3.4	0.1	2.9	0.2	1.7

Intersection Summary	
HCM 6th Ctrl Delay	21.1
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	24	30	30	28	58	18	494	29	30	637	19
Future Volume (veh/h)	4	24	30	30	28	58	18	494	29	30	637	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	4	27	33	33	31	64	20	549	32	33	708	21
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	53	84	95	89	54	87	667	2824	1134	719	2824	1134
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.78	0.78	0.78	1.00	1.00	1.00
Sat Flow, veh/h	45	800	899	311	515	826	738	3610	1449	847	3610	1449
Grp Volume(v), veh/h	64	0	0	128	0	0	20	549	32	33	708	21
Grp Sat Flow(s),veh/h/ln	1743	0	0	1652	0	0	738	1805	1449	847	1805	1449
Q Serve(g_s), s	0.0	0.0	0.0	3.2	0.0	0.0	0.5	3.1	0.4	0.2	0.0	0.0
Cycle Q Clear(g_c), s	2.7	0.0	0.0	5.9	0.0	0.0	0.5	3.1	0.4	3.3	0.0	0.0
Prop In Lane	0.06		0.52	0.26		0.50	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	231	0	0	231	0	0	667	2824	1134	719	2824	1134
V/C Ratio(X)	0.28	0.00	0.00	0.56	0.00	0.00	0.03	0.19	0.03	0.05	0.25	0.02
Avail Cap(c_a), veh/h	636	0	0	611	0	0	667	2824	1134	719	2824	1134
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.71	0.71	0.71	0.93	0.93	0.93
Uniform Delay (d), s/veh	33.2	0.0	0.0	34.6	0.0	0.0	1.9	2.2	1.9	0.1	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.0	2.1	0.0	0.0	0.1	0.1	0.0	0.1	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.0	2.5	0.0	0.0	0.1	0.7	0.1	0.0	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.9	0.0	0.0	36.7	0.0	0.0	2.0	2.3	2.0	0.2	0.2	0.0
LnGrp LOS	C	A	A	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		64			128			601			762	
Approach Delay, s/veh		33.9			36.7			2.3			0.2	
Approach LOS		C			D			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		67.1		12.9		67.1		12.9				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		43.5		27.5		43.5		27.5				
Max Q Clear Time (g_c+I1), s		5.1		4.7		5.3		7.9				
Green Ext Time (p_c), s		4.5		0.3		6.0		0.6				

Intersection Summary			
HCM 6th Ctrl Delay			5.4
HCM 6th LOS			A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	789	137	110	815	144	187	388	130	204	320	139
Future Volume (veh/h)	90	789	137	110	815	144	187	388	130	204	320	139
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1000	1000	1900	1000	1000	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	98	858	149	120	886	157	203	422	141	222	348	151
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
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	119	906	156	143	934	165	233	722	290	243	742	298
Arrive On Green	0.07	0.39	0.39	0.03	0.13	0.13	0.13	0.20	0.20	0.13	0.21	0.21
Sat Flow, veh/h	1810	2343	405	1810	2334	412	1810	3610	1449	1810	3610	1449
Grp Volume(v), veh/h	98	666	341	120	690	353	203	422	141	222	348	151
Grp Sat Flow(s),veh/h/ln	1810	910	927	1810	910	926	1810	1805	1449	1810	1805	1449
Q Serve(g_s), s	4.8	31.8	32.2	5.9	33.8	34.1	9.9	9.5	7.8	10.9	7.6	8.3
Cycle Q Clear(g_c), s	4.8	31.8	32.2	5.9	33.8	34.1	9.9	9.5	7.8	10.9	7.6	8.3
Prop In Lane	1.00		0.44	1.00		0.44	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	119	704	359	143	728	370	233	722	290	243	742	298
V/C Ratio(X)	0.83	0.95	0.95	0.84	0.95	0.95	0.87	0.58	0.49	0.91	0.47	0.51
Avail Cap(c_a), veh/h	119	704	359	143	728	370	233	722	290	243	742	298
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.59	0.59	0.59	1.00	1.00	1.00	0.98	0.98	0.98
Uniform Delay (d), s/veh	41.5	26.7	26.8	43.3	38.1	38.2	38.5	32.6	31.9	38.4	31.4	31.7
Incr Delay (d2), s/veh	35.9	23.0	36.9	22.4	15.8	26.1	27.9	3.4	5.7	34.7	2.1	5.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	8.8	10.4	3.6	9.8	11.1	6.1	4.4	3.1	7.1	3.5	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.5	49.7	63.7	65.7	53.9	64.4	66.4	36.1	37.6	73.1	33.5	37.6
LnGrp LOS	E	D	E	E	D	E	E	D	D	E	C	D
Approach Vol, veh/h		1105			1163			766			721	
Approach Delay, s/veh		56.5			58.3			44.4			46.6	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.6	39.3	16.1	23.0	10.4	40.5	16.6	22.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.1	34.8	11.6	18.5	5.9	36.0	12.1	18.0
Max Q Clear Time (g_c+I1), s	7.9	34.2	11.9	10.3	6.8	36.1	12.9	11.5
Green Ext Time (p_c), s	0.0	0.4	0.0	1.8	0.0	0.0	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	52.7
HCM 6th LOS	D

Intersection	
Intersection Delay, s/veh	27
Intersection LOS	D

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	392	152	121	330	367	282
Future Vol, veh/h	392	152	121	330	367	282
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	451	175	139	379	422	324
Number of Lanes	1	2	2	1	1	2

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	3	3	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	3	0	3
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	3	3
HCM Control Delay	22.6	18.5	36.5
HCM LOS	C	C	E

Lane	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	79%	0%	0%	0%	0%	100%	0%	0%
Vol Thru, %	0%	21%	100%	100%	100%	0%	0%	0%	0%
Vol Right, %	0%	0%	0%	0%	0%	100%	0%	100%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	196	247	101	61	61	330	367	141	141
LT Vol	196	196	0	0	0	0	367	0	0
Through Vol	0	51	101	61	61	0	0	0	0
RT Vol	0	0	0	0	0	330	0	141	141
Lane Flow Rate	225	284	116	70	70	379	422	162	162
Geometry Grp	8	8	8	8	8	8	7	7	7
Degree of Util (X)	0.547	0.68	0.21	0.168	0.168	0.658	0.935	0.305	0.227
Departure Headway (Hd)	8.739	8.634	6.476	8.722	8.722	6.247	7.98	6.768	5.051
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	412	417	551	410	410	577	456	530	708
Service Time	6.515	6.409	4.25	6.501	6.501	4.026	5.736	4.523	2.805
HCM Lane V/C Ratio	0.546	0.681	0.211	0.171	0.171	0.657	0.925	0.306	0.229
HCM Control Delay	21.7	28	11	13.3	13.3	20.4	56.1	12.5	9.3
HCM Lane LOS	C	D	B	B	B	C	F	B	A
HCM 95th-tile Q	3.2	4.9	0.8	0.6	0.6	4.8	10.8	1.3	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	355	59	117	295	302	33	542	156	211	501	217
Future Volume (veh/h)	170	355	59	117	295	302	33	542	156	211	501	217
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	187	390	65	129	324	332	36	596	171	232	551	238
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	228	630	253	163	501	201	62	727	208	449	1169	504
Arrive On Green	0.04	0.06	0.06	0.09	0.14	0.14	0.03	0.26	0.26	0.25	0.48	0.48
Sat Flow, veh/h	1810	3610	1449	1810	3610	1449	1810	2769	793	1810	2456	1058
Grp Volume(v), veh/h	187	390	65	129	324	332	36	388	379	232	405	384
Grp Sat Flow(s),veh/h/ln	1810	1805	1449	1810	1805	1449	1810	1805	1757	1810	1805	1710
Q Serve(g_s), s	8.2	8.4	3.4	5.6	6.8	6.5	1.6	16.2	16.2	8.8	12.1	12.2
Cycle Q Clear(g_c), s	8.2	8.4	3.4	5.6	6.8	6.5	1.6	16.2	16.2	8.8	12.1	12.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.45	1.00		0.62
Lane Grp Cap(c), veh/h	228	630	253	163	501	201	62	474	461	449	859	814
V/C Ratio(X)	0.82	0.62	0.26	0.79	0.65	1.65	0.58	0.82	0.82	0.52	0.47	0.47
Avail Cap(c_a), veh/h	238	884	355	201	812	326	115	474	461	449	859	814
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.5	35.1	32.7	35.7	32.6	11.6	38.1	27.7	27.7	25.9	14.2	14.2
Incr Delay (d2), s/veh	17.9	0.9	0.5	15.8	1.4	314.0	8.2	14.6	15.1	1.0	1.8	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	4.0	1.2	3.1	3.0	21.1	0.8	8.6	8.5	3.8	5.0	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.3	36.0	33.2	51.5	34.0	325.6	46.3	42.3	42.9	27.0	16.0	16.1
LnGrp LOS	E	D	C	D	C	F	D	D	D	C	B	B
Approach Vol, veh/h		642			785			803			1021	
Approach Delay, s/veh		41.3			160.2			42.7			18.5	
Approach LOS		D			F			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.3	25.5	11.7	18.5	7.3	42.6	14.6	15.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	12.5	21.0	8.9	19.6	5.1	28.4	10.5	18.0
Max Q Clear Time (g_c+I1), s	10.8	18.2	7.6	10.4	3.6	14.2	10.2	8.8
Green Ext Time (p_c), s	0.1	1.3	0.0	1.8	0.0	4.4	0.0	2.3

Intersection Summary	
HCM 6th Ctrl Delay	63.2
HCM 6th LOS	E

Intersection	
Intersection Delay, s/veh	12.1
Intersection LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	316	179	27	290	159	19
Future Vol, veh/h	316	179	27	290	159	19
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	351	199	30	322	177	21
Number of Lanes	1	1	0	2	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	2
HCM Control Delay	12.8	11	12
HCM LOS	B	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2
Vol Left, %	89%	0%	0%	22%	0%
Vol Thru, %	0%	100%	0%	78%	100%
Vol Right, %	11%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	178	316	179	124	193
LT Vol	159	0	0	27	0
Through Vol	0	316	0	97	193
RT Vol	19	0	179	0	0
Lane Flow Rate	198	351	199	137	215
Geometry Grp	2	7	7	7	7
Degree of Util (X)	0.33	0.544	0.269	0.225	0.344
Departure Headway (Hd)	5.998	5.581	4.873	5.882	5.772
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	601	646	738	611	623
Service Time	4.027	3.306	2.598	3.612	3.501
HCM Lane V/C Ratio	0.329	0.543	0.27	0.224	0.345
HCM Control Delay	12	14.8	9.4	10.3	11.5
HCM Lane LOS	B	B	A	B	B
HCM 95th-tile Q	1.4	3.3	1.1	0.9	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	966	65	23	948	156	37	48	37	181	40	10
Future Volume (veh/h)	26	966	65	23	948	156	37	48	37	181	40	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1000	1000	1900	1000	1000	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	27	996	67	24	977	161	38	49	38	187	41	10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	178	1524	102	395	1378	226	187	238	163	429	89	20
Arrive On Green	1.00	1.00	1.00	0.19	0.19	0.19	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	502	2613	175	539	2362	388	426	750	514	1129	282	62
Grp Volume(v), veh/h	27	693	370	24	752	386	125	0	0	238	0	0
Grp Sat Flow(s),veh/h/ln	502	910	968	539	910	930	1690	0	0	1473	0	0
Q Serve(g_s), s	3.5	0.0	0.0	3.3	34.8	34.9	0.0	0.0	0.0	6.4	0.0	0.0
Cycle Q Clear(g_c), s	38.5	0.0	0.0	3.3	34.8	34.9	4.6	0.0	0.0	11.0	0.0	0.0
Prop In Lane	1.00		0.18	1.00		0.42	0.30		0.30	0.79		0.04
Lane Grp Cap(c), veh/h	178	1062	565	395	1062	543	587	0	0	538	0	0
V/C Ratio(X)	0.15	0.65	0.65	0.06	0.71	0.71	0.21	0.00	0.00	0.44	0.00	0.00
Avail Cap(c_a), veh/h	178	1062	565	395	1062	543	587	0	0	538	0	0
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.30	0.30	0.30	0.77	0.77	0.77	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.8	0.0	0.0	16.5	29.2	29.2	22.6	0.0	0.0	24.5	0.0	0.0
Incr Delay (d2), s/veh	0.5	1.0	1.8	0.2	3.1	6.0	0.8	0.0	0.0	2.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.1	0.3	0.4	8.8	9.5	2.0	0.0	0.0	4.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.3	1.0	1.8	16.7	32.3	35.2	23.4	0.0	0.0	27.2	0.0	0.0
LnGrp LOS	B	A	A	B	C	D	C	A	A	C	A	A
Approach Vol, veh/h		1090			1162			125			238	
Approach Delay, s/veh		1.5			32.9			23.4			27.2	
Approach LOS		A			C			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		57.0		33.0		57.0		33.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		52.5		28.5		52.5		28.5				
Max Q Clear Time (g_c+I1), s		40.5		13.0		36.9		6.6				
Green Ext Time (p_c), s		5.7		1.2		7.2		0.6				

Intersection Summary			
HCM 6th Ctrl Delay			18.9
HCM 6th LOS			B

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	2	0	2	8	0	8	2	23	19	0	34	3
Future Vol, veh/h	2	0	2	8	0	8	2	23	19	0	34	3
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	2	0	2	10	0	10	2	28	23	0	41	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	6.9	7	7	7.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	50%	50%	0%
Vol Thru, %	52%	0%	0%	92%
Vol Right, %	43%	50%	50%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	44	4	16	37
LT Vol	2	2	8	0
Through Vol	23	0	0	34
RT Vol	19	2	8	3
Lane Flow Rate	53	5	19	45
Geometry Grp	1	1	1	1
Degree of Util (X)	0.055	0.005	0.021	0.049
Departure Headway (Hd)	3.725	3.884	3.872	3.932
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	963	918	922	912
Service Time	1.742	1.92	1.906	1.949
HCM Lane V/C Ratio	0.055	0.005	0.021	0.049
HCM Control Delay	7	6.9	7	7.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0	0.1	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	1047	100	41	983	12	79	5	75	11	6	50
Future Volume (veh/h)	40	1047	100	41	983	12	79	5	75	11	6	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1000	1000	1900	1000	1000	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	42	1102	105	43	1035	13	83	5	79	12	6	53
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	442	1676	160	391	1837	23	222	30	173	85	59	288
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	547	2535	241	470	2779	35	677	128	722	161	248	1205
Grp Volume(v), veh/h	42	791	416	43	678	370	167	0	0	71	0	0
Grp Sat Flow(s),veh/h/ln	547	910	957	470	910	994	1527	0	0	1615	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	8.0	0.0	0.0	3.0	0.0	0.0
Prop In Lane	1.00		0.25	1.00		0.04	0.50		0.47	0.17		0.75
Lane Grp Cap(c), veh/h	442	1203	632	391	1203	657	425	0	0	433	0	0
V/C Ratio(X)	0.10	0.66	0.66	0.11	0.56	0.56	0.39	0.00	0.00	0.16	0.00	0.00
Avail Cap(c_a), veh/h	442	1203	632	391	1203	657	425	0	0	433	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.66	0.66	0.66	0.80	0.80	0.80	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	29.0	0.0	0.0	27.2	0.0	0.0
Incr Delay (d2), s/veh	0.3	1.9	3.5	0.5	1.5	2.8	2.7	0.0	0.0	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.6	0.0	0.3	0.5	3.3	0.0	0.0	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.3	1.9	3.5	0.5	1.5	2.8	31.7	0.0	0.0	28.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		1249			1091			167			71	
Approach Delay, s/veh		2.4			1.9			31.7			28.0	
Approach LOS		A			A			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	64.0	26.0	64.0	26.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	59.5	21.5	59.5	21.5
Max Q Clear Time (g_c+I1), s	2.0	5.0	2.0	10.0
Green Ext Time (p_c), s	12.3	0.3	10.1	0.7

Intersection Summary	
HCM 6th Ctrl Delay	4.8
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	6	5	17	15	8	4	3	7	5	5	0
Future Vol, veh/h	3	6	5	17	15	8	4	3	7	5	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	64	64	64	64	64	64	64	64	64	64	64	64
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	9	8	27	23	13	6	5	11	8	8	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	36	0	0	17	0	0	111	113	13	115	111	30
Stage 1	-	-	-	-	-	-	23	23	-	84	84	-
Stage 2	-	-	-	-	-	-	88	90	-	31	27	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1588	-	-	1613	-	-	872	781	1073	867	783	1050
Stage 1	-	-	-	-	-	-	1000	880	-	929	829	-
Stage 2	-	-	-	-	-	-	925	824	-	991	877	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1588	-	-	1613	-	-	852	765	1073	841	767	1050
Mov Cap-2 Maneuver	-	-	-	-	-	-	852	765	-	841	767	-
Stage 1	-	-	-	-	-	-	997	877	-	926	815	-
Stage 2	-	-	-	-	-	-	901	810	-	973	874	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.6	3.1	9	9.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	925	1588	-	-	1613	-	-	802
HCM Lane V/C Ratio	0.024	0.003	-	-	0.016	-	-	0.019
HCM Control Delay (s)	9	7.3	0	-	7.3	0	-	9.6
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0.1

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	1	5	6	7	1	1	10	27	13	1	39	1
Future Vol, veh/h	1	5	6	7	1	1	10	27	13	1	39	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	5	6	7	1	1	11	29	14	1	41	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	6.9	7.3	7.1	7.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	8%	78%	2%
Vol Thru, %	54%	42%	11%	95%
Vol Right, %	26%	50%	11%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	50	12	9	41
LT Vol	10	1	7	1
Through Vol	27	5	1	39
RT Vol	13	6	1	1
Lane Flow Rate	53	13	10	44
Geometry Grp	1	1	1	1
Degree of Util (X)	0.057	0.013	0.011	0.048
Departure Headway (Hd)	3.856	3.791	4.166	3.969
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	931	940	856	904
Service Time	1.871	1.83	2.204	1.985
HCM Lane V/C Ratio	0.057	0.014	0.012	0.049
HCM Control Delay	7.1	6.9	7.3	7.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0	0	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	1034	64	22	947	26	55	13	40	28	11	26
Future Volume (veh/h)	29	1034	64	22	947	26	55	13	40	28	11	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1000	1000	1900	1000	1000	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	30	1077	67	23	986	27	57	14	42	29	11	27
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	355	1766	110	416	1836	50	219	64	132	193	82	147
Arrive On Green	1.00	1.00	1.00	0.67	0.67	0.67	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	565	2627	163	499	2732	75	699	279	578	595	361	645
Grp Volume(v), veh/h	30	746	398	23	657	356	113	0	0	67	0	0
Grp Sat Flow(s),veh/h/ln	565	910	971	499	910	987	1556	0	0	1601	0	0
Q Serve(g_s), s	1.4	0.0	0.0	1.4	16.7	16.7	2.3	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	18.1	0.0	0.0	1.4	16.7	16.7	5.0	0.0	0.0	2.7	0.0	0.0
Prop In Lane	1.00		0.17	1.00		0.08	0.50		0.37	0.43		0.40
Lane Grp Cap(c), veh/h	355	1223	652	416	1223	663	415	0	0	422	0	0
V/C Ratio(X)	0.08	0.61	0.61	0.06	0.54	0.54	0.27	0.00	0.00	0.16	0.00	0.00
Avail Cap(c_a), veh/h	355	1223	652	416	1223	663	415	0	0	422	0	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.66	0.66	0.66	0.81	0.81	0.81	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	2.5	0.0	0.0	5.1	7.6	7.6	28.7	0.0	0.0	27.9	0.0	0.0
Incr Delay (d2), s/veh	0.3	1.5	2.8	0.2	1.4	2.5	1.6	0.0	0.0	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.3	0.5	0.2	3.0	3.4	2.2	0.0	0.0	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	2.8	1.5	2.8	5.3	8.9	10.1	30.3	0.0	0.0	28.7	0.0	0.0
LnGrp LOS	A	A	A	A	A	B	C	A	A	C	A	A
Approach Vol, veh/h		1174			1036			113			67	
Approach Delay, s/veh		2.0			9.3			30.3			28.7	
Approach LOS		A			A			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	65.0	25.0	65.0	25.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	60.5	20.5	60.5	20.5
Max Q Clear Time (g_c+I1), s	20.1	4.7	18.7	7.0
Green Ext Time (p_c), s	10.5	0.2	8.8	0.4

Intersection Summary	
HCM 6th Ctrl Delay	7.2
HCM 6th LOS	A

Intersection						
Int Delay, s/veh	6.7					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	117	94	60	82	157	101
Future Vol, veh/h	117	94	60	82	157	101
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	126	101	65	88	169	109

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	227	0	395	177
Stage 1	-	-	-	-	177	-
Stage 2	-	-	-	-	218	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1353	-	614	871
Stage 1	-	-	-	-	859	-
Stage 2	-	-	-	-	823	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1353	-	583	871
Mov Cap-2 Maneuver	-	-	-	-	583	-
Stage 1	-	-	-	-	859	-
Stage 2	-	-	-	-	781	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.3	14.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	670	-	-	1353	-
HCM Lane V/C Ratio	0.414	-	-	0.048	-
HCM Control Delay (s)	14.1	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	2	-	-	0.1	-

Intersection	
Int Delay, s/veh	9.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	24	34	3	264	21	16	11	137	21	1
Future Vol, veh/h	0	0	24	34	3	264	21	16	11	137	21	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	32	45	4	352	28	21	15	183	28	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	658	487	29	496	480	29	29	0	0	36	0	0
Stage 1	395	395	-	85	85	-	-	-	-	-	-	-
Stage 2	263	92	-	411	395	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	380	484	1052	487	488	1052	1597	-	-	1588	-	-
Stage 1	634	608	-	928	828	-	-	-	-	-	-	-
Stage 2	747	823	-	622	608	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	225	420	1052	424	423	1052	1597	-	-	1588	-	-
Mov Cap-2 Maneuver	225	420	-	424	423	-	-	-	-	-	-	-
Stage 1	623	537	-	911	813	-	-	-	-	-	-	-
Stage 2	486	808	-	533	537	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.5	12.3	3.2	6.5
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1597	-	-	1052	890	1588	-	-
HCM Lane V/C Ratio	0.018	-	-	0.03	0.451	0.115	-	-
HCM Control Delay (s)	7.3	0	-	8.5	12.3	7.6	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	2.4	0.4	-	-

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	4	18	20	24	47	7	12	36	21	2	66	16
Future Vol, veh/h	4	18	20	24	47	7	12	36	21	2	66	16
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	21	23	28	54	8	14	41	24	2	76	18
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	7.9	7.6	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	10%	31%	2%
Vol Thru, %	52%	43%	60%	79%
Vol Right, %	30%	48%	9%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	69	42	78	84
LT Vol	12	4	24	2
Through Vol	36	18	47	66
RT Vol	21	20	7	16
Lane Flow Rate	79	48	90	97
Geometry Grp	1	1	1	1
Degree of Util (X)	0.09	0.055	0.106	0.11
Departure Headway (Hd)	4.067	4.116	4.248	4.091
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	866	875	830	862
Service Time	2.163	2.116	2.344	2.183
HCM Lane V/C Ratio	0.091	0.055	0.108	0.113
HCM Control Delay	7.6	7.4	7.9	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.2	0.4	0.4

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	3	2	13	0	0	5	91	12	1	137	1
Future Vol, veh/h	5	3	2	13	0	0	5	91	12	1	137	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	3	2	14	0	0	5	100	13	1	151	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	271	277	152	273	271	107	152	0	0	113	0	0
Stage 1	154	154	-	117	117	-	-	-	-	-	-	-
Stage 2	117	123	-	156	154	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	686	634	900	684	639	953	1441	-	-	1489	-	-
Stage 1	853	774	-	892	803	-	-	-	-	-	-	-
Stage 2	892	798	-	851	774	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	683	631	900	677	636	953	1441	-	-	1489	-	-
Mov Cap-2 Maneuver	683	631	-	677	636	-	-	-	-	-	-	-
Stage 1	850	773	-	888	800	-	-	-	-	-	-	-
Stage 2	888	795	-	844	773	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.2	10.4	0.3	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1441	-	-	699	677	1489	-	-
HCM Lane V/C Ratio	0.004	-	-	0.016	0.021	0.001	-	-
HCM Control Delay (s)	7.5	0	-	10.2	10.4	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	961	76	22	877	31	62	13	18	85	17	75
Future Volume (veh/h)	72	961	76	22	877	31	62	13	18	85	17	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1000	1000	1900	1000	1000	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	75	1001	79	23	914	32	65	14	19	89	18	78
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	471	1677	132	239	1760	62	292	65	70	229	59	167
Arrive On Green	0.21	0.21	0.21	1.00	1.00	1.00	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	602	2580	203	531	2708	95	902	261	280	680	235	667
Grp Volume(v), veh/h	75	706	374	23	614	332	98	0	0	185	0	0
Grp Sat Flow(s),veh/h/ln	602	910	963	531	910	983	1443	0	0	1583	0	0
Q Serve(g_s), s	9.2	31.4	31.5	2.3	0.0	0.0	0.0	0.0	0.0	3.6	0.0	0.0
Cycle Q Clear(g_c), s	9.2	31.4	31.5	33.8	0.0	0.0	4.7	0.0	0.0	8.3	0.0	0.0
Prop In Lane	1.00		0.21	1.00		0.10	0.66		0.19	0.48		0.42
Lane Grp Cap(c), veh/h	471	1183	626	239	1183	639	427	0	0	455	0	0
V/C Ratio(X)	0.16	0.60	0.60	0.10	0.52	0.52	0.23	0.00	0.00	0.41	0.00	0.00
Avail Cap(c_a), veh/h	471	1183	626	239	1183	639	427	0	0	455	0	0
HCM Platoon Ratio	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.72	0.72	0.72	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.0	24.7	24.7	9.1	0.0	0.0	27.0	0.0	0.0	28.3	0.0	0.0
Incr Delay (d2), s/veh	0.5	1.6	3.0	0.8	1.6	3.0	1.3	0.0	0.0	2.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	7.8	8.5	0.3	0.3	0.5	1.8	0.0	0.0	3.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.5	26.3	27.8	9.9	1.6	3.0	28.2	0.0	0.0	31.0	0.0	0.0
LnGrp LOS	B	C	C	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		1155			969			98			185	
Approach Delay, s/veh		26.2			2.3			28.2			31.0	
Approach LOS		C			A			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		63.0		27.0		63.0		27.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		58.5		22.5		58.5		22.5				
Max Q Clear Time (g_c+I1), s		33.5		10.3		35.8		6.7				
Green Ext Time (p_c), s		9.0		0.8		6.9		0.4				
Intersection Summary												
HCM 6th Ctrl Delay			17.0									
HCM 6th LOS			B									

Intersection						
Int Delay, s/veh	49.3					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	33	964	886	412	242	31
Future Vol, veh/h	33	964	886	412	242	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	45	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	34	984	904	420	247	32

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1324	0	-	0	1576	662
Stage 1	-	-	-	-	1114	-
Stage 2	-	-	-	-	462	-
Critical Hdwy	5.3	-	-	-	5.7	7.1
Critical Hdwy Stg 1	-	-	-	-	6.6	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	3.1	-	-	-	3.8	3.9
Pot Cap-1 Maneuver	277	-	-	-	~ 160	350
Stage 1	-	-	-	-	~ 209	-
Stage 2	-	-	-	-	554	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	277	-	-	-	~ 140	350
Mov Cap-2 Maneuver	-	-	-	-	~ 140	-
Stage 1	-	-	-	-	~ 183	-
Stage 2	-	-	-	-	554	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	$ 461.1
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	277	-	-	-	150
HCM Lane V/C Ratio	0.122	-	-	-	1.857
HCM Control Delay (s)	19.8	-	-	-	$ 461.1
HCM Lane LOS	C	-	-	-	F
HCM 95th %tile Q(veh)	0.4	-	-	-	21

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	13	10	2	54	32	4	0	4	11	0	15
Future Vol, veh/h	11	13	10	2	54	32	4	0	4	11	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	12	14	11	2	59	35	4	0	4	12	0	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	94	0	0	25	0	0	133	142	20	127	130	77
Stage 1	-	-	-	-	-	-	44	44	-	81	81	-
Stage 2	-	-	-	-	-	-	89	98	-	46	49	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1513	-	-	1603	-	-	844	753	1064	851	764	990
Stage 1	-	-	-	-	-	-	975	862	-	932	832	-
Stage 2	-	-	-	-	-	-	923	818	-	973	858	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1513	-	-	1603	-	-	825	746	1064	842	757	990
Mov Cap-2 Maneuver	-	-	-	-	-	-	825	746	-	842	757	-
Stage 1	-	-	-	-	-	-	967	855	-	925	831	-
Stage 2	-	-	-	-	-	-	907	817	-	961	851	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.4	0.2	8.9	9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	929	1513	-	-	1603	-	-	921
HCM Lane V/C Ratio	0.009	0.008	-	-	0.001	-	-	0.031
HCM Control Delay (s)	8.9	7.4	0	-	7.2	0	-	9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	13.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	35	1165	16	72	1249	81	4	0	128	43	0	28
Future Vol, veh/h	35	1165	16	72	1249	81	4	0	128	43	0	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	45	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	36	1189	16	73	1274	83	4	0	131	44	0	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1357	0	0	1205	0	0	1925	2772	603	2010	2739	679
Stage 1	-	-	-	-	-	-	1269	1269	-	1462	1462	-
Stage 2	-	-	-	-	-	-	656	1503	-	548	1277	-
Critical Hdwy	5.3	-	-	5.3	-	-	6.4	6.5	7.1	6.4	6.5	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	7.3	5.5	-	7.3	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.5	-	6.7	5.5	-
Follow-up Hdwy	3.1	-	-	3.1	-	-	3.8	4	3.9	3.8	4	3.9
Pot Cap-1 Maneuver	267	-	-	317	-	-	72	19	383	64	20	342
Stage 1	-	-	-	-	-	-	131	242	-	96	195	-
Stage 2	-	-	-	-	-	-	387	186	-	450	239	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	267	-	-	317	-	-	49	13	383	~ 31	13	342
Mov Cap-2 Maneuver	-	-	-	-	-	-	49	13	-	~ 31	13	-
Stage 1	-	-	-	-	-	-	113	209	-	83	150	-
Stage 2	-	-	-	-	-	-	273	143	-	257	207	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	1	24.5	$ 447.7
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	317	267	-	-	317	-	-	48
HCM Lane V/C Ratio	0.425	0.134	-	-	0.232	-	-	1.509
HCM Control Delay (s)	24.5	20.6	-	-	19.7	-	-	$ 447.7
HCM Lane LOS	C	C	-	-	C	-	-	F
HCM 95th %tile Q(veh)	2	0.5	-	-	0.9	-	-	7

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection						
Int Delay, s/veh	1.2					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	19	78	359	265	1
Future Vol, veh/h	2	19	78	359	265	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	21	86	395	291	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	859	292	292	0	-	0
Stage 1	292	-	-	-	-	-
Stage 2	567	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	329	752	1281	-	-	-
Stage 1	762	-	-	-	-	-
Stage 2	572	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	301	752	1281	-	-	-
Mov Cap-2 Maneuver	301	-	-	-	-	-
Stage 1	696	-	-	-	-	-
Stage 2	572	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.7	1.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1281	-	658	-	-
HCM Lane V/C Ratio	0.067	-	0.035	-	-
HCM Control Delay (s)	8	0	10.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.1	-	-

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	464	23	2	368	10
Future Volume (veh/h)	0	464	23	2	368	10
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	521	26	2	413	11
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	339	604	1066	80	807	3695
Arrive On Green	0.00	0.19	0.22	0.22	0.45	0.71
Sat Flow, veh/h	1810	3220	5093	370	1810	5358
Grp Volume(v), veh/h	0	521	18	10	413	11
Grp Sat Flow(s),veh/h/ln	1810	1610	1729	1833	1810	1729
Q Serve(g_s), s	0.0	14.1	0.4	0.4	14.8	0.1
Cycle Q Clear(g_c), s	0.0	14.1	0.4	0.4	14.8	0.1
Prop In Lane	1.00	1.00		0.20	1.00	
Lane Grp Cap(c), veh/h	339	604	749	397	807	3695
V/C Ratio(X)	0.00	0.86	0.02	0.02	0.51	0.00
Avail Cap(c_a), veh/h	392	698	749	397	807	3695
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.72	0.72	1.00	1.00
Uniform Delay (d), s/veh	0.0	35.4	27.8	27.8	17.9	3.7
Incr Delay (d2), s/veh	0.0	9.7	0.0	0.1	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.2	0.2	0.2	6.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	45.2	27.8	27.8	18.5	3.7
LnGrp LOS	A	D	C	C	B	A
Approach Vol, veh/h	521		28			424
Approach Delay, s/veh	45.2		27.8			18.1
Approach LOS	D		C			B

Timer - Assigned Phs	1	2	6	8
Phs Duration (G+Y+Rc), s	44.6	24.0	68.6	21.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	37.5	19.5	61.5	19.5
Max Q Clear Time (g_c+I1), s	16.8	2.4	2.1	16.1
Green Ext Time (p_c), s	1.3	0.1	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	32.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	175	458	922	229	359	811
Future Volume (veh/h)	175	458	922	229	359	811
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	182	477	960	239	374	845
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	432	385	1266	314	553	3429
Arrive On Green	0.24	0.24	0.31	0.31	0.31	0.66
Sat Flow, veh/h	1810	1610	4315	1029	1810	5358
Grp Volume(v), veh/h	182	477	801	398	374	845
Grp Sat Flow(s),veh/h/ln	1810	1610	1729	1715	1810	1729
Q Serve(g_s), s	7.7	21.5	18.8	18.9	16.3	5.9
Cycle Q Clear(g_c), s	7.7	21.5	18.8	18.9	16.3	5.9
Prop In Lane	1.00	1.00		0.60	1.00	
Lane Grp Cap(c), veh/h	432	385	1057	524	553	3429
V/C Ratio(X)	0.42	1.24	0.76	0.76	0.68	0.25
Avail Cap(c_a), veh/h	432	385	1057	524	553	3429
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.54	0.54	1.00	1.00	0.99	0.99
Uniform Delay (d), s/veh	29.0	34.2	28.2	28.3	27.4	6.2
Incr Delay (d2), s/veh	0.4	119.8	5.1	10.0	3.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	21.0	8.3	9.0	7.3	1.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	29.3	154.1	33.3	38.2	30.6	6.3
LnGrp LOS	C	F	C	D	C	A
Approach Vol, veh/h	659		1199			1219
Approach Delay, s/veh	119.6		35.0			13.8
Approach LOS	F		C			B

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	32.0	32.0				64.0		26.0
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	27.5	27.5				59.5		21.5
Max Q Clear Time (g_c+I1), s	18.3	20.9				7.9		23.5
Green Ext Time (p_c), s	0.8	4.0				7.3		0.0

Intersection Summary		
HCM 6th Ctrl Delay		44.7
HCM 6th LOS		D

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	263	982	1050	374	306	279
Future Volume (veh/h)	263	982	1050	374	306	279
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	274	1023	1094	390	319	291
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	307	2306	1580	563	472	420
Arrive On Green	0.34	1.00	0.42	0.42	0.26	0.26
Sat Flow, veh/h	1810	3705	3943	1344	1810	1610
Grp Volume(v), veh/h	274	1023	1003	481	319	291
Grp Sat Flow(s),veh/h/ln	1810	1805	1729	1658	1810	1610
Q Serve(g_s), s	12.9	0.0	21.4	21.4	14.2	14.7
Cycle Q Clear(g_c), s	12.9	0.0	21.4	21.4	14.2	14.7
Prop In Lane	1.00			0.81	1.00	1.00
Lane Grp Cap(c), veh/h	307	2306	1449	695	472	420
V/C Ratio(X)	0.89	0.44	0.69	0.69	0.68	0.69
Avail Cap(c_a), veh/h	412	2306	1449	695	472	420
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.68	0.68
Uniform Delay (d), s/veh	28.9	0.0	21.4	21.4	29.8	30.0
Incr Delay (d2), s/veh	16.9	0.6	2.7	5.6	5.2	6.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	0.2	8.8	9.0	6.7	13.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	45.9	0.6	24.1	27.0	35.0	36.2
LnGrp LOS	D	A	C	C	D	D
Approach Vol, veh/h		1297	1484		610	
Approach Delay, s/veh		10.2	25.1		35.6	
Approach LOS		B	C		D	

Timer - Assigned Phs	2	4	5	6
Phs Duration (G+Y+Rc), s	62.0	28.0	19.8	42.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	57.5	23.5	20.5	32.5
Max Q Clear Time (g_c+I1), s	2.0	16.7	14.9	23.4
Green Ext Time (p_c), s	9.8	1.3	0.4	6.2

Intersection Summary	
HCM 6th Ctrl Delay	21.3
HCM 6th LOS	C

SYNCHRO LOS WORKSHEETS – EXISTING PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	203	627	236	106	538	147	146	463	77	132	493	168
Future Volume (veh/h)	203	627	236	106	538	147	146	463	77	132	493	168
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	211	653	246	110	560	153	152	482	80	138	514	175
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	343	1164	467	212	902	362	189	866	348	173	835	335
Arrive On Green	0.19	0.32	0.32	0.12	0.25	0.25	0.10	0.24	0.24	0.10	0.23	0.23
Sat Flow, veh/h	1810	3610	1449	1810	3610	1449	1810	3610	1449	1810	3610	1449
Grp Volume(v), veh/h	211	653	246	110	560	153	152	482	80	138	514	175
Grp Sat Flow(s),veh/h/ln	1810	1805	1449	1810	1805	1449	1810	1805	1449	1810	1805	1449
Q Serve(g_s), s	8.6	12.0	7.5	4.6	11.0	7.1	6.6	9.4	3.6	6.0	10.2	5.1
Cycle Q Clear(g_c), s	8.6	12.0	7.5	4.6	11.0	7.1	6.6	9.4	3.6	6.0	10.2	5.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	343	1164	467	212	903	362	189	866	348	173	835	335
V/C Ratio(X)	0.62	0.56	0.53	0.52	0.62	0.42	0.81	0.56	0.23	0.80	0.62	0.52
Avail Cap(c_a), veh/h	343	1164	467	212	903	362	238	866	348	210	835	335
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.80	0.80	0.80	0.92	0.92	0.92	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.7	22.4	10.2	33.2	26.6	25.2	35.0	26.7	24.5	35.4	27.6	9.9
Incr Delay (d2), s/veh	3.3	2.0	4.2	1.8	2.6	2.9	13.7	2.4	1.4	16.1	3.4	5.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	5.2	2.7	2.1	4.9	2.6	3.5	4.2	1.3	3.3	4.7	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.0	24.4	14.4	35.0	29.2	28.0	48.7	29.0	25.9	51.5	31.0	15.6
LnGrp LOS	C	C	B	D	C	C	D	C	C	D	C	B
Approach Vol, veh/h		1110			823			714			827	
Approach Delay, s/veh		23.8			29.8			32.9			31.2	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.9	30.3	12.8	23.0	19.7	24.5	12.1	23.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	7.7	25.8	10.5	18.0	13.5	20.0	9.3	19.2				
Max Q Clear Time (g_c+I1), s	6.6	14.0	8.6	12.2	10.6	13.0	8.0	11.4				
Green Ext Time (p_c), s	0.0	4.2	0.1	2.0	0.2	2.4	0.0	2.1				
Intersection Summary												
HCM 6th Ctrl Delay			28.8									
HCM 6th LOS			C									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	692	204	126	420	43	159	456	90	52	516	207
Future Volume (veh/h)	210	692	204	126	420	43	159	456	90	52	516	207
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	223	736	217	134	447	46	169	485	96	55	549	220
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	397	914	367	267	769	309	311	1214	487	421	1260	506
Arrive On Green	0.12	0.25	0.25	0.08	0.21	0.21	0.19	0.67	0.67	0.11	0.35	0.35
Sat Flow, veh/h	1810	3610	1449	1810	3610	1449	1810	3610	1449	1810	3610	1449
Grp Volume(v), veh/h	223	736	217	134	447	46	169	485	96	55	549	220
Grp Sat Flow(s),veh/h/ln	1810	1805	1449	1810	1805	1449	1810	1805	1449	1810	1805	1449
Q Serve(g_s), s	7.4	15.3	10.5	4.5	8.9	1.5	5.7	4.8	1.4	0.0	9.3	9.3
Cycle Q Clear(g_c), s	7.4	15.3	10.5	4.5	8.9	1.5	5.7	4.8	1.4	0.0	9.3	9.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	397	914	367	267	769	309	311	1214	487	421	1260	506
V/C Ratio(X)	0.56	0.81	0.59	0.50	0.58	0.15	0.54	0.40	0.20	0.13	0.44	0.43
Avail Cap(c_a), veh/h	421	1060	426	274	880	353	353	1214	487	421	1260	506
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.98	0.98	0.98	0.81	0.81	0.81
Uniform Delay (d), s/veh	20.6	28.0	26.2	22.9	28.3	13.3	20.0	9.5	4.6	22.9	20.0	20.0
Incr Delay (d2), s/veh	1.5	4.0	1.6	1.5	0.7	0.2	1.5	1.0	0.9	0.1	0.9	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	6.9	3.7	2.0	3.8	0.7	2.2	1.7	0.7	0.8	3.9	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.2	32.1	27.9	24.4	29.0	13.5	21.4	10.4	5.5	23.0	20.9	22.2
LnGrp LOS	C	C	C	C	C	B	C	B	A	C	C	C
Approach Vol, veh/h		1176			627			750			824	
Approach Delay, s/veh		29.4			26.9			12.3			21.4	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.1	31.4	10.7	24.8	12.1	32.4	13.9	21.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.1	26.9	6.5	23.5	9.5	22.5	10.5	19.5
Max Q Clear Time (g_c+I1), s	2.0	6.8	6.5	17.3	7.7	11.3	9.4	10.9
Green Ext Time (p_c), s	0.0	3.5	0.0	3.0	0.1	3.4	0.1	2.0

Intersection Summary	
HCM 6th Ctrl Delay	23.2
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	27	27	23	17	34	26	659	31	28	783	22
Future Volume (veh/h)	15	27	27	23	17	34	26	659	31	28	783	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	17	30	30	26	19	38	29	732	34	31	870	24
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	75	57	49	90	36	56	606	2945	1182	638	2945	1182
Arrive On Green	0.07	0.07	0.07	0.07	0.07	0.07	0.82	0.82	0.82	1.00	1.00	1.00
Sat Flow, veh/h	280	795	686	432	501	788	632	3610	1449	713	3610	1449
Grp Volume(v), veh/h	77	0	0	83	0	0	29	732	34	31	870	24
Grp Sat Flow(s),veh/h/ln	1761	0	0	1721	0	0	632	1805	1449	713	1805	1449
Q Serve(g_s), s	0.0	0.0	0.0	0.3	0.0	0.0	0.7	3.7	0.4	0.2	0.0	0.0
Cycle Q Clear(g_c), s	3.3	0.0	0.0	3.6	0.0	0.0	0.7	3.7	0.4	4.0	0.0	0.0
Prop In Lane	0.22		0.39	0.31		0.46	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	181	0	0	182	0	0	606	2945	1182	638	2945	1182
V/C Ratio(X)	0.42	0.00	0.00	0.45	0.00	0.00	0.05	0.25	0.03	0.05	0.30	0.02
Avail Cap(c_a), veh/h	546	0	0	532	0	0	606	2945	1182	638	2945	1182
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.35	0.35	0.35	0.86	0.86	0.86
Uniform Delay (d), s/veh	36.0	0.0	0.0	36.1	0.0	0.0	1.4	1.7	1.4	0.1	0.0	0.0
Incr Delay (d2), s/veh	1.6	0.0	0.0	1.8	0.0	0.0	0.1	0.1	0.0	0.1	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	0.0	1.6	0.0	0.0	0.0	0.6	0.0	0.0	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.6	0.0	0.0	37.9	0.0	0.0	1.5	1.8	1.4	0.2	0.2	0.0
LnGrp LOS	D	A	A	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		77			83			795			925	
Approach Delay, s/veh		37.6			37.9			1.7			0.2	
Approach LOS		D			D			A			A	

Timer - Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		69.8		10.2		69.8		10.2
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		47.5		23.5		47.5		23.5
Max Q Clear Time (g_c+I1), s		5.7		5.3		6.0		5.6
Green Ext Time (p_c), s		6.5		0.3		8.0		0.3

Intersection Summary			
HCM 6th Ctrl Delay			4.1
HCM 6th LOS			A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	116	878	176	105	922	136	226	530	125	200	436	134
Future Volume (veh/h)	116	878	176	105	922	136	226	530	125	200	436	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1000	1000	1900	1000	1000	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	122	924	185	111	971	143	238	558	132	211	459	141
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	146	1023	204	133	1060	156	268	660	265	239	601	241
Arrive On Green	0.08	0.45	0.45	0.02	0.15	0.15	0.15	0.18	0.18	0.13	0.17	0.17
Sat Flow, veh/h	1810	2283	455	1810	2403	353	1810	3610	1449	1810	3610	1449
Grp Volume(v), veh/h	122	736	373	111	735	379	238	558	132	211	459	141
Grp Sat Flow(s),veh/h/ln	1810	910	918	1810	910	936	1810	1805	1449	1810	1805	1449
Q Serve(g_s), s	7.3	41.2	41.5	6.7	43.8	44.0	14.2	16.4	7.3	12.6	13.4	9.9
Cycle Q Clear(g_c), s	7.3	41.2	41.5	6.7	43.8	44.0	14.2	16.4	7.3	12.6	13.4	9.9
Prop In Lane	1.00		0.50	1.00		0.38	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	146	816	411	133	802	413	268	660	265	239	601	241
V/C Ratio(X)	0.83	0.90	0.91	0.83	0.92	0.92	0.89	0.85	0.50	0.88	0.76	0.58
Avail Cap(c_a), veh/h	146	816	411	133	802	413	268	660	265	239	601	241
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.36	0.36	0.36	1.00	1.00	1.00	0.96	0.96	0.96
Uniform Delay (d), s/veh	49.8	28.1	28.2	53.0	45.0	45.1	46.0	43.5	26.5	46.9	43.8	42.3
Incr Delay (d2), s/veh	31.9	15.2	26.2	14.9	7.3	13.1	28.1	12.7	6.6	29.1	8.6	9.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	10.3	11.8	3.7	11.5	12.5	8.4	8.4	3.0	7.6	6.7	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.7	43.3	54.4	67.9	52.3	58.1	74.0	56.1	33.1	76.1	52.4	51.9
LnGrp LOS	F	D	D	E	D	E	E	E	C	E	D	D
Approach Vol, veh/h		1231			1225			928			811	
Approach Delay, s/veh		50.4			55.5			57.4			58.5	
Approach LOS		D			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.6	53.8	20.8	22.8	13.4	53.0	19.0	24.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.1	49.3	16.3	18.3	8.9	48.5	14.5	20.1
Max Q Clear Time (g_c+I1), s	9.7	43.5	16.2	15.4	9.3	46.0	14.6	18.4
Green Ext Time (p_c), s	0.0	3.4	0.0	1.0	0.0	1.7	0.0	0.7

Intersection Summary		
HCM 6th Ctrl Delay		55.0
HCM 6th LOS		E

Intersection	
Intersection Delay, s/veh	17.7
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	553	188	134	177	197	402
Future Vol, veh/h	553	188	134	177	197	402
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	582	198	141	186	207	423
Number of Lanes	1	2	2	1	1	2

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	3	3	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	3	0	3
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	3	3
HCM Control Delay	24	11.8	13.1
HCM LOS	C	B	B

Lane	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	82%	0%	0%	0%	0%	100%	0%	0%
Vol Thru, %	0%	18%	100%	100%	100%	0%	0%	0%	0%
Vol Right, %	0%	0%	0%	0%	0%	100%	0%	100%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	277	339	125	67	67	177	197	201	201
LT Vol	277	276	0	0	0	0	197	0	0
Through Vol	0	63	125	67	67	0	0	0	0
RT Vol	0	0	0	0	0	177	0	201	201
Lane Flow Rate	291	357	132	71	71	186	207	212	212
Geometry Grp	8	8	8	8	8	8	7	7	7
Degree of Util (X)	0.624	0.756	0.201	0.163	0.163	0.303	0.448	0.386	0.286
Departure Headway (Hd)	7.719	7.625	5.478	8.317	8.317	5.856	7.777	6.572	4.864
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	469	475	653	431	431	611	467	550	743
Service Time	5.467	5.373	3.225	6.077	6.077	3.616	5.477	4.272	2.564
HCM Lane V/C Ratio	0.62	0.752	0.202	0.165	0.165	0.304	0.443	0.385	0.285
HCM Control Delay	22.5	30.5	9.6	12.7	12.7	11.2	16.6	13.3	9.5
HCM Lane LOS	C	D	A	B	B	B	C	B	A
HCM 95th-tile Q	4.2	6.4	0.7	0.6	0.6	1.3	2.3	1.8	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	231	479	40	98	358	196	37	586	146	255	491	219
Future Volume (veh/h)	231	479	40	98	358	196	37	586	146	255	491	219
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	248	515	43	105	385	211	40	630	157	274	528	235
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	265	680	273	198	548	220	248	695	173	424	827	367
Arrive On Green	0.05	0.06	0.06	0.11	0.15	0.15	0.14	0.24	0.24	0.23	0.34	0.34
Sat Flow, veh/h	1810	3610	1449	1810	3610	1449	1810	2864	713	1810	2432	1079
Grp Volume(v), veh/h	248	515	43	105	385	211	40	397	390	274	391	372
Grp Sat Flow(s),veh/h/ln	1810	1805	1449	1810	1805	1449	1810	1805	1772	1810	1805	1706
Q Serve(g_s), s	10.9	11.2	2.2	4.4	8.1	6.8	1.6	17.1	17.1	10.9	14.6	14.7
Cycle Q Clear(g_c), s	10.9	11.2	2.2	4.4	8.1	6.8	1.6	17.1	17.1	10.9	14.6	14.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.40	1.00		0.63
Lane Grp Cap(c), veh/h	265	680	273	198	548	220	248	438	430	424	614	580
V/C Ratio(X)	0.94	0.76	0.16	0.53	0.70	0.96	0.16	0.91	0.91	0.65	0.64	0.64
Avail Cap(c_a), veh/h	265	875	351	233	812	326	248	438	430	424	614	580
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.83	0.83	0.83	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.7	35.7	31.5	33.7	32.2	11.8	30.5	29.4	29.4	27.6	22.2	22.3
Incr Delay (d2), s/veh	34.3	2.4	0.2	2.2	1.7	31.7	0.3	25.0	25.6	3.4	5.0	5.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.8	5.6	0.8	2.0	3.6	5.6	0.7	10.1	10.0	5.0	6.7	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.0	38.1	31.7	35.8	33.9	43.4	30.8	54.4	55.1	31.0	27.3	27.6
LnGrp LOS	E	D	C	D	C	D	C	D	E	C	C	C
Approach Vol, veh/h		806			701			827			1037	
Approach Delay, s/veh		48.2			37.0			53.6			28.4	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.3	23.9	13.3	19.6	15.5	31.7	16.2	16.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	12.9	19.4	10.3	19.4	5.1	27.2	11.7	18.0
Max Q Clear Time (g_c+I1), s	12.9	19.1	6.4	13.2	3.6	16.7	12.9	10.1
Green Ext Time (p_c), s	0.0	0.1	0.1	1.8	0.0	3.6	0.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	41.1
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	168	215	10	264	130	7
Future Vol, veh/h	168	215	10	264	130	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	205	262	12	322	159	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	467	0	390	205
Stage 1	-	-	-	-	205	-
Stage 2	-	-	-	-	185	-
Critical Hdwy	-	-	4.1	-	6.6	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1105	-	605	841
Stage 1	-	-	-	-	834	-
Stage 2	-	-	-	-	834	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1105	-	597	841
Mov Cap-2 Maneuver	-	-	-	-	597	-
Stage 1	-	-	-	-	834	-
Stage 2	-	-	-	-	823	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	13.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	606	-	-	1105	-
HCM Lane V/C Ratio	0.276	-	-	0.011	-
HCM Control Delay (s)	13.2	-	-	8.3	0.1
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	1.1	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	1166	71	57	1131	128	46	52	51	204	55	22
Future Volume (veh/h)	22	1166	71	57	1131	128	46	52	51	204	55	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1000	1000	1900	1000	1000	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	24	1267	77	62	1229	139	50	57	55	222	60	24
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
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	306	1567	95	311	1481	168	187	212	183	377	87	35
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	403	2631	160	413	2488	281	446	658	568	995	270	108
Grp Volume(v), veh/h	24	876	468	62	899	469	162	0	0	306	0	0
Grp Sat Flow(s),veh/h/ln	403	910	971	413	910	949	1672	0	0	1372	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.3	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	7.6	0.0	0.0	21.9	0.0	0.0
Prop In Lane	1.00		0.16	1.00		0.30	0.31		0.34	0.73		0.08
Lane Grp Cap(c), veh/h	306	1084	578	311	1084	565	582	0	0	499	0	0
V/C Ratio(X)	0.08	0.81	0.81	0.20	0.83	0.83	0.28	0.00	0.00	0.61	0.00	0.00
Avail Cap(c_a), veh/h	306	1084	578	311	1084	565	582	0	0	499	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.36	0.36	0.36	0.67	0.67	0.67	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	27.8	0.0	0.0	32.9	0.0	0.0
Incr Delay (d2), s/veh	0.2	2.5	4.5	1.0	5.1	9.3	1.2	0.0	0.0	5.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	0.7	0.1	0.8	1.5	3.4	0.0	0.0	7.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.2	2.5	4.5	1.0	5.1	9.3	28.9	0.0	0.0	38.4	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	D	A	A
Approach Vol, veh/h		1368			1430			162			306	
Approach Delay, s/veh		3.1			6.3			28.9			38.4	
Approach LOS		A			A			C			D	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		70.0		40.0		70.0		40.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		65.5		35.5		65.5		35.5				
Max Q Clear Time (g_c+I1), s		2.0		23.9		2.0		9.6				
Green Ext Time (p_c), s		14.4		1.4		16.4		0.9				

Intersection Summary			
HCM 6th Ctrl Delay			9.1
HCM 6th LOS			A

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	0	0	5	13	0	2	2	45	24	0	28	0
Future Vol, veh/h	0	0	5	13	0	2	2	45	24	0	28	0
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	6	16	0	3	3	57	30	0	35	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	6.6	7.4	7.2	7.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	0%	87%	0%
Vol Thru, %	63%	0%	0%	100%
Vol Right, %	34%	100%	13%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	71	5	15	28
LT Vol	2	0	13	0
Through Vol	45	0	0	28
RT Vol	24	5	2	0
Lane Flow Rate	90	6	19	35
Geometry Grp	1	1	1	1
Degree of Util (X)	0.094	0.006	0.022	0.039
Departure Headway (Hd)	3.775	3.532	4.217	4.012
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	951	1007	846	893
Service Time	1.79	1.576	2.257	2.034
HCM Lane V/C Ratio	0.095	0.006	0.022	0.039
HCM Control Delay	7.2	6.6	7.4	7.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0	0.1	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	1237	114	49	1180	21	76	7	74	15	3	58
Future Volume (veh/h)	69	1237	114	49	1180	21	76	7	74	15	3	58
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1000	1000	1900	1000	1000	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	74	1330	123	53	1269	23	82	8	80	16	3	62
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	375	1814	168	331	1970	36	185	31	149	83	35	256
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	434	2543	235	372	2761	50	667	154	730	213	170	1250
Grp Volume(v), veh/h	74	952	501	53	836	456	170	0	0	81	0	0
Grp Sat Flow(s),veh/h/ln	434	910	958	372	910	991	1551	0	0	1633	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	5.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	10.2	0.0	0.0	4.5	0.0	0.0
Prop In Lane	1.00		0.25	1.00		0.05	0.48		0.47	0.20		0.77
Lane Grp Cap(c), veh/h	375	1299	683	331	1299	707	366	0	0	373	0	0
V/C Ratio(X)	0.20	0.73	0.73	0.16	0.64	0.64	0.46	0.00	0.00	0.22	0.00	0.00
Avail Cap(c_a), veh/h	375	1299	683	331	1299	707	366	0	0	373	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.39	0.39	0.39	0.72	0.72	0.72	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	38.7	0.0	0.0	36.6	0.0	0.0
Incr Delay (d2), s/veh	0.5	1.5	2.8	0.7	1.8	3.3	4.2	0.0	0.0	1.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.5	0.1	0.3	0.6	4.5	0.0	0.0	2.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.5	1.5	2.8	0.7	1.8	3.3	42.9	0.0	0.0	37.9	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	A	D	A	A
Approach Vol, veh/h		1527			1345			170			81	
Approach Delay, s/veh		1.8			2.2			42.9			37.9	
Approach LOS		A			A			D			D	

Timer - Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		83.0		27.0		83.0		27.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		78.5		22.5		78.5		22.5
Max Q Clear Time (g_c+I1), s		2.0		6.5		2.0		12.2
Green Ext Time (p_c), s		18.8		0.3		14.9		0.6

Intersection Summary	
HCM 6th Ctrl Delay	5.2
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	6.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	4	7	13	10	0	8	7	7	1	13	0
Future Vol, veh/h	0	4	7	13	10	0	8	7	7	1	13	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	5	8	15	12	0	9	8	8	1	15	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	12	0	0	13	0	0	59	51	9	59	55	12
Stage 1	-	-	-	-	-	-	9	9	-	42	42	-
Stage 2	-	-	-	-	-	-	50	42	-	17	13	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1620	-	-	1619	-	-	942	844	1079	942	840	1074
Stage 1	-	-	-	-	-	-	1017	892	-	978	864	-
Stage 2	-	-	-	-	-	-	968	864	-	1008	889	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1620	-	-	1619	-	-	922	836	1079	921	832	1074
Mov Cap-2 Maneuver	-	-	-	-	-	-	922	836	-	921	832	-
Stage 1	-	-	-	-	-	-	1017	892	-	978	856	-
Stage 2	-	-	-	-	-	-	942	856	-	991	889	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	4.1	9	9.4
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	935	1620	-	-	1619	-	-	838
HCM Lane V/C Ratio	0.028	-	-	-	0.009	-	-	0.02
HCM Control Delay (s)	9	0	-	-	7.2	0	-	9.4
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	2	9	11	2	1	11	69	13	3	51	0
Future Vol, veh/h	3	2	9	11	2	1	11	69	13	3	51	0
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	4	3	12	15	3	1	15	92	17	4	68	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.1	7.6	7.6	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	21%	79%	6%
Vol Thru, %	74%	14%	14%	94%
Vol Right, %	14%	64%	7%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	93	14	14	54
LT Vol	11	3	11	3
Through Vol	69	2	2	51
RT Vol	13	9	1	0
Lane Flow Rate	124	19	19	72
Geometry Grp	1	1	1	1
Degree of Util (X)	0.136	0.02	0.023	0.081
Departure Headway (Hd)	3.96	3.908	4.366	4.071
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	904	901	809	877
Service Time	1.993	1.995	2.451	2.111
HCM Lane V/C Ratio	0.137	0.021	0.023	0.082
HCM Control Delay	7.6	7.1	7.6	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.1	0.1	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	1186	87	43	1119	34	54	18	45	33	14	43
Future Volume (veh/h)	44	1186	87	43	1119	34	54	18	45	33	14	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1000	1000	1900	1000	1000	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	47	1275	94	46	1203	37	58	19	48	35	15	46
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	399	1899	140	360	1991	61	168	62	114	135	68	146
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	456	2594	191	403	2721	84	646	335	612	487	362	782
Grp Volume(v), veh/h	47	894	475	46	804	436	125	0	0	96	0	0
Grp Sat Flow(s),veh/h/ln	456	910	966	403	910	985	1593	0	0	1631	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	6.9	0.0	0.0	5.1	0.0	0.0
Prop In Lane	1.00		0.20	1.00		0.08	0.46		0.38	0.36		0.48
Lane Grp Cap(c), veh/h	399	1332	707	360	1332	721	345	0	0	349	0	0
V/C Ratio(X)	0.12	0.67	0.67	0.13	0.60	0.60	0.36	0.00	0.00	0.28	0.00	0.00
Avail Cap(c_a), veh/h	399	1332	707	360	1332	721	345	0	0	349	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.54	0.54	0.54	0.74	0.74	0.74	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	39.1	0.0	0.0	38.5	0.0	0.0
Incr Delay (d2), s/veh	0.3	1.5	2.8	0.5	1.5	2.8	2.9	0.0	0.0	1.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.5	0.1	0.3	0.6	3.2	0.0	0.0	2.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.3	1.5	2.8	0.5	1.5	2.8	42.1	0.0	0.0	40.5	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	A	D	A	A
Approach Vol, veh/h		1416			1286			125			96	
Approach Delay, s/veh		1.9			1.9			42.1			40.5	
Approach LOS		A			A			D			D	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		85.0		25.0		85.0		25.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		80.5		20.5		80.5		20.5				
Max Q Clear Time (g_c+I1), s		2.0		7.1		2.0		8.9				
Green Ext Time (p_c), s		15.9		0.3		13.6		0.4				

Intersection Summary			
HCM 6th Ctrl Delay			4.9
HCM 6th LOS			A

Intersection	
Int Delay, s/veh	7.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	46	76	84	82	105	104
Future Vol, veh/h	46	76	84	82	105	104
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	62	103	114	111	142	141

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	165	0	453	114
Stage 1	-	-	-	-	114	-
Stage 2	-	-	-	-	339	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1426	-	568	944
Stage 1	-	-	-	-	916	-
Stage 2	-	-	-	-	726	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1426	-	520	944
Mov Cap-2 Maneuver	-	-	-	-	520	-
Stage 1	-	-	-	-	916	-
Stage 2	-	-	-	-	664	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.9	14.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	670	-	-	1426	-
HCM Lane V/C Ratio	0.422	-	-	0.08	-
HCM Control Delay (s)	14.2	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	2.1	-	-	0.3	-

Intersection	
Int Delay, s/veh	8.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	3	12	42	0	195	10	14	0	97	61	3
Future Vol, veh/h	0	3	12	42	0	195	10	14	0	97	61	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	69	69	69	69	69	69	69	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	4	17	61	0	283	14	20	0	141	88	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	562	420	90	431	422	20	92	0	0	20	0	0
Stage 1	372	372	-	48	48	-	-	-	-	-	-	-
Stage 2	190	48	-	383	374	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	441	528	973	538	526	1064	1515	-	-	1609	-	-
Stage 1	653	622	-	971	859	-	-	-	-	-	-	-
Stage 2	816	859	-	644	621	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	299	475	973	485	473	1064	1515	-	-	1609	-	-
Mov Cap-2 Maneuver	299	475	-	485	473	-	-	-	-	-	-	-
Stage 1	647	565	-	962	851	-	-	-	-	-	-	-
Stage 2	594	851	-	570	564	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.6	11.7	3.1	4.5
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1515	-	-	804	878	1609	-	-
HCM Lane V/C Ratio	0.01	-	-	0.027	0.391	0.087	-	-
HCM Control Delay (s)	7.4	0	-	9.6	11.7	7.5	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	1.9	0.3	-	-

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	15	14	16	39	9	13	11	19	0	85	2
Future Vol, veh/h	1	15	14	16	39	9	13	11	19	0	85	2
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	20	19	22	53	12	18	15	26	0	115	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.3	7.8	7.4	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	30%	3%	25%	0%
Vol Thru, %	26%	50%	61%	98%
Vol Right, %	44%	47%	14%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	43	30	64	87
LT Vol	13	1	16	0
Through Vol	11	15	39	85
RT Vol	19	14	9	2
Lane Flow Rate	58	41	86	118
Geometry Grp	1	1	1	1
Degree of Util (X)	0.065	0.046	0.101	0.136
Departure Headway (Hd)	4.007	4.107	4.202	4.152
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	879	877	839	852
Service Time	2.102	2.107	2.296	2.23
HCM Lane V/C Ratio	0.066	0.047	0.103	0.138
HCM Control Delay	7.4	7.3	7.8	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.1	0.3	0.5

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	3	10	7	0	0	13	66	12	3	150	5
Future Vol, veh/h	3	3	10	7	0	0	13	66	12	3	150	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	4	4	13	9	0	0	17	86	16	4	195	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	334	342	198	343	337	94	201	0	0	102	0	0
Stage 1	206	206	-	128	128	-	-	-	-	-	-	-
Stage 2	128	136	-	215	209	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	623	583	848	615	587	968	1383	-	-	1503	-	-
Stage 1	801	735	-	881	794	-	-	-	-	-	-	-
Stage 2	881	788	-	792	733	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	616	574	848	595	578	968	1383	-	-	1503	-	-
Mov Cap-2 Maneuver	616	574	-	595	578	-	-	-	-	-	-	-
Stage 1	791	733	-	870	784	-	-	-	-	-	-	-
Stage 2	870	778	-	773	731	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.1	11.1	1.1	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1383	-	-	731	595	1503	-	-
HCM Lane V/C Ratio	0.012	-	-	0.028	0.015	0.003	-	-
HCM Control Delay (s)	7.6	0	-	10.1	11.1	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	1151	74	52	1009	41	96	21	41	66	21	52
Future Volume (veh/h)	36	1151	74	52	1009	41	96	21	41	66	21	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1000	1000	1900	1000	1000	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	38	1212	78	55	1062	43	101	22	43	69	22	55
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	228	1751	113	298	1798	73	265	62	96	214	76	146
Arrive On Green	0.89	0.89	0.89	0.22	0.22	0.22	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	518	2621	169	435	2692	109	849	248	383	665	302	585
Grp Volume(v), veh/h	38	841	449	55	718	387	166	0	0	146	0	0
Grp Sat Flow(s),veh/h/ln	518	910	970	435	910	980	1480	0	0	1552	0	0
Q Serve(g_s), s	5.2	14.7	14.7	12.0	38.9	38.9	2.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	44.1	14.7	14.7	26.7	38.9	38.9	10.2	0.0	0.0	8.1	0.0	0.0
Prop In Lane	1.00		0.17	1.00		0.11	0.61		0.26	0.47		0.38
Lane Grp Cap(c), veh/h	228	1216	648	298	1216	655	423	0	0	436	0	0
V/C Ratio(X)	0.17	0.69	0.69	0.18	0.59	0.59	0.39	0.00	0.00	0.33	0.00	0.00
Avail Cap(c_a), veh/h	228	1216	648	298	1216	655	423	0	0	436	0	0
HCM Platoon Ratio	1.33	1.33	1.33	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.63	0.63	0.63	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.0	2.8	2.9	31.0	29.4	29.4	34.6	0.0	0.0	33.9	0.0	0.0
Incr Delay (d2), s/veh	1.0	2.1	3.8	1.4	2.1	3.9	2.7	0.0	0.0	2.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.6	2.0	1.5	9.8	10.9	4.1	0.0	0.0	3.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.0	4.9	6.7	32.3	31.5	33.3	37.4	0.0	0.0	36.0	0.0	0.0
LnGrp LOS	B	A	A	C	C	C	D	A	A	D	A	A
Approach Vol, veh/h		1328			1160			166			146	
Approach Delay, s/veh		5.9			32.1			37.4			36.0	
Approach LOS		A			C			D			D	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		78.0		32.0		78.0		32.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		73.5		27.5		73.5		27.5				
Max Q Clear Time (g_c+I1), s		46.1		10.1		40.9		12.2				
Green Ext Time (p_c), s		11.1		0.7		10.2		0.8				
Intersection Summary												
HCM 6th Ctrl Delay			20.2									
HCM 6th LOS			C									

Intersection						
Int Delay, s/veh	33.1					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	27	1170	1061	228	170	30
Future Vol, veh/h	27	1170	1061	228	170	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	45	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	29	1245	1129	243	181	32

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1372	0	-	0	1807	686
Stage 1	-	-	-	-	1251	-
Stage 2	-	-	-	-	556	-
Critical Hdwy	5.3	-	-	-	5.7	7.1
Critical Hdwy Stg 1	-	-	-	-	6.6	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	3.1	-	-	-	3.8	3.9
Pot Cap-1 Maneuver	263	-	-	-	~ 121	338
Stage 1	-	-	-	-	~ 172	-
Stage 2	-	-	-	-	496	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	263	-	-	-	~ 108	338
Mov Cap-2 Maneuver	-	-	-	-	~ 108	-
Stage 1	-	-	-	-	~ 153	-
Stage 2	-	-	-	-	496	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	$ 441.7
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	263	-	-	-	120
HCM Lane V/C Ratio	0.109	-	-	-	1.773
HCM Control Delay (s)	20.4	-	-	-	$ 441.7
HCM Lane LOS	C	-	-	-	F
HCM 95th %tile Q(veh)	0.4	-	-	-	16.4

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	18	4	3	45	19	0	5	1	12	0	9
Future Vol, veh/h	6	18	4	3	45	19	0	5	1	12	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	8	23	5	4	56	24	0	6	1	15	0	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	80	0	0	28	0	0	124	130	26	121	120	68
Stage 1	-	-	-	-	-	-	42	42	-	76	76	-
Stage 2	-	-	-	-	-	-	82	88	-	45	44	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1531	-	-	1599	-	-	855	764	1056	859	774	1001
Stage 1	-	-	-	-	-	-	978	864	-	938	836	-
Stage 2	-	-	-	-	-	-	931	826	-	974	862	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1531	-	-	1599	-	-	840	758	1056	847	768	1001
Mov Cap-2 Maneuver	-	-	-	-	-	-	840	758	-	847	768	-
Stage 1	-	-	-	-	-	-	973	860	-	933	833	-
Stage 2	-	-	-	-	-	-	918	824	-	961	858	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.6	0.3	9.6	9.1
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	795	1531	-	-	1599	-	-	907
HCM Lane V/C Ratio	0.009	0.005	-	-	0.002	-	-	0.029
HCM Control Delay (s)	9.6	7.4	0	-	7.3	0	-	9.1
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	1321	15	60	1258	37	4	0	96	19	0	30
Future Vol, veh/h	18	1321	15	60	1258	37	4	0	96	19	0	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	45	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	19	1362	15	62	1297	38	4	0	99	20	0	31

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1335	0	0	1377	0	0	2051	2867	689	2023	2855	668
Stage 1	-	-	-	-	-	-	1408	1408	-	1440	1440	-
Stage 2	-	-	-	-	-	-	643	1459	-	583	1415	-
Critical Hdwy	5.3	-	-	5.3	-	-	6.4	6.5	7.1	6.4	6.5	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	7.3	5.5	-	7.3	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.5	-	6.7	5.5	-
Follow-up Hdwy	3.1	-	-	3.1	-	-	3.8	4	3.9	3.8	4	3.9
Pot Cap-1 Maneuver	274	-	-	261	-	-	60	17	337	63	17	347
Stage 1	-	-	-	-	-	-	105	207	-	99	200	-
Stage 2	-	-	-	-	-	-	394	196	-	429	206	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	274	-	-	261	-	-	42	12	337	35	12	347
Mov Cap-2 Maneuver	-	-	-	-	-	-	42	12	-	35	12	-
Stage 1	-	-	-	-	-	-	98	193	-	92	152	-
Stage 2	-	-	-	-	-	-	274	149	-	282	192	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	1	27.2	112.4
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	263	274	-	-	261	-	-	78
HCM Lane V/C Ratio	0.392	0.068	-	-	0.237	-	-	0.648
HCM Control Delay (s)	27.2	19.1	-	-	23	-	-	112.4
HCM Lane LOS	D	C	-	-	C	-	-	F
HCM 95th %tile Q(veh)	1.8	0.2	-	-	0.9	-	-	3

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	20	54	257	217	3
Future Vol, veh/h	2	20	54	257	217	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	24	64	302	255	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	687	257	259	0	-	0
Stage 1	257	-	-	-	-	-
Stage 2	430	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	416	787	1317	-	-	-
Stage 1	791	-	-	-	-	-
Stage 2	660	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	392	787	1317	-	-	-
Mov Cap-2 Maneuver	392	-	-	-	-	-
Stage 1	745	-	-	-	-	-
Stage 2	660	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	1.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1317	-	721	-	-
HCM Lane V/C Ratio	0.048	-	0.036	-	-
HCM Control Delay (s)	7.9	0	10.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.1	-	-

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	521	23	5	254	28
Future Volume (veh/h)	0	521	23	5	254	28
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	585	26	6	285	31
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	386	688	1042	224	677	3496
Arrive On Green	0.00	0.21	0.24	0.24	0.37	0.67
Sat Flow, veh/h	1810	3220	4444	920	1810	5358
Grp Volume(v), veh/h	0	585	21	11	285	31
Grp Sat Flow(s),veh/h/ln	1810	1610	1729	1734	1810	1729
Q Serve(g_s), s	0.0	14.0	0.4	0.4	9.4	0.2
Cycle Q Clear(g_c), s	0.0	14.0	0.4	0.4	9.4	0.2
Prop In Lane	1.00	1.00		0.53	1.00	
Lane Grp Cap(c), veh/h	386	688	843	423	677	3496
V/C Ratio(X)	0.00	0.85	0.02	0.03	0.42	0.01
Avail Cap(c_a), veh/h	464	825	843	423	677	3496
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.76	0.76	1.00	1.00
Uniform Delay (d), s/veh	0.0	30.2	23.0	23.0	18.6	4.3
Incr Delay (d2), s/veh	0.0	7.3	0.0	0.1	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.9	0.1	0.2	3.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	37.6	23.1	23.1	19.0	4.3
LnGrp LOS	A	D	C	C	B	A
Approach Vol, veh/h	585		32			316
Approach Delay, s/veh	37.6		23.1			17.6
Approach LOS	D		C			B

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	34.4	24.0				58.4		21.6
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	26.5	19.5				50.5		20.5
Max Q Clear Time (g_c+I1), s	11.4	2.4				2.2		16.0
Green Ext Time (p_c), s	0.7	0.1				0.2		1.1

Intersection Summary			
HCM 6th Ctrl Delay			30.3
HCM 6th LOS			C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	182	498	987	178	346	844
Future Volume (veh/h)	182	498	987	178	346	844
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	186	508	1007	182	353	861
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	441	392	1621	292	399	3339
Arrive On Green	0.24	0.24	0.37	0.37	0.22	0.64
Sat Flow, veh/h	1810	1610	4589	797	1810	5358
Grp Volume(v), veh/h	186	508	788	401	353	861
Grp Sat Flow(s),veh/h/ln	1810	1610	1729	1757	1810	1729
Q Serve(g_s), s	6.9	19.5	14.9	15.0	15.1	5.7
Cycle Q Clear(g_c), s	6.9	19.5	14.9	15.0	15.1	5.7
Prop In Lane	1.00	1.00		0.45	1.00	
Lane Grp Cap(c), veh/h	441	392	1269	644	399	3339
V/C Ratio(X)	0.42	1.29	0.62	0.62	0.88	0.26
Avail Cap(c_a), veh/h	441	392	1269	644	509	3339
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.46	0.46	1.00	1.00	0.98	0.98
Uniform Delay (d), s/veh	25.5	30.3	20.8	20.8	30.2	6.1
Incr Delay (d2), s/veh	0.3	141.2	2.3	4.5	13.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	22.6	6.1	6.6	7.9	1.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	25.8	171.4	23.1	25.3	44.0	6.3
LnGrp LOS	C	F	C	C	D	A
Approach Vol, veh/h	694		1189			1214
Approach Delay, s/veh	132.4		23.8			17.2
Approach LOS	F		C			B

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	22.2	33.8				56.0		24.0
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	22.5	24.5				51.5		19.5
Max Q Clear Time (g_c+I1), s	17.1	17.0				7.7		21.5
Green Ext Time (p_c), s	0.5	4.4				7.4		0.0

Intersection Summary		
HCM 6th Ctrl Delay		45.6
HCM 6th LOS		D

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	327	1108	1070	304	204	344
Future Volume (veh/h)	327	1108	1070	304	204	344
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	352	1191	1151	327	219	370
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	380	2576	1856	527	370	329
Arrive On Green	0.42	1.00	0.46	0.46	0.20	0.20
Sat Flow, veh/h	1810	3705	4184	1140	1810	1610
Grp Volume(v), veh/h	352	1191	992	486	219	370
Grp Sat Flow(s),veh/h/ln	1810	1805	1729	1695	1810	1610
Q Serve(g_s), s	20.3	0.0	23.8	23.8	12.0	22.5
Cycle Q Clear(g_c), s	20.3	0.0	23.8	23.8	12.0	22.5
Prop In Lane	1.00			0.67	1.00	1.00
Lane Grp Cap(c), veh/h	380	2576	1600	784	370	329
V/C Ratio(X)	0.93	0.46	0.62	0.62	0.59	1.12
Avail Cap(c_a), veh/h	535	2576	1600	784	370	329
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.50	0.50
Uniform Delay (d), s/veh	31.1	0.0	22.3	22.3	39.6	43.7
Incr Delay (d2), s/veh	17.9	0.6	1.8	3.7	3.5	74.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	0.2	9.8	10.0	5.7	24.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	49.0	0.6	24.1	25.9	43.1	117.9
LnGrp LOS	D	A	C	C	D	F
Approach Vol, veh/h		1543	1478		589	
Approach Delay, s/veh		11.6	24.7		90.1	
Approach LOS		B	C		F	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		83.0		27.0	27.6	55.4
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		78.5		22.5	32.5	41.5
Max Q Clear Time (g_c+I1), s		2.0		24.5	22.3	25.8
Green Ext Time (p_c), s		12.8		0.0	0.8	9.2

Intersection Summary		
HCM 6th Ctrl Delay		29.8
HCM 6th LOS		C

APPENDIX C: FUTURE LOS WORKSHEETS

DETAILED FUTURE (YEARS 2045) LEVEL OF SERVICE CALCULATION WORKSHEETS. WORKSHEETS CALCULATE THE DELAY, QUEUING, AND CORRESPONDING LOS AT ALL THE STUDY AREA INTERSECTIONS DURING AM, MIDDAY, AND PM PEAK HOUR CONDITIONS.

SYNCHRO LOS WORKSHEETS – FUTURE AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	370	121	65	546	67	137	392	90	75	350	135
Future Volume (veh/h)	104	370	121	65	546	67	137	392	90	75	350	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	111	394	129	69	581	71	146	417	96	80	372	144
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	339	1519	610	90	1023	411	224	983	394	104	742	298
Arrive On Green	0.19	0.42	0.42	0.05	0.28	0.28	0.12	0.27	0.27	0.06	0.21	0.21
Sat Flow, veh/h	1810	3610	1449	1810	3610	1449	1810	3610	1449	1810	3610	1449
Grp Volume(v), veh/h	111	394	129	69	581	71	146	417	96	80	372	144
Grp Sat Flow(s),veh/h/ln	1810	1805	1449	1810	1805	1449	1810	1805	1449	1810	1805	1449
Q Serve(g_s), s	4.8	6.4	3.1	3.4	12.4	3.3	6.9	8.6	3.7	3.9	8.2	7.9
Cycle Q Clear(g_c), s	4.8	6.4	3.1	3.4	12.4	3.3	6.9	8.6	3.7	3.9	8.2	7.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	339	1519	610	90	1023	411	224	983	394	104	742	298
V/C Ratio(X)	0.33	0.26	0.21	0.77	0.57	0.17	0.65	0.42	0.24	0.77	0.50	0.48
Avail Cap(c_a), veh/h	339	1519	610	191	1023	411	312	983	394	191	742	298
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.73	0.73	0.73	0.94	0.94	0.94	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.7	16.9	6.2	42.3	27.5	24.3	37.6	26.9	16.1	41.8	31.7	31.5
Incr Delay (d2), s/veh	0.6	0.4	0.8	9.6	1.7	0.7	3.0	1.3	1.4	11.4	2.4	5.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	2.7	1.7	1.7	5.4	1.2	3.2	3.8	1.7	2.1	3.8	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.2	17.4	7.0	51.9	29.2	25.0	40.5	28.2	17.5	53.2	34.1	37.1
LnGrp LOS	C	B	A	D	C	C	D	C	B	D	C	D
Approach Vol, veh/h		634			721			659			596	
Approach Delay, s/veh		17.9			31.0			29.4			37.4	
Approach LOS		B			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	42.4	15.7	23.0	21.3	30.0	9.7	29.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.5	28.5	15.5	18.5	12.5	25.5	9.5	24.5
Max Q Clear Time (g_c+I1), s	5.4	8.4	8.9	10.2	6.8	14.4	5.9	10.6
Green Ext Time (p_c), s	0.0	2.9	0.2	1.9	0.1	3.1	0.0	2.6

Intersection Summary			
HCM 6th Ctrl Delay			28.8
HCM 6th LOS			C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	383	154	95	539	30	204	328	108	44	343	177
Future Volume (veh/h)	185	383	154	95	539	30	204	328	108	44	343	177
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	208	430	173	107	606	34	229	369	121	49	385	199
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	320	928	373	324	760	305	632	1590	638	264	822	330
Arrive On Green	0.11	0.26	0.26	0.06	0.21	0.21	0.50	0.88	0.88	0.04	0.23	0.23
Sat Flow, veh/h	1810	3610	1449	1810	3610	1449	1810	3610	1449	1810	3610	1449
Grp Volume(v), veh/h	208	430	173	107	606	34	229	369	121	49	385	199
Grp Sat Flow(s),veh/h/ln	1810	1805	1449	1810	1805	1449	1810	1805	1449	1810	1805	1449
Q Serve(g_s), s	7.7	9.0	4.8	4.1	14.3	1.7	0.0	1.4	1.1	2.0	8.3	8.1
Cycle Q Clear(g_c), s	7.7	9.0	4.8	4.1	14.3	1.7	0.0	1.4	1.1	2.0	8.3	8.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	320	928	373	324	760	305	632	1590	638	264	822	330
V/C Ratio(X)	0.65	0.46	0.46	0.33	0.80	0.11	0.36	0.23	0.19	0.19	0.47	0.60
Avail Cap(c_a), veh/h	393	1280	514	333	983	394	632	1590	638	304	822	330
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	0.99	0.90	0.90	0.90
Uniform Delay (d), s/veh	24.1	28.2	7.8	25.4	33.7	28.7	14.6	3.1	3.1	29.7	30.0	16.5
Incr Delay (d2), s/veh	2.7	0.4	0.9	0.6	3.6	0.2	0.3	0.3	0.7	0.3	1.7	7.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	3.9	3.0	1.8	6.5	0.6	2.5	0.5	0.4	0.9	3.7	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.8	28.6	8.7	26.0	37.3	28.9	14.9	3.4	3.7	30.0	31.8	23.7
LnGrp LOS	C	C	A	C	D	C	B	A	A	C	C	C
Approach Vol, veh/h		811			747			719			633	
Approach Delay, s/veh		23.9			35.3			7.1			29.1	
Approach LOS		C			D			A			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	44.1	10.2	27.6	27.2	25.0	14.4	23.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	28.5	6.1	31.9	13.5	20.5	13.5	24.5
Max Q Clear Time (g_c+I1), s	4.0	3.4	6.1	11.0	2.0	10.3	9.7	16.3
Green Ext Time (p_c), s	0.0	2.9	0.0	3.4	0.5	2.3	0.2	2.6

Intersection Summary	
HCM 6th Ctrl Delay	23.8
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	33	23	18	19	64	16	552	39	78	521	24
Future Volume (veh/h)	15	33	23	18	19	64	16	552	39	78	521	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	16	36	25	20	21	70	17	600	42	85	566	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
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	69	89	53	65	38	96	758	2919	1172	696	2919	1172
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.81	0.81	0.81	1.00	1.00	1.00
Sat Flow, veh/h	231	971	578	199	417	1053	838	3610	1449	800	3610	1449
Grp Volume(v), veh/h	77	0	0	111	0	0	17	600	42	85	566	26
Grp Sat Flow(s),veh/h/ln	1780	0	0	1669	0	0	838	1805	1449	800	1805	1449
Q Serve(g_s), s	0.0	0.0	0.0	2.1	0.0	0.0	0.4	3.4	0.5	0.5	0.0	0.0
Cycle Q Clear(g_c), s	3.6	0.0	0.0	5.7	0.0	0.0	0.4	3.4	0.5	4.0	0.0	0.0
Prop In Lane	0.21		0.32	0.18		0.63	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	211	0	0	200	0	0	758	2919	1172	696	2919	1172
V/C Ratio(X)	0.37	0.00	0.00	0.56	0.00	0.00	0.02	0.21	0.04	0.12	0.19	0.02
Avail Cap(c_a), veh/h	639	0	0	615	0	0	758	2919	1172	696	2919	1172
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.84	0.84	0.84	0.94	0.94	0.94
Uniform Delay (d), s/veh	38.8	0.0	0.0	39.7	0.0	0.0	1.7	2.0	1.7	0.1	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	0.0	2.4	0.0	0.0	0.0	0.1	0.0	0.3	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.0	2.5	0.0	0.0	0.0	0.7	0.1	0.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.9	0.0	0.0	42.1	0.0	0.0	1.7	2.1	1.7	0.4	0.1	0.0
LnGrp LOS	D	A	A	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		77			111			659			677	
Approach Delay, s/veh		39.9			42.1			2.1			0.2	
Approach LOS		D			D			A			A	

Timer - Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		77.3		12.7		77.3		12.7
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		49.5		31.5		49.5		31.5
Max Q Clear Time (g_c+I1), s		5.4		5.6		6.0		7.7
Green Ext Time (p_c), s		5.0		0.4		5.2		0.6

Intersection Summary	
HCM 6th Ctrl Delay	6.1
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	1055	163	117	738	106	126	340	124	176	319	118
Future Volume (veh/h)	58	1055	163	117	738	106	126	340	124	176	319	118
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1000	1000	1900	1000	1000	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	60	1099	170	122	769	110	131	354	129	183	332	123
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	119	1060	164	111	1063	151	159	722	290	171	746	299
Arrive On Green	0.07	0.44	0.44	0.06	0.44	0.44	0.09	0.20	0.20	0.03	0.07	0.07
Sat Flow, veh/h	1810	2385	369	1810	2415	343	1810	3610	1449	1810	3610	1449
Grp Volume(v), veh/h	60	838	431	122	578	301	131	354	129	183	332	123
Grp Sat Flow(s),veh/h/ln	1810	910	934	1810	910	938	1810	1805	1449	1810	1805	1449
Q Serve(g_s), s	2.9	40.0	40.0	5.5	23.5	23.8	6.4	7.8	7.0	8.5	8.0	5.8
Cycle Q Clear(g_c), s	2.9	40.0	40.0	5.5	23.5	23.8	6.4	7.8	7.0	8.5	8.0	5.8
Prop In Lane	1.00		0.39	1.00		0.37	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	119	809	415	111	801	413	159	722	290	171	746	299
V/C Ratio(X)	0.51	1.04	1.04	1.10	0.72	0.73	0.82	0.49	0.45	1.07	0.45	0.41
Avail Cap(c_a), veh/h	119	809	415	111	801	413	159	722	290	171	746	299
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	0.22	0.22	0.22	1.00	1.00	1.00	0.99	0.99	0.99
Uniform Delay (d), s/veh	40.6	25.0	25.0	42.3	20.7	20.8	40.4	31.9	31.6	43.6	37.0	23.0
Incr Delay (d2), s/veh	3.4	41.5	54.3	71.4	1.3	2.5	28.4	2.4	4.9	88.6	1.9	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	12.7	14.5	4.6	4.8	5.2	4.1	3.6	2.8	8.2	3.9	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.1	66.5	79.3	113.6	22.0	23.3	68.8	34.3	36.5	132.2	38.9	27.1
LnGrp LOS	D	F	F	F	C	C	E	C	D	F	D	C
Approach Vol, veh/h		1329			1001			614			638	
Approach Delay, s/veh		69.6			33.5			42.1			63.4	
Approach LOS		E			C			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	44.5	12.4	23.1	10.4	44.1	13.0	22.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	40.0	7.9	18.6	5.9	39.6	8.5	18.0
Max Q Clear Time (g_c+I1), s	7.5	42.0	8.4	10.0	4.9	25.8	10.5	9.8
Green Ext Time (p_c), s	0.0	0.0	0.0	1.7	0.0	5.0	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	53.7
HCM 6th LOS	D

Intersection	
Intersection Delay, s/veh	14.4
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	332	148	133	220	235	471
Future Vol, veh/h	332	148	133	220	235	471
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	369	164	148	244	261	523
Number of Lanes	1	2	2	1	1	2

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	3	3	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	3	0	3
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	3	3
HCM Control Delay	16.4	12.1	14.1
HCM LOS	C	B	B

Lane	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	77%	0%	0%	0%	0%	100%	0%	0%
Vol Thru, %	0%	23%	100%	100%	100%	0%	0%	0%	0%
Vol Right, %	0%	0%	0%	0%	0%	100%	0%	100%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	166	215	99	67	67	220	235	236	236
LT Vol	166	166	0	0	0	0	235	0	0
Through Vol	0	49	99	67	67	0	0	0	0
RT Vol	0	0	0	0	0	220	0	236	236
Lane Flow Rate	184	239	110	74	74	244	261	262	262
Geometry Grp	8	8	8	8	8	8	7	7	7
Degree of Util (X)	0.415	0.53	0.178	0.166	0.166	0.382	0.541	0.455	0.331
Departure Headway (Hd)	8.092	7.975	5.844	8.088	8.088	5.628	7.465	6.259	4.552
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	445	452	612	443	443	638	486	578	795
Service Time	5.844	5.727	3.596	5.846	5.846	3.385	5.165	3.959	2.252
HCM Lane V/C Ratio	0.413	0.529	0.18	0.167	0.167	0.382	0.537	0.453	0.33
HCM Control Delay	16.5	19.4	9.9	12.5	12.5	11.9	18.6	14.1	9.5
HCM Lane LOS	C	C	A	B	B	B	C	B	A
HCM 95th-tile Q	2	3	0.6	0.6	0.6	1.8	3.2	2.4	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	141	304	26	101	346	86	25	469	125	206	568	239
Future Volume (veh/h)	141	304	26	101	346	86	25	469	125	206	568	239
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	160	345	30	115	393	98	28	533	142	234	645	272
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	197	479	192	218	521	209	267	1117	296	273	987	416
Arrive On Green	0.04	0.04	0.04	0.12	0.14	0.14	0.15	0.40	0.40	0.15	0.40	0.40
Sat Flow, veh/h	1810	3610	1449	1810	3610	1449	1810	2822	749	1810	2474	1043
Grp Volume(v), veh/h	160	345	30	115	393	98	28	340	335	234	471	446
Grp Sat Flow(s),veh/h/ln	1810	1805	1449	1810	1805	1449	1810	1805	1765	1810	1805	1712
Q Serve(g_s), s	7.9	8.5	1.8	5.4	9.4	5.6	1.2	12.6	12.7	11.4	19.1	19.1
Cycle Q Clear(g_c), s	7.9	8.5	1.8	5.4	9.4	5.6	1.2	12.6	12.7	11.4	19.1	19.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.42	1.00		0.61
Lane Grp Cap(c), veh/h	197	479	192	218	521	209	267	715	699	273	720	683
V/C Ratio(X)	0.81	0.72	0.16	0.53	0.75	0.47	0.10	0.48	0.48	0.86	0.65	0.65
Avail Cap(c_a), veh/h	251	762	306	231	722	290	267	715	699	352	720	683
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.5	41.4	38.2	37.2	37.0	35.3	33.2	20.2	20.3	37.3	22.0	22.0
Incr Delay (d2), s/veh	13.9	2.0	0.4	2.0	3.0	1.6	0.2	2.3	2.3	15.3	4.6	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	4.1	0.7	2.5	4.3	2.0	0.5	5.6	5.5	6.1	8.6	8.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.3	43.4	38.5	39.1	39.9	37.0	33.4	22.5	22.6	52.5	26.6	26.8
LnGrp LOS	E	D	D	D	D	D	C	C	C	D	C	C
Approach Vol, veh/h		535			606			703			1151	
Approach Delay, s/veh		47.0			39.3			23.0			31.9	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.1	40.1	15.4	16.4	17.8	40.4	14.3	17.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	17.5	24.0	11.5	19.0	5.6	35.9	12.5	18.0
Max Q Clear Time (g_c+I1), s	13.4	14.7	7.4	10.5	3.2	21.1	9.9	11.4
Green Ext Time (p_c), s	0.3	2.9	0.1	1.5	0.0	5.4	0.1	1.6

Intersection Summary	
HCM 6th Ctrl Delay	34.0
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	3.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	260	136	35	266	161	16
Future Vol, veh/h	260	136	35	266	161	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	286	149	38	292	177	18

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	435	0	508	286
Stage 1	-	-	-	-	286	-
Stage 2	-	-	-	-	222	-
Critical Hdwy	-	-	4.1	-	6.6	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1135	-	514	758
Stage 1	-	-	-	-	767	-
Stage 2	-	-	-	-	800	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1135	-	493	758
Mov Cap-2 Maneuver	-	-	-	-	493	-
Stage 1	-	-	-	-	767	-
Stage 2	-	-	-	-	768	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	16.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	509	-	-	1135	-
HCM Lane V/C Ratio	0.382	-	-	0.034	-
HCM Control Delay (s)	16.4	-	-	8.3	0.1
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.8	-	-	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	870	51	35	1190	198	55	54	50	126	27	21
Future Volume (veh/h)	32	870	51	35	1190	198	55	54	50	126	27	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1000	1000	1900	1000	1000	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	33	906	53	36	1240	206	57	56	52	131	28	22
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	152	1539	90	427	1375	228	210	205	166	387	82	55
Arrive On Green	1.00	1.00	1.00	0.78	0.78	0.78	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	374	2638	154	595	2358	392	492	647	524	1004	258	175
Grp Volume(v), veh/h	33	624	335	36	957	489	165	0	0	181	0	0
Grp Sat Flow(s),veh/h/ln	374	910	972	595	910	929	1662	0	0	1437	0	0
Q Serve(g_s), s	6.3	0.0	0.0	1.3	35.3	35.3	0.0	0.0	0.0	2.2	0.0	0.0
Cycle Q Clear(g_c), s	41.6	0.0	0.0	1.3	35.3	35.3	6.2	0.0	0.0	8.4	0.0	0.0
Prop In Lane	1.00		0.16	1.00		0.42	0.35		0.32	0.72		0.12
Lane Grp Cap(c), veh/h	152	1062	567	427	1062	542	580	0	0	524	0	0
V/C Ratio(X)	0.22	0.59	0.59	0.08	0.90	0.90	0.28	0.00	0.00	0.35	0.00	0.00
Avail Cap(c_a), veh/h	152	1062	567	427	1062	542	580	0	0	524	0	0
HCM Platoon Ratio	2.00	2.00	2.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.32	0.32	0.32	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.0	0.0	0.0	4.4	8.2	8.2	23.1	0.0	0.0	23.8	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.2	0.4	0.1	4.5	8.2	1.2	0.0	0.0	1.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.1	0.2	3.5	4.1	2.8	0.0	0.0	3.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.3	0.2	0.4	4.5	12.7	16.4	24.4	0.0	0.0	25.6	0.0	0.0
LnGrp LOS	B	A	A	A	B	B	C	A	A	C	A	A
Approach Vol, veh/h		992			1482			165			181	
Approach Delay, s/veh		0.8			13.7			24.4			25.6	
Approach LOS		A			B			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		57.0		33.0		57.0		33.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		52.5		28.5		52.5		28.5				
Max Q Clear Time (g_c+I1), s		43.6		10.4		37.3		8.2				
Green Ext Time (p_c), s		4.4		0.9		9.0		0.9				
Intersection Summary												
HCM 6th Ctrl Delay			10.5									
HCM 6th LOS			B									

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	5	13	3	4	4	16	17	1	46	1
Future Vol, veh/h	0	0	5	13	3	4	4	16	17	1	46	1
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	6	16	4	5	5	19	20	1	55	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	6.6	7.2	6.9	7.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	0%	65%	2%
Vol Thru, %	43%	0%	15%	96%
Vol Right, %	46%	100%	20%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	37	5	20	48
LT Vol	4	0	13	1
Through Vol	16	0	3	46
RT Vol	17	5	4	1
Lane Flow Rate	45	6	24	58
Geometry Grp	1	1	1	1
Degree of Util (X)	0.046	0.006	0.027	0.064
Departure Headway (Hd)	3.74	3.494	4.091	3.976
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	957	1018	872	902
Service Time	1.764	1.536	2.129	1.995
HCM Lane V/C Ratio	0.047	0.006	0.028	0.064
HCM Control Delay	6.9	6.6	7.2	7.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0	0.1	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	952	68	53	1304	32	82	7	90	35	5	59
Future Volume (veh/h)	30	952	68	53	1304	32	82	7	90	35	5	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1000	1000	1900	1000	1000	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	32	1002	72	56	1373	34	86	7	95	37	5	62
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	311	1546	111	230	1629	40	252	38	237	201	48	287
Arrive On Green	0.40	0.40	0.40	1.00	1.00	1.00	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	389	2600	187	534	2740	68	633	126	775	481	156	940
Grp Volume(v), veh/h	32	701	373	56	912	495	188	0	0	104	0	0
Grp Sat Flow(s),veh/h/ln	389	910	966	534	910	988	1534	0	0	1577	0	0
Q Serve(g_s), s	4.7	28.1	28.2	6.0	0.0	0.0	4.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.7	28.1	28.2	34.2	0.0	0.0	8.1	0.0	0.0	4.0	0.0	0.0
Prop In Lane	1.00		0.19	1.00		0.07	0.46		0.51	0.36		0.60
Lane Grp Cap(c), veh/h	311	1082	574	230	1082	587	527	0	0	536	0	0
V/C Ratio(X)	0.10	0.65	0.65	0.24	0.84	0.84	0.36	0.00	0.00	0.19	0.00	0.00
Avail Cap(c_a), veh/h	311	1082	574	230	1082	587	527	0	0	536	0	0
HCM Platoon Ratio	0.67	0.67	0.67	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.74	0.74	0.74	0.59	0.59	0.59	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.4	19.4	19.5	9.0	0.0	0.0	24.4	0.0	0.0	23.1	0.0	0.0
Incr Delay (d2), s/veh	0.5	2.2	4.2	1.5	4.9	8.7	1.9	0.0	0.0	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	6.5	7.3	0.7	0.7	1.4	3.3	0.0	0.0	1.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.9	21.7	23.6	10.5	4.9	8.7	26.3	0.0	0.0	23.9	0.0	0.0
LnGrp LOS	B	C	C	B	A	A	C	A	A	C	A	A
Approach Vol, veh/h		1106			1463			188			104	
Approach Delay, s/veh		22.1			6.4			26.3			23.9	
Approach LOS		C			A			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		58.0		32.0		58.0		32.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		53.5		27.5		53.5		27.5				
Max Q Clear Time (g_c+I1), s		30.2		6.0		36.2		10.1				
Green Ext Time (p_c), s		8.5		0.5		9.7		1.0				
Intersection Summary												
HCM 6th Ctrl Delay			14.4									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	3	11	8	6	2	10	19	8	2	6	0
Future Vol, veh/h	0	3	11	8	6	2	10	19	8	2	6	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	3	12	9	7	2	11	21	9	2	7	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	9	0	0	15	0	0	39	36	9	50	41	8
Stage 1	-	-	-	-	-	-	9	9	-	26	26	-
Stage 2	-	-	-	-	-	-	30	27	-	24	15	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1624	-	-	1616	-	-	971	860	1079	955	855	1080
Stage 1	-	-	-	-	-	-	1017	892	-	997	878	-
Stage 2	-	-	-	-	-	-	992	877	-	999	887	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1624	-	-	1616	-	-	960	855	1079	925	850	1080
Mov Cap-2 Maneuver	-	-	-	-	-	-	960	855	-	925	850	-
Stage 1	-	-	-	-	-	-	1017	892	-	997	873	-
Stage 2	-	-	-	-	-	-	979	872	-	967	887	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	3.6	9.1	9.2
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	924	1624	-	-	1616	-	-	868
HCM Lane V/C Ratio	0.044	-	-	-	0.006	-	-	0.01
HCM Control Delay (s)	9.1	0	-	-	7.2	0	-	9.2
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	2	5	13	13	3	0	5	42	3	1	61	1
Future Vol, veh/h	2	5	13	13	3	0	5	42	3	1	61	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	2	6	15	15	3	0	6	48	3	1	69	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	6.9	7.5	7.3	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	10%	10%	81%	2%
Vol Thru, %	84%	25%	19%	97%
Vol Right, %	6%	65%	0%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	50	20	16	63
LT Vol	5	2	13	1
Through Vol	42	5	3	61
RT Vol	3	13	0	1
Lane Flow Rate	57	23	18	72
Geometry Grp	1	1	1	1
Degree of Util (X)	0.063	0.024	0.022	0.08
Departure Headway (Hd)	4.009	3.767	4.304	4.007
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	891	941	826	893
Service Time	2.042	1.826	2.361	2.037
HCM Lane V/C Ratio	0.064	0.024	0.022	0.081
HCM Control Delay	7.3	6.9	7.5	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.1	0.1	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	971	71	34	1240	24	68	17	52	25	16	54
Future Volume (veh/h)	22	971	71	34	1240	24	68	17	52	25	16	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1000	1000	1900	1000	1000	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	24	1044	76	37	1333	26	73	18	56	27	17	58
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	363	1804	131	435	1914	37	200	59	123	113	83	191
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	407	2597	189	511	2757	54	684	289	599	304	402	931
Grp Volume(v), veh/h	24	731	389	37	880	479	147	0	0	102	0	0
Grp Sat Flow(s),veh/h/ln	407	910	966	511	910	990	1572	0	0	1637	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	6.7	0.0	0.0	4.5	0.0	0.0
Prop In Lane	1.00		0.20	1.00		0.05	0.50		0.38	0.26		0.57
Lane Grp Cap(c), veh/h	363	1264	671	435	1264	688	383	0	0	387	0	0
V/C Ratio(X)	0.07	0.58	0.58	0.09	0.70	0.70	0.38	0.00	0.00	0.26	0.00	0.00
Avail Cap(c_a), veh/h	363	1264	671	435	1264	688	383	0	0	387	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.67	0.67	0.67	0.66	0.66	0.66	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	31.0	0.0	0.0	30.2	0.0	0.0
Incr Delay (d2), s/veh	0.2	1.3	2.4	0.3	2.1	3.9	2.9	0.0	0.0	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.5	0.0	0.4	0.7	3.0	0.0	0.0	2.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.2	1.3	2.4	0.3	2.1	3.9	33.9	0.0	0.0	31.8	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		1144			1396			147			102	
Approach Delay, s/veh		1.7			2.7			33.9			31.8	
Approach LOS		A			A			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		67.0		23.0		67.0		23.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		62.5		18.5		62.5		18.5				
Max Q Clear Time (g_c+I1), s		2.0		6.5		2.0		8.7				
Green Ext Time (p_c), s		10.9		0.3		14.7		0.5				
Intersection Summary												
HCM 6th Ctrl Delay			5.0									
HCM 6th LOS			A									

Intersection	
Int Delay, s/veh	6.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	125	117	47	64	125	113
Future Vol, veh/h	125	117	47	64	125	113
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	147	138	55	75	147	133

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	285	0	401	216
Stage 1	-	-	-	-	216	-
Stage 2	-	-	-	-	185	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1289	-	609	829
Stage 1	-	-	-	-	825	-
Stage 2	-	-	-	-	852	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1289	-	582	829
Mov Cap-2 Maneuver	-	-	-	-	582	-
Stage 1	-	-	-	-	825	-
Stage 2	-	-	-	-	814	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.4	14
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	678	-	-	1289	-
HCM Lane V/C Ratio	0.413	-	-	0.043	-
HCM Control Delay (s)	14	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	2	-	-	0.1	-

Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	1	17	0	195	6	47	30	161	5	0
Future Vol, veh/h	0	0	1	17	0	195	6	47	30	161	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	1	19	0	217	7	52	33	179	6	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	555	463	6	448	447	69	6	0	0	85	0	0
Stage 1	364	364	-	83	83	-	-	-	-	-	-	-
Stage 2	191	99	-	365	364	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	445	499	1083	524	509	1000	1628	-	-	1524	-	-
Stage 1	659	627	-	930	830	-	-	-	-	-	-	-
Stage 2	815	817	-	658	627	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	316	438	1083	474	447	1000	1628	-	-	1524	-	-
Mov Cap-2 Maneuver	316	438	-	474	447	-	-	-	-	-	-	-
Stage 1	656	553	-	925	826	-	-	-	-	-	-	-
Stage 2	635	813	-	580	553	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.3	10.3	0.5	7.4
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1628	-	-	1083	918	1524	-	-
HCM Lane V/C Ratio	0.004	-	-	0.001	0.257	0.117	-	-
HCM Control Delay (s)	7.2	0	-	8.3	10.3	7.7	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	1	0.4	-	-

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	6	10	9	16	7	2	9	65	22	6	16	3
Future Vol, veh/h	6	10	9	16	7	2	9	65	22	6	16	3
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	8	14	12	22	9	3	12	88	30	8	22	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.3	7.5	7.6	7.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	9%	24%	64%	24%
Vol Thru, %	68%	40%	28%	64%
Vol Right, %	23%	36%	8%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	96	25	25	25
LT Vol	9	6	16	6
Through Vol	65	10	7	16
RT Vol	22	9	2	3
Lane Flow Rate	130	34	34	34
Geometry Grp	1	1	1	1
Degree of Util (X)	0.141	0.038	0.04	0.038
Departure Headway (Hd)	3.924	4.04	4.289	4.092
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	909	875	826	868
Service Time	1.966	2.115	2.362	2.15
HCM Lane V/C Ratio	0.143	0.039	0.041	0.039
HCM Control Delay	7.6	7.3	7.5	7.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.1	0.1	0.1

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	4	9	9	0	0	8	92	9	1	109	4
Future Vol, veh/h	1	4	9	9	0	0	8	92	9	1	109	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	5	10	10	0	0	9	107	10	1	127	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	262	267	130	269	264	112	132	0	0	117	0	0
Stage 1	132	132	-	130	130	-	-	-	-	-	-	-
Stage 2	130	135	-	139	134	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	695	642	925	688	645	947	1466	-	-	1484	-	-
Stage 1	876	791	-	878	792	-	-	-	-	-	-	-
Stage 2	878	789	-	869	789	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	691	637	925	672	640	947	1466	-	-	1484	-	-
Mov Cap-2 Maneuver	691	637	-	672	640	-	-	-	-	-	-	-
Stage 1	870	790	-	872	786	-	-	-	-	-	-	-
Stage 2	872	783	-	853	788	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.6	10.4	0.5	0.1
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1466	-	-	802	672	1484	-	-
HCM Lane V/C Ratio	0.006	-	-	0.02	0.016	0.001	-	-
HCM Control Delay (s)	7.5	0	-	9.6	10.4	7.4	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	999	75	37	1152	49	70	11	23	55	27	67
Future Volume (veh/h)	35	999	75	37	1152	49	70	11	23	55	27	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1000	1000	1900	1000	1000	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	36	1030	77	38	1188	51	72	11	24	57	28	69
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	277	1771	132	433	1834	79	266	46	71	161	88	158
Arrive On Green	1.00	1.00	1.00	0.68	0.68	0.68	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	456	2592	193	517	2684	115	920	211	327	490	408	729
Grp Volume(v), veh/h	36	723	384	38	805	434	107	0	0	154	0	0
Grp Sat Flow(s),veh/h/ln	456	910	965	517	910	979	1458	0	0	1627	0	0
Q Serve(g_s), s	3.0	0.0	0.0	2.3	22.6	22.6	0.0	0.0	0.0	1.6	0.0	0.0
Cycle Q Clear(g_c), s	25.6	0.0	0.0	2.3	22.6	22.6	5.3	0.0	0.0	6.8	0.0	0.0
Prop In Lane	1.00		0.20	1.00		0.12	0.67		0.22	0.37		0.45
Lane Grp Cap(c), veh/h	277	1244	660	433	1244	669	383	0	0	407	0	0
V/C Ratio(X)	0.13	0.58	0.58	0.09	0.65	0.65	0.28	0.00	0.00	0.38	0.00	0.00
Avail Cap(c_a), veh/h	277	1244	660	433	1244	669	383	0	0	407	0	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.75	0.75	0.75	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.7	0.0	0.0	4.9	8.1	8.1	29.6	0.0	0.0	30.2	0.0	0.0
Incr Delay (d2), s/veh	0.7	1.5	2.8	0.4	2.6	4.8	1.8	0.0	0.0	2.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.3	0.5	0.3	4.1	4.8	2.1	0.0	0.0	3.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.4	1.5	2.8	5.3	10.7	12.9	31.4	0.0	0.0	32.9	0.0	0.0
LnGrp LOS	A	A	A	A	B	B	C	A	A	C	A	A
Approach Vol, veh/h		1143			1277			107			154	
Approach Delay, s/veh		2.1			11.3			31.4			32.9	
Approach LOS		A			B			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		66.0		24.0		66.0		24.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		61.5		19.5		61.5		19.5				
Max Q Clear Time (g_c+I1), s		27.6		8.8		24.6		7.3				
Green Ext Time (p_c), s		9.9		0.6		11.6		0.4				
Intersection Summary												
HCM 6th Ctrl Delay			9.4									
HCM 6th LOS			A									

Intersection	
Int Delay, s/veh	100.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	994	1146	247	296	36
Future Vol, veh/h	9	994	1146	247	296	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	45	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	9	1046	1206	260	312	38

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1466	0	-	0	1772	733
Stage 1	-	-	-	-	1336	-
Stage 2	-	-	-	-	436	-
Critical Hdwy	5.3	-	-	-	5.7	7.1
Critical Hdwy Stg 1	-	-	-	-	6.6	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	3.1	-	-	-	3.8	3.9
Pot Cap-1 Maneuver	236	-	-	-	~ 127	315
Stage 1	-	-	-	-	~ 153	-
Stage 2	-	-	-	-	572	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	236	-	-	-	~ 122	315
Mov Cap-2 Maneuver	-	-	-	-	~ 122	-
Stage 1	-	-	-	-	~ 147	-
Stage 2	-	-	-	-	572	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	$ 824.6
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	236	-	-	-	131
HCM Lane V/C Ratio	0.04	-	-	-	2.668
HCM Control Delay (s)	20.9	-	-	-	$ 824.6
HCM Lane LOS	C	-	-	-	F
HCM 95th %tile Q(veh)	0.1	-	-	-	31.5

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	26	4	2	12	8	7	1	3	19	2	2
Future Vol, veh/h	4	26	4	2	12	8	7	1	3	19	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	33	5	3	15	10	9	1	4	24	3	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	25	0	0	38	0	0	75	77	36	74	74	20
Stage 1	-	-	-	-	-	-	46	46	-	26	26	-
Stage 2	-	-	-	-	-	-	29	31	-	48	48	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1603	-	-	1585	-	-	920	817	1042	921	820	1064
Stage 1	-	-	-	-	-	-	973	861	-	997	878	-
Stage 2	-	-	-	-	-	-	993	873	-	971	859	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1603	-	-	1585	-	-	912	813	1042	913	816	1064
Mov Cap-2 Maneuver	-	-	-	-	-	-	912	813	-	913	816	-
Stage 1	-	-	-	-	-	-	970	858	-	994	876	-
Stage 2	-	-	-	-	-	-	986	871	-	963	856	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.7	8.9	9.1
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	933	1603	-	-	1585	-	-	915
HCM Lane V/C Ratio	0.015	0.003	-	-	0.002	-	-	0.032
HCM Control Delay (s)	8.9	7.3	0	-	7.3	0	-	9.1
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	22

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	35	1298	5	63	1485	70	0	0	87	51	0	7
Future Vol, veh/h	35	1298	5	63	1485	70	0	0	87	51	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	45	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	37	1366	5	66	1563	74	0	0	92	54	0	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1637	0	0	1371	0	0	2200	3212	686	2352	3177	819
Stage 1	-	-	-	-	-	-	1443	1443	-	1732	1732	-
Stage 2	-	-	-	-	-	-	757	1769	-	620	1445	-
Critical Hdwy	5.3	-	-	5.3	-	-	6.4	6.5	7.1	6.4	6.5	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	7.3	5.5	-	7.3	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.5	-	6.7	5.5	-
Follow-up Hdwy	3.1	-	-	3.1	-	-	3.8	4	3.9	3.8	4	3.9
Pot Cap-1 Maneuver	195	-	-	263	-	-	49	10	338	~ 39	11	277
Stage 1	-	-	-	-	-	-	99	199	-	62	144	-
Stage 2	-	-	-	-	-	-	336	138	-	407	199	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	195	-	-	263	-	-	33	6	338	~ 20	7	277
Mov Cap-2 Maneuver	-	-	-	-	-	-	33	6	-	~ 20	7	-
Stage 1	-	-	-	-	-	-	80	161	-	~ 50	108	-
Stage 2	-	-	-	-	-	-	245	103	-	240	161	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.9	19.6	$ 1104.3
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	338	195	-	-	263	-	-	23
HCM Lane V/C Ratio	0.271	0.189	-	-	0.252	-	-	2.654
HCM Control Delay (s)	19.6	27.7	-	-	23.2	-	$	1104.3
HCM Lane LOS	C	D	-	-	C	-	-	F
HCM 95th %tile Q(veh)	1.1	0.7	-	-	1	-	-	7.7

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection						
Int Delay, s/veh	0.8					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	35	10	244	304	4
Future Vol, veh/h	2	35	10	244	304	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	38	11	268	334	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	626	336	338	0	-	0
Stage 1	336	-	-	-	-	-
Stage 2	290	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	451	711	1232	-	-	-
Stage 1	728	-	-	-	-	-
Stage 2	764	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	446	711	1232	-	-	-
Mov Cap-2 Maneuver	446	-	-	-	-	-
Stage 1	721	-	-	-	-	-
Stage 2	764	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.6	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1232	-	689	-	-
HCM Lane V/C Ratio	0.009	-	0.059	-	-
HCM Control Delay (s)	7.9	0	10.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	7	286	33	9	341	54
Future Volume (veh/h)	7	286	33	9	341	54
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	8	308	35	10	367	58
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	225	401	932	245	900	4022
Arrive On Green	0.12	0.12	0.23	0.23	0.50	0.78
Sat Flow, veh/h	1810	3220	4261	1074	1810	5358
Grp Volume(v), veh/h	8	308	29	16	367	58
Grp Sat Flow(s),veh/h/ln	1810	1610	1729	1707	1810	1729
Q Serve(g_s), s	0.3	8.3	0.6	0.7	11.5	0.2
Cycle Q Clear(g_c), s	0.3	8.3	0.6	0.7	11.5	0.2
Prop In Lane	1.00	1.00		0.63	1.00	
Lane Grp Cap(c), veh/h	225	401	788	389	900	4022
V/C Ratio(X)	0.04	0.77	0.04	0.04	0.41	0.01
Avail Cap(c_a), veh/h	412	734	788	389	900	4022
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.86	0.86	1.00	1.00
Uniform Delay (d), s/veh	34.6	38.1	27.1	27.1	14.2	2.3
Incr Delay (d2), s/veh	0.1	3.1	0.1	0.2	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	3.4	0.2	0.3	4.5	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	34.7	41.2	27.1	27.3	14.5	2.3
LnGrp LOS	C	D	C	C	B	A
Approach Vol, veh/h	316		45			425
Approach Delay, s/veh	41.1		27.2			12.9
Approach LOS	D		C			B

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	49.3	25.0				74.3		15.7
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	35.5	20.5				60.5		20.5
Max Q Clear Time (g_c+I1), s	13.5	2.7				2.2		10.3
Green Ext Time (p_c), s	1.1	0.1				0.4		0.9

Intersection Summary			
HCM 6th Ctrl Delay			25.0
HCM 6th LOS			C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	178	317	355	193	417	1046
Future Volume (veh/h)	178	317	355	193	417	1046
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	200	356	399	217	469	1175
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	400	356	772	360	734	3521
Arrive On Green	0.22	0.22	0.22	0.22	0.41	0.68
Sat Flow, veh/h	1810	1610	3629	1610	1810	5358
Grp Volume(v), veh/h	200	356	399	217	469	1175
Grp Sat Flow(s),veh/h/ln	1810	1610	1729	1610	1810	1729
Q Serve(g_s), s	8.7	19.9	9.1	10.9	18.7	8.5
Cycle Q Clear(g_c), s	8.7	19.9	9.1	10.9	18.7	8.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	400	356	772	360	734	3521
V/C Ratio(X)	0.50	1.00	0.52	0.60	0.64	0.33
Avail Cap(c_a), veh/h	400	356	772	360	734	3521
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.65	0.65	1.00	1.00	0.96	0.96
Uniform Delay (d), s/veh	30.7	35.0	30.7	31.4	21.5	6.0
Incr Delay (d2), s/veh	0.6	38.4	2.5	7.3	1.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	11.4	4.0	4.9	7.9	2.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	31.3	73.5	33.1	38.7	23.3	6.2
LnGrp LOS	C	E	C	D	C	A
Approach Vol, veh/h	556		616			1644
Approach Delay, s/veh	58.3		35.1			11.1
Approach LOS	E		D			B

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	41.0	24.6				65.6	24.4
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	36.5	20.1				61.1	19.9
Max Q Clear Time (g_c+I1), s	20.7	12.9				10.5	21.9
Green Ext Time (p_c), s	1.4	2.3				11.5	0.0

Intersection Summary	
HCM 6th Ctrl Delay	25.7
HCM 6th LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	248	1228	1274	207	294	251
Future Volume (veh/h)	248	1228	1274	207	294	251
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	273	1349	1400	227	323	276
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	392	2346	1724	279	452	403
Arrive On Green	0.22	0.65	0.38	0.38	0.25	0.25
Sat Flow, veh/h	1810	3705	4669	729	1810	1610
Grp Volume(v), veh/h	273	1349	1076	551	323	276
Grp Sat Flow(s),veh/h/ln	1810	1805	1729	1769	1810	1610
Q Serve(g_s), s	12.5	18.8	25.1	25.1	14.7	14.0
Cycle Q Clear(g_c), s	12.5	18.8	25.1	25.1	14.7	14.0
Prop In Lane	1.00			0.41	1.00	1.00
Lane Grp Cap(c), veh/h	392	2347	1326	678	452	403
V/C Ratio(X)	0.70	0.57	0.81	0.81	0.71	0.69
Avail Cap(c_a), veh/h	392	2347	1326	678	452	403
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.72	0.72
Uniform Delay (d), s/veh	32.5	8.8	24.8	24.9	30.8	30.5
Incr Delay (d2), s/veh	5.3	1.0	5.5	10.3	6.8	6.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	6.6	10.8	12.0	7.1	12.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	37.8	9.8	30.3	35.1	37.6	37.3
LnGrp LOS	D	A	C	D	D	D
Approach Vol, veh/h		1622	1627		599	
Approach Delay, s/veh		14.5	32.0		37.4	
Approach LOS		B	C		D	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		63.0		27.0	24.0	39.0
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		58.5		22.5	19.5	34.5
Max Q Clear Time (g_c+I1), s		20.8		16.7	14.5	27.1
Green Ext Time (p_c), s		13.9		1.1	0.4	5.5
Intersection Summary						
HCM 6th Ctrl Delay			25.5			
HCM 6th LOS			C			

SYNCHRO LOS WORKSHEETS – FUTURE MID

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	195	510	209	95	531	106	141	421	81	121	439	203
Future Volume (veh/h)	195	510	209	95	531	106	141	421	81	121	439	203
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	210	548	225	102	571	114	152	453	87	130	472	218
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	354	1346	540	132	902	362	189	861	346	164	812	326
Arrive On Green	0.20	0.37	0.37	0.07	0.25	0.25	0.10	0.24	0.24	0.09	0.22	0.22
Sat Flow, veh/h	1810	3610	1449	1810	3610	1449	1810	3610	1449	1810	3610	1449
Grp Volume(v), veh/h	210	548	225	102	571	114	152	453	87	130	472	218
Grp Sat Flow(s),veh/h/ln	1810	1805	1449	1810	1805	1449	1810	1805	1449	1810	1805	1449
Q Serve(g_s), s	8.4	9.0	6.0	4.4	11.3	3.7	6.6	8.7	3.9	5.6	9.3	11.0
Cycle Q Clear(g_c), s	8.4	9.0	6.0	4.4	11.3	3.7	6.6	8.7	3.9	5.6	9.3	11.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	354	1346	540	132	903	362	189	861	346	164	812	326
V/C Ratio(X)	0.59	0.41	0.42	0.77	0.63	0.31	0.81	0.53	0.25	0.79	0.58	0.67
Avail Cap(c_a), veh/h	354	1346	540	226	903	362	238	861	346	215	812	326
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.84	0.84	0.84	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.3	18.5	8.0	36.4	26.7	13.0	35.0	26.5	24.7	35.6	27.6	28.3
Incr Delay (d2), s/veh	2.6	0.9	2.4	7.9	2.8	1.9	13.8	2.1	1.6	13.9	3.0	10.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	3.7	3.1	2.2	5.0	1.9	3.5	3.9	1.5	3.1	4.2	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.9	19.5	10.3	44.3	29.6	14.9	48.8	28.6	26.3	49.5	30.7	38.7
LnGrp LOS	C	B	B	D	C	B	D	C	C	D	C	D
Approach Vol, veh/h		983			787			692			820	
Approach Delay, s/veh		20.0			29.4			32.8			35.8	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.3	34.3	12.8	22.5	20.2	24.5	11.8	23.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.0	23.5	10.5	18.0	13.5	20.0	9.5	19.0
Max Q Clear Time (g_c+I1), s	6.4	11.0	8.6	13.0	10.4	13.3	7.6	10.7
Green Ext Time (p_c), s	0.1	3.6	0.1	1.8	0.2	2.3	0.1	2.1

Intersection Summary	
HCM 6th Ctrl Delay	28.9
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	222	501	179	102	356	51	159	356	97	51	425	185
Future Volume (veh/h)	222	501	179	102	356	51	159	356	97	51	425	185
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	252	569	203	116	405	58	181	405	110	58	483	210
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	383	792	318	273	555	223	475	1582	635	532	1445	580
Arrive On Green	0.14	0.22	0.22	0.07	0.15	0.15	0.17	0.88	0.88	0.05	0.40	0.40
Sat Flow, veh/h	1810	3610	1449	1810	3610	1449	1810	3610	1449	1810	3610	1449
Grp Volume(v), veh/h	252	569	203	116	405	58	181	405	110	58	483	210
Grp Sat Flow(s),veh/h/ln	1810	1805	1449	1810	1805	1449	1810	1805	1449	1810	1805	1449
Q Serve(g_s), s	8.8	11.7	10.2	4.2	8.6	2.8	4.6	1.4	0.9	1.5	7.4	8.1
Cycle Q Clear(g_c), s	8.8	11.7	10.2	4.2	8.6	2.8	4.6	1.4	0.9	1.5	7.4	8.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	383	792	318	273	555	223	475	1582	635	532	1445	580
V/C Ratio(X)	0.66	0.72	0.64	0.43	0.73	0.26	0.38	0.26	0.17	0.11	0.33	0.36
Avail Cap(c_a), veh/h	448	1164	467	291	835	335	549	1582	635	566	1445	580
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.98	0.98	0.98	0.84	0.84	0.84
Uniform Delay (d), s/veh	22.7	28.9	28.4	25.9	32.3	29.8	11.0	2.9	2.8	12.7	16.6	16.8
Incr Delay (d2), s/veh	2.8	1.2	2.1	1.1	1.9	0.6	0.5	0.4	0.6	0.1	0.5	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	5.0	3.6	1.9	3.8	1.0	1.6	0.5	0.3	0.6	3.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.4	30.2	30.5	27.0	34.1	30.5	11.5	3.2	3.4	12.8	17.1	18.3
LnGrp LOS	C	C	C	C	C	C	B	A	A	B	B	B
Approach Vol, veh/h		1024			579			696			751	
Approach Delay, s/veh		29.1			32.3			5.4			17.1	
Approach LOS		C			C			A			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.1	39.6	10.3	22.0	11.2	36.5	15.5	16.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.1	24.5	6.6	25.8	9.9	19.7	13.9	18.5
Max Q Clear Time (g_c+I1), s	3.5	3.4	6.2	13.7	6.6	10.1	10.8	10.6
Green Ext Time (p_c), s	0.0	3.0	0.0	3.6	0.1	2.8	0.2	1.7

Intersection Summary	
HCM 6th Ctrl Delay	21.4
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣		↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	4	25	32	32	30	61	19	528	31	32	682	20
Future Volume (veh/h)	4	25	32	32	30	61	19	528	31	32	682	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	4	28	36	36	33	68	21	587	34	36	758	22
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	52	87	102	92	57	91	594	2803	1125	688	2803	1125
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.78	0.78	0.78	0.78	0.78	0.78
Sat Flow, veh/h	41	778	921	320	512	820	703	3610	1449	816	3610	1449
Grp Volume(v), veh/h	68	0	0	137	0	0	21	587	34	36	758	22
Grp Sat Flow(s),veh/h/ln	1740	0	0	1651	0	0	703	1805	1449	816	1805	1449
Q Serve(g_s), s	0.0	0.0	0.0	3.4	0.0	0.0	0.7	3.5	0.4	1.0	4.8	0.3
Cycle Q Clear(g_c), s	2.9	0.0	0.0	6.3	0.0	0.0	5.5	3.5	0.4	4.5	4.8	0.3
Prop In Lane	0.06		0.53	0.26		0.50	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	241	0	0	240	0	0	594	2803	1125	688	2803	1125
V/C Ratio(X)	0.28	0.00	0.00	0.57	0.00	0.00	0.04	0.21	0.03	0.05	0.27	0.02
Avail Cap(c_a), veh/h	614	0	0	591	0	0	594	2803	1125	688	2803	1125
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.63	0.63	0.63	0.91	0.91	0.91
Uniform Delay (d), s/veh	32.9	0.0	0.0	34.3	0.0	0.0	3.3	2.4	2.0	3.0	2.5	2.0
Incr Delay (d2), s/veh	0.6	0.0	0.0	2.1	0.0	0.0	0.1	0.1	0.0	0.1	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.0	2.7	0.0	0.0	0.1	0.8	0.1	0.1	1.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.5	0.0	0.0	36.5	0.0	0.0	3.4	2.5	2.1	3.1	2.7	2.1
LnGrp LOS	C	A	A	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		68			137			642			816	
Approach Delay, s/veh		33.5			36.5			2.5			2.7	
Approach LOS		C			D			A			A	

Timer - Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		66.6		13.4		66.6		13.4
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		44.5		26.5		44.5		26.5
Max Q Clear Time (g_c+I1), s		7.5		4.9		6.8		8.3
Green Ext Time (p_c), s		4.8		0.3		6.6		0.7

Intersection Summary	
HCM 6th Ctrl Delay	6.7
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	899	147	117	942	154	200	416	139	218	343	148
Future Volume (veh/h)	97	899	147	117	942	154	200	416	139	218	343	148
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1000	1000	1900	1000	1000	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	105	977	160	127	1024	167	217	452	151	237	373	161
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
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	111	972	159	131	999	163	211	722	290	211	722	290
Arrive On Green	0.06	0.41	0.41	0.05	0.28	0.28	0.12	0.20	0.20	0.12	0.20	0.20
Sat Flow, veh/h	1810	2364	386	1810	2366	385	1810	3610	1449	1810	3610	1449
Grp Volume(v), veh/h	105	751	386	127	787	404	217	452	151	237	373	161
Grp Sat Flow(s),veh/h/ln	1810	910	930	1810	910	931	1810	1805	1449	1810	1805	1449
Q Serve(g_s), s	5.2	37.0	37.0	6.3	38.0	38.0	10.5	10.3	8.4	10.5	8.3	9.0
Cycle Q Clear(g_c), s	5.2	37.0	37.0	6.3	38.0	38.0	10.5	10.3	8.4	10.5	8.3	9.0
Prop In Lane	1.00		0.42	1.00		0.41	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	111	748	383	131	768	393	211	722	290	211	722	290
V/C Ratio(X)	0.95	1.00	1.01	0.97	1.02	1.03	1.03	0.63	0.52	1.12	0.52	0.56
Avail Cap(c_a), veh/h	111	748	383	131	768	393	211	722	290	211	722	290
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.27	0.27	0.27	1.00	1.00	1.00	0.97	0.97	0.97
Uniform Delay (d), s/veh	42.1	26.5	26.5	42.7	32.3	32.3	39.8	32.9	32.1	39.8	32.1	32.4
Incr Delay (d2), s/veh	69.5	34.0	48.0	33.6	23.5	30.8	69.4	4.1	6.6	97.9	2.6	7.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	11.0	12.8	4.1	11.1	12.1	8.7	4.8	3.4	10.3	3.8	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	111.6	60.5	74.5	76.3	55.8	63.0	109.1	37.0	38.7	137.6	34.7	39.7
LnGrp LOS	F	F	F	E	F	F	F	D	D	F	C	D
Approach Vol, veh/h		1242			1318			820			771	
Approach Delay, s/veh		69.1			60.0			56.4			67.4	
Approach LOS		E			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	41.5	15.0	22.5	10.0	42.5	15.0	22.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	37.0	10.5	18.0	5.5	38.0	10.5	18.0
Max Q Clear Time (g_c+I1), s	8.3	39.0	12.5	11.0	7.2	40.0	12.5	12.3
Green Ext Time (p_c), s	0.0	0.0	0.0	1.7	0.0	0.0	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	63.4
HCM 6th LOS	E

Intersection	
Intersection Delay, s/veh	29.8
Intersection LOS	D

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	417	160	128	335	372	301
Future Vol, veh/h	417	160	128	335	372	301
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	479	184	147	385	428	346
Number of Lanes	1	2	2	1	1	2

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	3	3	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	3	0	3
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	3	3
HCM Control Delay	25.5	20.2	40
HCM LOS	D	C	E

Lane	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	80%	0%	0%	0%	0%	100%	0%	0%
Vol Thru, %	0%	20%	100%	100%	100%	0%	0%	0%	0%
Vol Right, %	0%	0%	0%	0%	0%	100%	0%	100%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	209	262	107	64	64	335	372	151	151
LT Vol	209	209	0	0	0	0	372	0	0
Through Vol	0	53	107	64	64	0	0	0	0
RT Vol	0	0	0	0	0	335	0	151	151
Lane Flow Rate	240	301	123	74	74	385	428	173	173
Geometry Grp	8	8	8	8	8	8	7	7	7
Degree of Util (X)	0.592	0.735	0.226	0.183	0.183	0.692	0.965	0.332	0.249
Departure Headway (Hd)	8.898	8.793	6.632	8.949	8.949	6.471	8.122	6.909	5.189
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	405	409	538	399	399	554	445	519	688
Service Time	6.684	6.579	4.417	6.74	6.74	4.261	5.884	4.67	2.949
HCM Lane V/C Ratio	0.593	0.736	0.229	0.185	0.185	0.695	0.962	0.333	0.251
HCM Control Delay	23.9	32.5	11.4	13.8	13.8	22.7	63.1	13.1	9.7
HCM Lane LOS	C	D	B	B	B	C	F	B	A
HCM 95th-tile Q	3.7	5.8	0.9	0.7	0.7	5.4	11.7	1.4	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	178	373	61	120	308	305	34	567	161	214	522	229
Future Volume (veh/h)	178	373	61	120	308	305	34	567	161	214	522	229
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	196	410	67	132	338	335	37	623	177	235	574	252
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	237	656	264	166	516	207	63	677	192	466	1139	499
Arrive On Green	0.04	0.06	0.06	0.09	0.14	0.14	0.04	0.24	0.24	0.26	0.47	0.47
Sat Flow, veh/h	1810	3610	1449	1810	3610	1449	1810	2776	787	1810	2442	1070
Grp Volume(v), veh/h	196	410	67	132	338	335	37	405	395	235	424	402
Grp Sat Flow(s),veh/h/ln	1810	1805	1449	1810	1805	1449	1810	1805	1758	1810	1805	1707
Q Serve(g_s), s	8.6	8.9	3.5	5.7	7.1	6.5	1.6	17.5	17.5	8.9	13.1	13.1
Cycle Q Clear(g_c), s	8.6	8.9	3.5	5.7	7.1	6.5	1.6	17.5	17.5	8.9	13.1	13.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.45	1.00		0.63
Lane Grp Cap(c), veh/h	237	656	264	166	516	207	63	440	429	466	842	796
V/C Ratio(X)	0.83	0.62	0.25	0.80	0.66	1.62	0.58	0.92	0.92	0.50	0.50	0.50
Avail Cap(c_a), veh/h	238	884	355	201	812	326	115	440	429	466	842	796
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.4	34.9	32.4	35.6	32.4	11.1	38.0	29.5	29.5	25.3	14.9	14.9
Incr Delay (d2), s/veh	18.8	0.9	0.4	16.4	1.4	299.6	8.2	26.9	27.8	0.9	2.1	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	4.2	1.3	3.2	3.1	20.8	0.8	10.5	10.4	3.8	5.5	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.2	35.8	32.9	52.0	33.8	310.6	46.3	56.4	57.3	26.2	17.0	17.2
LnGrp LOS	E	D	C	D	C	F	D	E	E	C	B	B
Approach Vol, veh/h		673			805			837			1061	
Approach Delay, s/veh		41.5			152.0			56.4			19.1	
Approach LOS		D			F			E			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.1	24.0	11.8	19.0	7.3	41.8	15.0	15.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	14.0	19.5	8.9	19.6	5.1	28.4	10.5	18.0
Max Q Clear Time (g_c+I1), s	10.9	19.5	7.7	10.9	3.6	15.1	10.6	9.1
Green Ext Time (p_c), s	0.2	0.0	0.0	1.9	0.0	4.5	0.0	2.3

Intersection Summary	
HCM 6th Ctrl Delay	64.5
HCM 6th LOS	E

Intersection	
Intersection Delay, s/veh	12.4
Intersection LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	318	190	27	292	168	20
Future Vol, veh/h	318	190	27	292	168	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	353	211	30	324	187	22
Number of Lanes	1	1	0	2	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	2
HCM Control Delay	13.1	11.2	12.3
HCM LOS	B	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2
Vol Left, %	89%	0%	0%	22%	0%
Vol Thru, %	0%	100%	0%	78%	100%
Vol Right, %	11%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	188	318	190	124	195
LT Vol	168	0	0	27	0
Through Vol	0	318	0	97	195
RT Vol	20	0	190	0	0
Lane Flow Rate	209	353	211	138	216
Geometry Grp	2	7	7	7	7
Degree of Util (X)	0.35	0.553	0.289	0.228	0.351
Departure Headway (Hd)	6.032	5.634	4.925	5.951	5.841
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	597	643	730	604	616
Service Time	4.064	3.36	2.651	3.682	3.572
HCM Lane V/C Ratio	0.35	0.549	0.289	0.228	0.351
HCM Control Delay	12.3	15.1	9.7	10.4	11.7
HCM Lane LOS	B	C	A	B	B
HCM 95th-tile Q	1.6	3.4	1.2	0.9	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	1117	70	25	1078	163	40	51	40	190	43	11
Future Volume (veh/h)	27	1117	70	25	1078	163	40	51	40	190	43	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1000	1000	1900	1000	1000	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	28	1152	72	26	1111	168	41	53	41	196	44	11
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	120	1386	87	324	1263	191	214	273	190	486	104	24
Arrive On Green	1.00	1.00	1.00	0.35	0.35	0.35	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	439	2626	164	463	2393	362	435	734	510	1115	281	64
Grp Volume(v), veh/h	28	798	426	26	845	434	135	0	0	251	0	0
Grp Sat Flow(s),veh/h/ln	439	910	970	463	910	935	1678	0	0	1460	0	0
Q Serve(g_s), s	5.4	0.0	0.0	3.4	39.2	39.2	0.0	0.0	0.0	6.2	0.0	0.0
Cycle Q Clear(g_c), s	44.6	0.0	0.0	3.4	39.2	39.2	4.6	0.0	0.0	10.8	0.0	0.0
Prop In Lane	1.00		0.17	1.00		0.39	0.30		0.30	0.78		0.04
Lane Grp Cap(c), veh/h	120	961	512	324	961	493	677	0	0	615	0	0
V/C Ratio(X)	0.23	0.83	0.83	0.08	0.88	0.88	0.20	0.00	0.00	0.41	0.00	0.00
Avail Cap(c_a), veh/h	120	961	512	324	961	493	677	0	0	615	0	0
HCM Platoon Ratio	2.00	2.00	2.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.12	0.12	0.12	0.69	0.69	0.69	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.4	0.0	0.0	14.8	26.4	26.4	19.2	0.0	0.0	20.9	0.0	0.0
Incr Delay (d2), s/veh	0.5	1.1	2.0	0.3	8.2	14.6	0.7	0.0	0.0	2.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.1	0.3	0.4	9.8	11.0	2.0	0.0	0.0	4.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.0	1.1	2.0	15.2	34.6	41.0	19.8	0.0	0.0	22.9	0.0	0.0
LnGrp LOS	B	A	A	B	C	D	B	A	A	C	A	A
Approach Vol, veh/h		1252			1305			135			251	
Approach Delay, s/veh		1.8			36.3			19.8			22.9	
Approach LOS		A			D			B			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		52.0		38.0		52.0		38.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		47.5		33.5		47.5		33.5				
Max Q Clear Time (g_c+I1), s		46.6		12.8		41.2		6.6				
Green Ext Time (p_c), s		0.7		1.5		4.1		0.7				
Intersection Summary												
HCM 6th Ctrl Delay			19.7									
HCM 6th LOS			B									

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	0	2	9	0	9	2	25	20	0	36	3
Future Vol, veh/h	2	0	2	9	0	9	2	25	20	0	36	3
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	2	0	2	11	0	11	2	30	24	0	43	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7	7	7	7.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	50%	50%	0%
Vol Thru, %	53%	0%	0%	92%
Vol Right, %	43%	50%	50%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	47	4	18	39
LT Vol	2	2	9	0
Through Vol	25	0	0	36
RT Vol	20	2	9	3
Lane Flow Rate	57	5	22	47
Geometry Grp	1	1	1	1
Degree of Util (X)	0.059	0.005	0.023	0.051
Departure Headway (Hd)	3.733	3.895	3.882	3.941
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	960	915	919	910
Service Time	1.751	1.933	1.918	1.958
HCM Lane V/C Ratio	0.059	0.005	0.024	0.052
HCM Control Delay	7	7	7	7.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0	0.1	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	1218	106	42	1132	12	84	5	79	11	6	53
Future Volume (veh/h)	43	1218	106	42	1132	12	84	5	79	11	6	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1000	1000	1900	1000	1000	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	45	1282	112	44	1192	13	88	5	83	12	6	56
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	402	1747	153	349	1903	21	207	29	157	78	54	266
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	471	2556	223	394	2784	30	677	133	723	145	250	1227
Grp Volume(v), veh/h	45	913	481	44	779	426	176	0	0	74	0	0
Grp Sat Flow(s),veh/h/ln	471	910	960	394	910	995	1533	0	0	1622	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	5.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	8.7	0.0	0.0	3.3	0.0	0.0
Prop In Lane	1.00		0.23	1.00		0.03	0.50		0.47	0.16		0.76
Lane Grp Cap(c), veh/h	402	1244	656	349	1244	680	392	0	0	398	0	0
V/C Ratio(X)	0.11	0.73	0.73	0.13	0.63	0.63	0.45	0.00	0.00	0.19	0.00	0.00
Avail Cap(c_a), veh/h	402	1244	656	349	1244	680	392	0	0	398	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.35	0.35	0.35	0.72	0.72	0.72	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	30.9	0.0	0.0	28.9	0.0	0.0
Incr Delay (d2), s/veh	0.2	1.4	2.6	0.5	1.7	3.1	3.7	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.5	0.1	0.3	0.6	3.7	0.0	0.0	1.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.2	1.4	2.6	0.5	1.7	3.1	34.5	0.0	0.0	29.9	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		1439			1249			176			74	
Approach Delay, s/veh		1.7			2.2			34.5			29.9	
Approach LOS		A			A			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		66.0		24.0		66.0		24.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		61.5		19.5		61.5		19.5				
Max Q Clear Time (g_c+I1), s		2.0		5.3		2.0		10.7				
Green Ext Time (p_c), s		15.8		0.3		12.7		0.6				

Intersection Summary			
HCM 6th Ctrl Delay			4.6
HCM 6th LOS			A

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	6	5	18	15	8	4	3	8	5	5	0
Future Vol, veh/h	3	6	5	18	15	8	4	3	8	5	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	64	64	64	64	64	64	64	64	64	64	64	64
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	9	8	28	23	13	6	5	13	8	8	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	36	0	0	17	0	0	113	115	13	118	113	30
Stage 1	-	-	-	-	-	-	23	23	-	86	86	-
Stage 2	-	-	-	-	-	-	90	92	-	32	27	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1588	-	-	1613	-	-	869	779	1073	863	781	1050
Stage 1	-	-	-	-	-	-	1000	880	-	927	827	-
Stage 2	-	-	-	-	-	-	922	823	-	990	877	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1588	-	-	1613	-	-	848	763	1073	835	765	1050
Mov Cap-2 Maneuver	-	-	-	-	-	-	848	763	-	835	765	-
Stage 1	-	-	-	-	-	-	997	877	-	924	812	-
Stage 2	-	-	-	-	-	-	897	808	-	970	874	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.6	3.2	9	9.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	931	1588	-	-	1613	-	-	798
HCM Lane V/C Ratio	0.025	0.003	-	-	0.017	-	-	0.02
HCM Control Delay (s)	9	7.3	0	-	7.3	0	-	9.6
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0.1

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	1	5	6	8	1	1	11	29	14	1	41	1
Future Vol, veh/h	1	5	6	8	1	1	11	29	14	1	41	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	5	6	9	1	1	12	31	15	1	44	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	6.9	7.3	7.1	7.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	8%	80%	2%
Vol Thru, %	54%	42%	10%	95%
Vol Right, %	26%	50%	10%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	54	12	10	43
LT Vol	11	1	8	1
Through Vol	29	5	1	41
RT Vol	14	6	1	1
Lane Flow Rate	57	13	11	46
Geometry Grp	1	1	1	1
Degree of Util (X)	0.062	0.013	0.012	0.05
Departure Headway (Hd)	3.859	3.803	4.189	3.973
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	929	937	851	903
Service Time	1.876	1.844	2.229	1.992
HCM Lane V/C Ratio	0.061	0.014	0.013	0.051
HCM Control Delay	7.1	6.9	7.3	7.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0	0	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	1212	68	23	1102	28	59	14	43	30	12	28
Future Volume (veh/h)	31	1212	68	23	1102	28	59	14	43	30	12	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1000	1000	1900	1000	1000	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	32	1262	71	24	1148	29	61	15	45	31	12	29
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	309	1836	103	370	1902	48	203	59	120	178	78	134
Arrive On Green	1.00	1.00	1.00	0.69	0.69	0.69	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	484	2644	149	417	2738	69	693	289	581	588	378	651
Grp Volume(v), veh/h	32	868	465	24	763	414	121	0	0	72	0	0
Grp Sat Flow(s),veh/h/ln	484	910	973	417	910	988	1563	0	0	1617	0	0
Q Serve(g_s), s	2.1	0.0	0.0	1.7	19.8	19.9	2.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	22.0	0.0	0.0	1.7	19.8	19.9	5.6	0.0	0.0	3.0	0.0	0.0
Prop In Lane	1.00		0.15	1.00		0.07	0.50		0.37	0.43		0.40
Lane Grp Cap(c), veh/h	309	1264	676	370	1264	686	382	0	0	390	0	0
V/C Ratio(X)	0.10	0.69	0.69	0.06	0.60	0.60	0.32	0.00	0.00	0.18	0.00	0.00
Avail Cap(c_a), veh/h	309	1264	676	370	1264	686	382	0	0	390	0	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.54	0.54	0.54	0.73	0.73	0.73	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	3.5	0.0	0.0	4.5	7.2	7.2	30.5	0.0	0.0	29.6	0.0	0.0
Incr Delay (d2), s/veh	0.4	1.7	3.1	0.2	1.6	2.9	2.2	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.3	0.6	0.1	3.4	3.9	2.4	0.0	0.0	1.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.8	1.7	3.1	4.7	8.8	10.1	32.7	0.0	0.0	30.6	0.0	0.0
LnGrp LOS	A	A	A	A	A	B	C	A	A	C	A	A
Approach Vol, veh/h		1365			1201			121			72	
Approach Delay, s/veh		2.2			9.2			32.7			30.6	
Approach LOS		A			A			C			C	

Timer - Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		67.0		23.0		67.0		23.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		62.5		18.5		62.5		18.5
Max Q Clear Time (g_c+I1), s		24.0		5.0		21.9		7.6
Green Ext Time (p_c), s		13.0		0.2		10.9		0.4

Intersection Summary			
HCM 6th Ctrl Delay			7.3
HCM 6th LOS			A

Intersection	
Int Delay, s/veh	6.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	117	95	60	82	157	101
Future Vol, veh/h	117	95	60	82	157	101
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	126	102	65	88	169	109

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	228	0	395	177
Stage 1	-	-	-	-	177	-
Stage 2	-	-	-	-	218	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1352	-	614	871
Stage 1	-	-	-	-	859	-
Stage 2	-	-	-	-	823	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1352	-	583	871
Mov Cap-2 Maneuver	-	-	-	-	583	-
Stage 1	-	-	-	-	859	-
Stage 2	-	-	-	-	781	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.3	14.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	670	-	-	1352	-
HCM Lane V/C Ratio	0.414	-	-	0.048	-
HCM Control Delay (s)	14.1	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	2	-	-	0.1	-

Intersection	
Int Delay, s/veh	9.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	25	34	3	264	21	16	11	137	22	1
Future Vol, veh/h	0	0	25	34	3	264	21	16	11	137	22	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	33	45	4	352	28	21	15	183	29	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	659	488	30	497	481	29	30	0	0	36	0	0
Stage 1	396	396	-	85	85	-	-	-	-	-	-	-
Stage 2	263	92	-	412	396	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	380	483	1050	487	487	1052	1596	-	-	1588	-	-
Stage 1	633	607	-	928	828	-	-	-	-	-	-	-
Stage 2	747	823	-	621	607	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	225	419	1050	424	422	1052	1596	-	-	1588	-	-
Mov Cap-2 Maneuver	225	419	-	424	422	-	-	-	-	-	-	-
Stage 1	622	536	-	911	813	-	-	-	-	-	-	-
Stage 2	486	808	-	531	536	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.5	12.3	3.2	6.5
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1596	-	-	1050	890	1588	-	-
HCM Lane V/C Ratio	0.018	-	-	0.032	0.451	0.115	-	-
HCM Control Delay (s)	7.3	0	-	8.5	12.3	7.6	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	2.4	0.4	-	-

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	4	18	21	25	47	7	13	37	22	2	68	16
Future Vol, veh/h	4	18	21	25	47	7	13	37	22	2	68	16
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	21	24	29	54	8	15	43	25	2	78	18
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	7.9	7.6	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	9%	32%	2%
Vol Thru, %	51%	42%	59%	79%
Vol Right, %	31%	49%	9%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	72	43	79	86
LT Vol	13	4	25	2
Through Vol	37	18	47	68
RT Vol	22	21	7	16
Lane Flow Rate	83	49	91	99
Geometry Grp	1	1	1	1
Degree of Util (X)	0.096	0.057	0.108	0.113
Departure Headway (Hd)	4.174	4.123	4.366	4.101
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	864	873	826	859
Service Time	2.174	2.127	2.366	2.199
HCM Lane V/C Ratio	0.096	0.056	0.11	0.115
HCM Control Delay	7.6	7.4	7.9	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.2	0.4	0.4

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	3	2	14	0	0	5	95	13	1	143	1
Future Vol, veh/h	5	3	2	14	0	0	5	95	13	1	143	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	3	2	15	0	0	5	104	14	1	157	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	281	288	158	283	281	111	158	0	0	118	0	0
Stage 1	160	160	-	121	121	-	-	-	-	-	-	-
Stage 2	121	128	-	162	160	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	675	625	893	673	631	948	1434	-	-	1483	-	-
Stage 1	847	769	-	888	800	-	-	-	-	-	-	-
Stage 2	888	794	-	845	769	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	672	622	893	666	628	948	1434	-	-	1483	-	-
Mov Cap-2 Maneuver	672	622	-	666	628	-	-	-	-	-	-	-
Stage 1	844	768	-	884	797	-	-	-	-	-	-	-
Stage 2	884	791	-	838	768	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.3	10.5	0.3	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1434	-	-	689	666	1483	-	-
HCM Lane V/C Ratio	0.004	-	-	0.016	0.023	0.001	-	-
HCM Control Delay (s)	7.5	0	-	10.3	10.5	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	1133	81	23	1031	33	67	14	19	88	18	79
Future Volume (veh/h)	76	1133	81	23	1031	33	67	14	19	88	18	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1000	1000	1900	1000	1000	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	79	1180	84	24	1074	34	70	15	20	92	19	82
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	305	1714	122	187	1791	57	282	63	66	222	58	163
Arrive On Green	0.22	0.22	0.22	0.66	0.66	0.66	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	517	2602	185	446	2719	86	895	260	272	675	242	677
Grp Volume(v), veh/h	79	825	439	24	719	389	105	0	0	193	0	0
Grp Sat Flow(s),veh/h/ln	517	910	967	446	910	985	1426	0	0	1594	0	0
Q Serve(g_s), s	12.4	37.6	37.6	3.9	20.0	20.1	0.0	0.0	0.0	3.4	0.0	0.0
Cycle Q Clear(g_c), s	32.5	37.6	37.6	41.5	20.0	20.1	5.3	0.0	0.0	8.7	0.0	0.0
Prop In Lane	1.00		0.19	1.00		0.09	0.67		0.19	0.48		0.42
Lane Grp Cap(c), veh/h	305	1199	637	187	1199	649	411	0	0	443	0	0
V/C Ratio(X)	0.26	0.69	0.69	0.13	0.60	0.60	0.26	0.00	0.00	0.44	0.00	0.00
Avail Cap(c_a), veh/h	305	1199	637	187	1199	649	411	0	0	443	0	0
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.61	0.61	0.61	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	33.8	26.7	26.7	27.4	8.7	8.7	27.8	0.0	0.0	29.1	0.0	0.0
Incr Delay (d2), s/veh	1.3	2.0	3.7	1.4	2.2	4.1	1.5	0.0	0.0	3.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	9.4	10.3	0.5	3.7	4.4	2.0	0.0	0.0	3.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.0	28.7	30.4	28.8	10.9	12.7	29.3	0.0	0.0	32.2	0.0	0.0
LnGrp LOS	D	C	C	C	B	B	C	A	A	C	A	A
Approach Vol, veh/h		1343			1132			105			193	
Approach Delay, s/veh		29.6			11.9			29.3			32.2	
Approach LOS		C			B			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		63.8		26.2		63.8		26.2				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		59.3		21.7		59.3		21.7				
Max Q Clear Time (g_c+I1), s		39.6		10.7		43.5		7.3				
Green Ext Time (p_c), s		9.7		0.8		7.0		0.4				
Intersection Summary												
HCM 6th Ctrl Delay			22.6									
HCM 6th LOS			C									

Intersection	
Int Delay, s/veh	68.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	33	1127	1025	413	242	31
Future Vol, veh/h	33	1127	1025	413	242	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	45	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	34	1150	1046	421	247	32

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1467	0	-	0	1785	734
Stage 1	-	-	-	-	1257	-
Stage 2	-	-	-	-	528	-
Critical Hdwy	5.3	-	-	-	5.7	7.1
Critical Hdwy Stg 1	-	-	-	-	6.6	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	3.1	-	-	-	3.8	3.9
Pot Cap-1 Maneuver	236	-	-	-	~ 125	315
Stage 1	-	-	-	-	~ 171	-
Stage 2	-	-	-	-	513	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	236	-	-	-	~ 107	315
Mov Cap-2 Maneuver	-	-	-	-	~ 107	-
Stage 1	-	-	-	-	~ 146	-
Stage 2	-	-	-	-	513	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	$ 716
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	236	-	-	-	116
HCM Lane V/C Ratio	0.143	-	-	-	2.401
HCM Control Delay (s)	22.8	-	-	-	$ 716
HCM Lane LOS	C	-	-	-	F
HCM 95th %tile Q(veh)	0.5	-	-	-	24.6

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	13	11	2	55	32	4	0	4	11	0	15
Future Vol, veh/h	11	13	11	2	55	32	4	0	4	11	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	12	14	12	2	60	35	4	0	4	12	0	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	95	0	0	26	0	0	134	143	20	128	132	78
Stage 1	-	-	-	-	-	-	44	44	-	82	82	-
Stage 2	-	-	-	-	-	-	90	99	-	46	50	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1512	-	-	1601	-	-	842	752	1064	850	762	988
Stage 1	-	-	-	-	-	-	975	862	-	931	831	-
Stage 2	-	-	-	-	-	-	922	817	-	973	857	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1512	-	-	1601	-	-	823	745	1064	841	755	988
Mov Cap-2 Maneuver	-	-	-	-	-	-	823	745	-	841	755	-
Stage 1	-	-	-	-	-	-	967	855	-	924	830	-
Stage 2	-	-	-	-	-	-	906	816	-	961	850	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.3	0.2	8.9	9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	928	1512	-	-	1601	-	-	920
HCM Lane V/C Ratio	0.009	0.008	-	-	0.001	-	-	0.031
HCM Control Delay (s)	8.9	7.4	0	-	7.3	0	-	9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	39.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	36	1441	17	76	1571	82	4	0	135	44	0	29
Future Vol, veh/h	36	1441	17	76	1571	82	4	0	135	44	0	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	45	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	37	1470	17	78	1603	84	4	0	138	45	0	30

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1687	0	0	1487	0	0	2350	3396	744	2463	3362	844
Stage 1	-	-	-	-	-	-	1553	1553	-	1801	1801	-
Stage 2	-	-	-	-	-	-	797	1843	-	662	1561	-
Critical Hdwy	5.3	-	-	5.3	-	-	6.4	6.5	7.1	6.4	6.5	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	7.3	5.5	-	7.3	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.5	-	6.7	5.5	-
Follow-up Hdwy	3.1	-	-	3.1	-	-	3.8	4	3.9	3.8	4	3.9
Pot Cap-1 Maneuver	184	-	-	231	-	-	39	8	310	~ 33	8	267
Stage 1	-	-	-	-	-	-	83	176	-	55	133	-
Stage 2	-	-	-	-	-	-	318	127	-	384	175	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	184	-	-	231	-	-	22	4	310	~ 12	4	267
Mov Cap-2 Maneuver	-	-	-	-	-	-	22	4	-	~ 12	4	-
Stage 1	-	-	-	-	-	-	66	141	-	~ 44	88	-
Stage 2	-	-	-	-	-	-	187	84	-	170	140	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	1.2	44.9	$ 1726.8
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	225	184	-	-	231	-	-	19
HCM Lane V/C Ratio	0.63	0.2	-	-	0.336	-	-	3.921
HCM Control Delay (s)	44.9	29.4	-	-	28.3	-		$ 1726.8
HCM Lane LOS	E	D	-	-	D	-	-	F
HCM 95th %tile Q(veh)	3.8	0.7	-	-	1.4	-	-	9.8

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection						
Int Delay, s/veh	1.2					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	19	78	359	265	1
Future Vol, veh/h	2	19	78	359	265	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	21	86	395	291	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	859	292	292	0	-	0
Stage 1	292	-	-	-	-	-
Stage 2	567	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	329	752	1281	-	-	-
Stage 1	762	-	-	-	-	-
Stage 2	572	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	301	752	1281	-	-	-
Mov Cap-2 Maneuver	301	-	-	-	-	-
Stage 1	696	-	-	-	-	-
Stage 2	572	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.7	1.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1281	-	658	-	-
HCM Lane V/C Ratio	0.067	-	0.035	-	-
HCM Control Delay (s)	8	0	10.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.1	-	-

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	466	23	2	370	10
Future Volume (veh/h)	0	466	23	2	370	10
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	524	26	2	416	11
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	341	607	1121	84	785	3691
Arrive On Green	0.00	0.19	0.23	0.23	0.43	0.71
Sat Flow, veh/h	1810	3220	5093	370	1810	5358
Grp Volume(v), veh/h	0	524	18	10	416	11
Grp Sat Flow(s),veh/h/ln	1810	1610	1729	1833	1810	1729
Q Serve(g_s), s	0.0	14.2	0.4	0.4	15.2	0.1
Cycle Q Clear(g_c), s	0.0	14.2	0.4	0.4	15.2	0.1
Prop In Lane	1.00	1.00		0.20	1.00	
Lane Grp Cap(c), veh/h	341	607	788	418	785	3691
V/C Ratio(X)	0.00	0.86	0.02	0.02	0.53	0.00
Avail Cap(c_a), veh/h	392	698	788	418	785	3691
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.71	0.71	1.00	1.00
Uniform Delay (d), s/veh	0.0	35.4	27.0	27.0	18.7	3.8
Incr Delay (d2), s/veh	0.0	9.9	0.0	0.1	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.3	0.2	0.2	6.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	45.3	27.0	27.1	19.4	3.8
LnGrp LOS	A	D	C	C	B	A
Approach Vol, veh/h	524		28			427
Approach Delay, s/veh	45.3		27.0			19.0
Approach LOS	D		C			B

Timer - Assigned Phs	1	2	6	8
Phs Duration (G+Y+Rc), s	43.5	25.0	68.5	21.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	36.5	20.5	61.5	19.5
Max Q Clear Time (g_c+I1), s	17.2	2.4	2.1	16.2
Green Ext Time (p_c), s	1.2	0.1	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	33.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	178	472	936	233	370	825
Future Volume (veh/h)	178	472	936	233	370	825
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	185	492	975	243	385	859
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	432	385	1266	315	553	3429
Arrive On Green	0.24	0.24	0.31	0.31	0.31	0.66
Sat Flow, veh/h	1810	1610	4313	1030	1810	5358
Grp Volume(v), veh/h	185	492	814	404	385	859
Grp Sat Flow(s),veh/h/ln	1810	1610	1729	1715	1810	1729
Q Serve(g_s), s	7.8	21.5	19.2	19.3	16.9	6.1
Cycle Q Clear(g_c), s	7.8	21.5	19.2	19.3	16.9	6.1
Prop In Lane	1.00	1.00		0.60	1.00	
Lane Grp Cap(c), veh/h	432	385	1057	524	553	3429
V/C Ratio(X)	0.43	1.28	0.77	0.77	0.70	0.25
Avail Cap(c_a), veh/h	432	385	1057	524	553	3429
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.47	0.47	1.00	1.00	0.99	0.99
Uniform Delay (d), s/veh	29.0	34.2	28.4	28.4	27.6	6.2
Incr Delay (d2), s/veh	0.3	135.0	5.4	10.5	3.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	22.6	8.5	9.2	7.6	2.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	29.4	169.2	33.8	39.0	31.3	6.4
LnGrp LOS	C	F	C	D	C	A
Approach Vol, veh/h	677		1218			1244
Approach Delay, s/veh	131.0		35.5			14.1
Approach LOS	F		D			B

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	32.0	32.0				64.0		26.0
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	27.5	27.5				59.5		21.5
Max Q Clear Time (g_c+I1), s	18.9	21.3				8.1		23.5
Green Ext Time (p_c), s	0.8	3.9				7.5		0.0

Intersection Summary	
HCM 6th Ctrl Delay	47.6
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
25: Pacific Coast Hwy & O St

08/13/2021

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	274	1211	1331	380	310	291
Future Volume (veh/h)	274	1211	1331	380	310	291
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	285	1261	1386	396	323	303
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	323	2411	1762	501	420	374
Arrive On Green	0.18	0.67	0.44	0.44	0.23	0.23
Sat Flow, veh/h	1810	3705	4183	1141	1810	1610
Grp Volume(v), veh/h	285	1261	1194	588	323	303
Grp Sat Flow(s),veh/h/ln	1810	1805	1729	1695	1810	1610
Q Serve(g_s), s	13.8	16.1	26.6	26.8	15.0	16.0
Cycle Q Clear(g_c), s	13.8	16.1	26.6	26.8	15.0	16.0
Prop In Lane	1.00			0.67	1.00	1.00
Lane Grp Cap(c), veh/h	323	2411	1519	744	420	374
V/C Ratio(X)	0.88	0.52	0.79	0.79	0.77	0.81
Avail Cap(c_a), veh/h	380	2411	1519	744	420	374
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.65	0.65
Uniform Delay (d), s/veh	36.0	7.6	21.6	21.7	32.3	32.7
Incr Delay (d2), s/veh	18.7	0.8	4.2	8.4	8.5	11.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	5.5	11.0	11.8	7.4	14.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	54.8	8.4	25.8	30.0	40.8	44.4
LnGrp LOS	D	A	C	C	D	D
Approach Vol, veh/h		1546	1782		626	
Approach Delay, s/veh		17.0	27.2		42.6	
Approach LOS		B	C		D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		64.6		25.4	20.6	44.0
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		60.1		20.9	18.9	36.7
Max Q Clear Time (g_c+I1), s		18.1		18.0	15.8	28.8
Green Ext Time (p_c), s		12.9		0.7	0.3	6.2

Intersection Summary			
HCM 6th Ctrl Delay			25.6
HCM 6th LOS			C

SYNCHRO LOS WORKSHEETS – FUTURE PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	216	665	252	114	569	156	156	496	83	141	529	180
Future Volume (veh/h)	216	665	252	114	569	156	156	496	83	141	529	180
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	225	693	262	119	593	162	162	517	86	147	551	188
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	342	1124	451	227	893	359	199	857	344	183	824	331
Arrive On Green	0.19	0.31	0.31	0.13	0.25	0.25	0.11	0.24	0.24	0.10	0.23	0.23
Sat Flow, veh/h	1810	3610	1449	1810	3610	1449	1810	3610	1449	1810	3610	1449
Grp Volume(v), veh/h	225	693	262	119	593	162	162	517	86	147	551	188
Grp Sat Flow(s),veh/h/ln	1810	1805	1449	1810	1805	1449	1810	1805	1449	1810	1805	1449
Q Serve(g_s), s	9.2	13.1	8.2	4.9	11.8	7.6	7.0	10.2	3.8	6.4	11.1	5.6
Cycle Q Clear(g_c), s	9.2	13.1	8.2	4.9	11.8	7.6	7.0	10.2	3.8	6.4	11.1	5.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	342	1124	451	227	893	359	199	857	344	183	824	331
V/C Ratio(X)	0.66	0.62	0.58	0.53	0.66	0.45	0.81	0.60	0.25	0.80	0.67	0.57
Avail Cap(c_a), veh/h	342	1124	451	227	893	359	240	857	344	217	824	331
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.79	0.79	0.79	0.90	0.90	0.90	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.0	23.5	10.6	32.8	27.1	25.5	34.8	27.1	24.7	35.2	28.1	10.2
Incr Delay (d2), s/veh	4.6	2.5	5.4	1.8	3.1	3.2	14.7	2.8	1.6	16.8	4.3	6.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	5.7	3.1	2.2	5.3	2.8	3.8	4.6	1.4	3.6	5.1	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.6	26.0	16.0	34.5	30.2	28.7	49.5	30.0	26.3	51.9	32.4	17.1
LnGrp LOS	C	C	B	C	C	C	D	C	C	D	C	B
Approach Vol, veh/h		1180			874			765			886	
Approach Delay, s/veh		25.4			30.5			33.7			32.4	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.5	29.4	13.3	22.8	19.6	24.3	12.6	23.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	24.9	10.6	18.0	13.6	19.8	9.6	19.0
Max Q Clear Time (g_c+I1), s	6.9	15.1	9.0	13.1	11.2	13.8	8.4	12.2
Green Ext Time (p_c), s	0.0	4.0	0.1	1.9	0.2	2.3	0.0	2.1

Intersection Summary	
HCM 6th Ctrl Delay	30.0
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	225	740	219	135	451	46	170	489	96	56	553	222
Future Volume (veh/h)	225	740	219	135	451	46	170	489	96	56	553	222
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	239	787	233	144	480	49	181	520	102	60	588	236
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	405	953	382	271	802	322	296	1160	466	398	1181	474
Arrive On Green	0.12	0.26	0.26	0.08	0.22	0.22	0.20	0.64	0.64	0.11	0.33	0.33
Sat Flow, veh/h	1810	3610	1449	1810	3610	1449	1810	3610	1449	1810	3610	1449
Grp Volume(v), veh/h	239	787	233	144	480	49	181	520	102	60	588	236
Grp Sat Flow(s),veh/h/ln	1810	1805	1449	1810	1805	1449	1810	1805	1449	1810	1805	1449
Q Serve(g_s), s	7.8	16.4	11.3	4.8	9.5	1.6	6.3	5.8	1.7	0.0	10.5	10.5
Cycle Q Clear(g_c), s	7.8	16.4	11.3	4.8	9.5	1.6	6.3	5.8	1.7	0.0	10.5	10.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	405	953	382	271	802	322	296	1160	466	398	1181	474
V/C Ratio(X)	0.59	0.83	0.61	0.53	0.60	0.15	0.61	0.45	0.22	0.15	0.50	0.50
Avail Cap(c_a), veh/h	441	1060	426	293	880	353	304	1160	466	398	1181	474
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.97	0.97	0.77	0.77	0.77
Uniform Delay (d), s/veh	20.0	27.7	25.8	22.5	27.9	12.9	21.0	10.7	5.2	24.6	21.6	21.6
Incr Delay (d2), s/veh	1.8	5.0	2.1	1.6	1.0	0.2	3.3	1.2	1.0	0.1	1.2	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	7.4	4.0	2.1	4.1	0.7	2.5	2.0	0.8	0.9	4.4	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.8	32.7	27.9	24.1	28.9	13.1	24.3	12.0	6.2	24.7	22.8	24.5
LnGrp LOS	C	C	C	C	C	B	C	B	A	C	C	C
Approach Vol, veh/h		1259			673			803			884	
Approach Delay, s/veh		29.8			26.7			14.0			23.4	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.1	30.2	11.1	25.6	12.7	30.7	14.4	22.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	25.7	7.5	23.5	8.5	22.5	11.5	19.5
Max Q Clear Time (g_c+I1), s	2.0	7.8	6.8	18.4	8.3	12.5	9.8	11.5
Green Ext Time (p_c), s	0.0	3.6	0.0	2.7	0.0	3.5	0.1	2.1

Intersection Summary	
HCM 6th Ctrl Delay	24.1
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	28	29	24	18	36	28	706	33	30	840	23
Future Volume (veh/h)	16	28	29	24	18	36	28	706	33	30	840	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	18	31	32	27	20	40	31	784	37	33	933	26
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	76	58	52	91	37	59	574	2936	1179	606	2936	1179
Arrive On Green	0.07	0.07	0.07	0.07	0.07	0.07	0.81	0.81	0.81	1.00	1.00	1.00
Sat Flow, veh/h	281	784	696	426	505	792	595	3610	1449	677	3610	1449
Grp Volume(v), veh/h	81	0	0	87	0	0	31	784	37	33	933	26
Grp Sat Flow(s),veh/h/ln	1761	0	0	1723	0	0	595	1805	1449	677	1805	1449
Q Serve(g_s), s	0.0	0.0	0.0	0.3	0.0	0.0	0.8	4.1	0.4	0.3	0.0	0.0
Cycle Q Clear(g_c), s	3.4	0.0	0.0	3.7	0.0	0.0	0.8	4.1	0.4	4.4	0.0	0.0
Prop In Lane	0.22		0.40	0.31		0.46	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	186	0	0	187	0	0	574	2936	1179	606	2936	1179
V/C Ratio(X)	0.44	0.00	0.00	0.47	0.00	0.00	0.05	0.27	0.03	0.05	0.32	0.02
Avail Cap(c_a), veh/h	525	0	0	513	0	0	574	2936	1179	606	2936	1179
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.20	0.20	0.20	0.83	0.83	0.83
Uniform Delay (d), s/veh	35.9	0.0	0.0	36.0	0.0	0.0	1.5	1.8	1.4	0.1	0.0	0.0
Incr Delay (d2), s/veh	1.6	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	0.0	1.7	0.0	0.0	0.0	0.6	0.1	0.0	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.5	0.0	0.0	37.8	0.0	0.0	1.5	1.8	1.4	0.3	0.2	0.0
LnGrp LOS	D	A	A	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		81			87			852			992	
Approach Delay, s/veh		37.5			37.8			1.8			0.2	
Approach LOS		D			D			A			A	

Timer - Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		69.6		10.4		69.6		10.4
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		48.5		22.5		48.5		22.5
Max Q Clear Time (g_c+I1), s		6.1		5.4		6.4		5.7
Green Ext Time (p_c), s		7.2		0.3		8.8		0.3

Intersection Summary			
HCM 6th Ctrl Delay			4.0
HCM 6th LOS			A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	980	188	113	1036	145	243	569	134	214	468	144
Future Volume (veh/h)	124	980	188	113	1036	145	243	569	134	214	468	144
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1000	1000	1900	1000	1000	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	131	1032	198	119	1091	153	256	599	141	225	493	152
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	140	1054	202	128	1093	153	255	660	265	225	601	241
Arrive On Green	0.08	0.46	0.46	0.02	0.15	0.15	0.14	0.18	0.18	0.12	0.17	0.17
Sat Flow, veh/h	1810	2300	441	1810	2420	339	1810	3610	1449	1810	3610	1449
Grp Volume(v), veh/h	131	816	414	119	820	424	256	599	141	225	493	152
Grp Sat Flow(s),veh/h/ln	1810	910	921	1810	910	939	1810	1805	1449	1810	1805	1449
Q Serve(g_s), s	7.9	48.5	48.6	7.2	49.6	49.6	15.5	17.9	7.9	13.7	14.5	10.7
Cycle Q Clear(g_c), s	7.9	48.5	48.6	7.2	49.6	49.6	15.5	17.9	7.9	13.7	14.5	10.7
Prop In Lane	1.00		0.48	1.00		0.36	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	140	834	422	128	822	424	255	660	265	225	601	241
V/C Ratio(X)	0.94	0.98	0.98	0.93	1.00	1.00	1.00	0.91	0.53	1.00	0.82	0.63
Avail Cap(c_a), veh/h	140	834	422	128	822	424	255	660	265	225	601	241
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.22	0.22	0.22	1.00	1.00	1.00	0.95	0.95	0.95
Uniform Delay (d), s/veh	50.5	29.3	29.3	53.4	46.7	46.8	47.2	44.0	26.9	48.1	44.3	42.7
Incr Delay (d2), s/veh	57.1	26.4	39.3	21.2	14.2	20.2	57.4	18.6	7.5	57.9	11.4	11.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	13.2	14.9	4.2	13.7	14.9	11.0	9.6	3.3	9.8	7.4	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	107.6	55.7	68.6	74.6	60.9	67.0	104.6	62.6	34.4	106.1	55.7	54.0
LnGrp LOS	F	E	E	E	E	E	F	E	C	F	E	D
Approach Vol, veh/h		1361			1363			996			870	
Approach Delay, s/veh		64.6			64.0			69.4			68.4	
Approach LOS		E			E			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.3	54.9	20.0	22.8	13.0	54.2	18.2	24.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	7.8	50.4	15.5	18.3	8.5	49.7	13.7	20.1				
Max Q Clear Time (g_c+I1), s	9.2	50.6	17.5	16.5	9.9	51.6	15.7	19.9				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.1				
Intersection Summary												
HCM 6th Ctrl Delay			66.2									
HCM 6th LOS			E									

Intersection	
Intersection Delay, s/veh	20.5
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	592	200	143	182	203	431
Future Vol, veh/h	592	200	143	182	203	431
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	623	211	151	192	214	454
Number of Lanes	1	2	2	1	1	2

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	3	3	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	3	0	3
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	3	3
HCM Control Delay	29.1	12.5	13.9
HCM LOS	D	B	B

Lane	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	82%	0%	0%	0%	0%	100%	0%	0%
Vol Thru, %	0%	18%	100%	100%	100%	0%	0%	0%	0%
Vol Right, %	0%	0%	0%	0%	0%	100%	0%	100%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	296	363	133	72	72	182	203	216	216
LT Vol	296	296	0	0	0	0	203	0	0
Through Vol	0	67	133	72	72	0	0	0	0
RT Vol	0	0	0	0	0	182	0	216	216
Lane Flow Rate	312	382	140	75	75	192	214	227	227
Geometry Grp	8	8	8	8	8	8	7	7	7
Degree of Util (X)	0.684	0.828	0.221	0.18	0.18	0.327	0.47	0.422	0.315
Departure Headway (Hd)	7.906	7.812	5.662	8.611	8.611	6.147	7.912	6.705	4.996
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	458	462	633	416	416	582	455	538	719
Service Time	5.654	5.56	3.409	6.372	6.372	3.907	5.649	4.442	2.732
HCM Lane V/C Ratio	0.681	0.827	0.221	0.18	0.18	0.33	0.47	0.422	0.316
HCM Control Delay	26.2	38.4	10	13.3	13.3	11.9	17.5	14.3	10
HCM Lane LOS	D	E	A	B	B	B	C	B	A
HCM 95th-tile Q	5.1	8	0.8	0.6	0.6	1.4	2.5	2.1	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	244	509	42	103	378	198	38	620	154	261	521	231
Future Volume (veh/h)	244	509	42	103	378	198	38	620	154	261	521	231
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	262	547	45	111	406	213	41	667	166	281	560	248
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	260	733	294	178	568	228	238	716	178	405	834	369
Arrive On Green	0.05	0.07	0.07	0.10	0.16	0.16	0.13	0.25	0.25	0.22	0.34	0.34
Sat Flow, veh/h	1810	3610	1449	1810	3610	1449	1810	2865	712	1810	2435	1076
Grp Volume(v), veh/h	262	547	45	111	406	213	41	420	413	281	415	393
Grp Sat Flow(s),veh/h/ln	1810	1805	1449	1810	1805	1449	1810	1805	1772	1810	1805	1706
Q Serve(g_s), s	11.5	11.9	2.3	4.7	8.5	7.0	1.6	18.2	18.2	11.4	15.7	15.8
Cycle Q Clear(g_c), s	11.5	11.9	2.3	4.7	8.5	7.0	1.6	18.2	18.2	11.4	15.7	15.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.40	1.00		0.63
Lane Grp Cap(c), veh/h	260	733	294	178	568	228	238	451	443	405	618	584
V/C Ratio(X)	1.01	0.75	0.15	0.62	0.71	0.93	0.17	0.93	0.93	0.69	0.67	0.67
Avail Cap(c_a), veh/h	260	984	395	178	812	326	238	451	443	405	618	584
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.79	0.79	0.79	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.1	35.3	30.8	34.6	32.0	12.0	30.9	29.3	29.3	28.5	22.5	22.5
Incr Delay (d2), s/veh	51.4	1.7	0.2	6.6	1.7	26.7	0.3	28.2	28.8	5.1	5.7	6.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.2	5.9	0.8	2.4	3.8	5.4	0.7	11.1	10.9	5.3	7.3	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	89.5	37.0	31.0	41.3	33.7	38.7	31.2	57.5	58.1	33.6	28.2	28.6
LnGrp LOS	F	D	C	D	C	D	C	E	E	C	C	C
Approach Vol, veh/h		854			730			874			1089	
Approach Delay, s/veh		52.8			36.3			56.6			29.7	
Approach LOS		D			D			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.4	24.5	12.4	20.7	15.0	31.9	16.0	17.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	12.5	20.0	7.7	21.8	5.1	27.4	11.5	18.0
Max Q Clear Time (g_c+I1), s	13.4	20.2	6.7	13.9	3.6	17.8	13.5	10.5
Green Ext Time (p_c), s	0.0	0.0	0.0	2.3	0.0	3.6	0.0	2.1

Intersection Summary		
HCM 6th Ctrl Delay		43.2
HCM 6th LOS		D

Intersection						
Int Delay, s/veh	2.5					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	170	231	10	269	139	7
Future Vol, veh/h	170	231	10	269	139	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	207	282	12	328	170	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	489	0	395	207
Stage 1	-	-	-	-	207	-
Stage 2	-	-	-	-	188	-
Critical Hdwy	-	-	4.1	-	6.6	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1085	-	600	839
Stage 1	-	-	-	-	832	-
Stage 2	-	-	-	-	831	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1085	-	592	839
Mov Cap-2 Maneuver	-	-	-	-	592	-
Stage 1	-	-	-	-	832	-
Stage 2	-	-	-	-	819	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	13.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	600	-	-	1085	-
HCM Lane V/C Ratio	0.297	-	-	0.011	-
HCM Control Delay (s)	13.5	-	-	8.4	0.1
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	1.2	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	1301	76	61	1255	137	49	56	55	217	59	23
Future Volume (veh/h)	23	1301	76	61	1255	137	49	56	55	217	59	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1000	1000	1900	1000	1000	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	25	1414	83	66	1364	149	53	61	60	236	64	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
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	280	1611	95	283	1526	167	178	204	179	356	81	32
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	351	2637	155	356	2498	273	440	665	582	974	264	103
Grp Volume(v), veh/h	25	976	521	66	994	519	174	0	0	325	0	0
Grp Sat Flow(s),veh/h/ln	351	910	972	356	910	951	1687	0	0	1341	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.5	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	8.4	0.0	0.0	24.9	0.0	0.0
Prop In Lane	1.00		0.16	1.00		0.29	0.30		0.34	0.73		0.08
Lane Grp Cap(c), veh/h	280	1112	594	283	1112	581	561	0	0	468	0	0
V/C Ratio(X)	0.09	0.88	0.88	0.23	0.89	0.89	0.31	0.00	0.00	0.69	0.00	0.00
Avail Cap(c_a), veh/h	280	1112	594	283	1112	581	561	0	0	468	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.18	0.18	0.18	0.58	0.58	0.58	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	29.3	0.0	0.0	35.5	0.0	0.0
Incr Delay (d2), s/veh	0.1	2.0	3.7	1.1	6.9	12.1	1.4	0.0	0.0	8.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.6	0.1	1.1	1.9	3.8	0.0	0.0	9.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.1	2.0	3.7	1.1	6.9	12.1	30.7	0.0	0.0	43.7	0.0	0.0
LnGrp LOS	A	A	A	A	A	B	C	A	A	D	A	A
Approach Vol, veh/h		1522			1579			174			325	
Approach Delay, s/veh		2.6			8.4			30.7			43.7	
Approach LOS		A			A			C			D	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		71.7		38.3		71.7		38.3				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		67.2		33.8		67.2		33.8				
Max Q Clear Time (g_c+I1), s		2.0		26.9		2.0		10.4				
Green Ext Time (p_c), s		17.6		1.1		20.0		1.0				

Intersection Summary			
HCM 6th Ctrl Delay			10.2
HCM 6th LOS			B

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	0	0	5	14	0	2	2	48	26	0	30	0
Future Vol, veh/h	0	0	5	14	0	2	2	48	26	0	30	0
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	6	18	0	3	3	61	33	0	38	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	6.6	7.4	7.2	7.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	0%	88%	0%
Vol Thru, %	63%	0%	0%	100%
Vol Right, %	34%	100%	12%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	76	5	16	30
LT Vol	2	0	14	0
Through Vol	48	0	0	30
RT Vol	26	5	2	0
Lane Flow Rate	96	6	20	38
Geometry Grp	1	1	1	1
Degree of Util (X)	0.101	0.006	0.024	0.042
Departure Headway (Hd)	3.775	3.548	4.239	4.019
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	950	1001	841	891
Service Time	1.794	1.597	2.283	2.044
HCM Lane V/C Ratio	0.101	0.006	0.024	0.043
HCM Control Delay	7.2	6.6	7.4	7.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0	0.1	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	1388	122	52	1308	22	82	8	78	16	3	62
Future Volume (veh/h)	74	1388	122	52	1308	22	82	8	78	16	3	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1000	1000	1900	1000	1000	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	80	1492	131	56	1406	24	88	9	84	17	3	67
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	340	1847	162	294	1998	34	180	32	141	80	33	248
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	380	2555	224	316	2764	47	674	161	723	209	170	1269
Grp Volume(v), veh/h	80	1062	561	56	926	504	181	0	0	87	0	0
Grp Sat Flow(s),veh/h/ln	380	910	960	316	910	992	1558	0	0	1648	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	6.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	11.1	0.0	0.0	4.9	0.0	0.0
Prop In Lane	1.00		0.23	1.00		0.05	0.49		0.46	0.20		0.77
Lane Grp Cap(c), veh/h	340	1315	694	294	1315	717	353	0	0	361	0	0
V/C Ratio(X)	0.24	0.81	0.81	0.19	0.70	0.70	0.51	0.00	0.00	0.24	0.00	0.00
Avail Cap(c_a), veh/h	340	1315	694	294	1315	717	353	0	0	361	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.24	0.24	0.24	0.62	0.62	0.62	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	39.8	0.0	0.0	37.6	0.0	0.0
Incr Delay (d2), s/veh	0.4	1.4	2.5	0.9	2.0	3.6	5.2	0.0	0.0	1.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.5	0.1	0.4	0.7	4.9	0.0	0.0	2.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.4	1.4	2.5	0.9	2.0	3.6	45.1	0.0	0.0	39.1	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	A	D	A	A
Approach Vol, veh/h		1703			1486			181			87	
Approach Delay, s/veh		1.7			2.5			45.1			39.1	
Approach LOS		A			A			D			D	

Timer - Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		84.0		26.0		84.0		26.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		79.5		21.5		79.5		21.5
Max Q Clear Time (g_c+I1), s		2.0		6.9		2.0		13.1
Green Ext Time (p_c), s		23.8		0.3		18.4		0.6

Intersection Summary	
HCM 6th Ctrl Delay	5.3
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	6.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	4	8	14	11	0	9	8	8	1	14	0
Future Vol, veh/h	0	4	8	14	11	0	9	8	8	1	14	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	5	9	16	13	0	11	9	9	1	16	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	13	0	0	14	0	0	63	55	10	64	59	13
Stage 1	-	-	-	-	-	-	10	10	-	45	45	-
Stage 2	-	-	-	-	-	-	53	45	-	19	14	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1619	-	-	1617	-	-	936	840	1077	935	836	1073
Stage 1	-	-	-	-	-	-	1016	891	-	974	861	-
Stage 2	-	-	-	-	-	-	965	861	-	1005	888	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1619	-	-	1617	-	-	914	832	1077	912	828	1073
Mov Cap-2 Maneuver	-	-	-	-	-	-	914	832	-	912	828	-
Stage 1	-	-	-	-	-	-	1016	891	-	974	852	-
Stage 2	-	-	-	-	-	-	937	852	-	986	888	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	4.1	9	9.4
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	930	1619	-	-	1617	-	-	833
HCM Lane V/C Ratio	0.032	-	-	-	0.01	-	-	0.021
HCM Control Delay (s)	9	0	-	-	7.2	0	-	9.4
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	3	2	10	12	2	1	12	74	14	3	55	0
Future Vol, veh/h	3	2	10	12	2	1	12	74	14	3	55	0
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	4	3	13	16	3	1	16	99	19	4	73	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.1	7.6	7.7	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	20%	80%	5%
Vol Thru, %	74%	13%	13%	95%
Vol Right, %	14%	67%	7%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	100	15	15	58
LT Vol	12	3	12	3
Through Vol	74	2	2	55
RT Vol	14	10	1	0
Lane Flow Rate	133	20	20	77
Geometry Grp	1	1	1	1
Degree of Util (X)	0.147	0.022	0.024	0.088
Departure Headway (Hd)	3.969	3.918	4.4	4.082
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	901	897	802	874
Service Time	2.005	2.013	2.493	2.126
HCM Lane V/C Ratio	0.148	0.022	0.025	0.088
HCM Control Delay	7.7	7.1	7.6	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.1	0.1	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	1335	92	46	1253	37	58	19	48	35	15	46
Future Volume (veh/h)	47	1335	92	46	1253	37	58	19	48	35	15	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1000	1000	1900	1000	1000	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	51	1435	99	49	1347	40	62	20	52	38	16	49
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	356	1913	132	318	1999	59	167	61	114	136	67	143
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	396	2608	180	344	2725	81	646	332	620	495	361	777
Grp Volume(v), veh/h	51	1001	533	49	900	487	134	0	0	103	0	0
Grp Sat Flow(s),veh/h/ln	396	910	968	344	910	985	1598	0	0	1633	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	7.5	0.0	0.0	5.5	0.0	0.0
Prop In Lane	1.00		0.19	1.00		0.08	0.46		0.39	0.37		0.48
Lane Grp Cap(c), veh/h	356	1335	710	318	1335	723	343	0	0	346	0	0
V/C Ratio(X)	0.14	0.75	0.75	0.15	0.67	0.67	0.39	0.00	0.00	0.30	0.00	0.00
Avail Cap(c_a), veh/h	356	1335	710	318	1335	723	343	0	0	346	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.40	0.40	0.40	0.50	0.50	0.50	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	39.5	0.0	0.0	38.8	0.0	0.0
Incr Delay (d2), s/veh	0.3	1.6	3.0	0.5	1.4	2.5	3.3	0.0	0.0	2.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.6	0.0	0.3	0.5	3.5	0.0	0.0	2.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.3	1.6	3.0	0.5	1.4	2.5	42.9	0.0	0.0	41.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	A	D	A	A
Approach Vol, veh/h		1585			1436			134			103	
Approach Delay, s/veh		2.0			1.7			42.9			41.0	
Approach LOS		A			A			D			D	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		85.2		24.8		85.2		24.8				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		80.7		20.3		80.7		20.3				
Max Q Clear Time (g_c+I1), s		2.0		7.5		2.0		9.5				
Green Ext Time (p_c), s		19.9		0.4		16.9		0.5				
Intersection Summary												
HCM 6th Ctrl Delay			4.8									
HCM 6th LOS			A									

Intersection	
Int Delay, s/veh	7.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	46	76	86	82	105	104
Future Vol, veh/h	46	76	86	82	105	104
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	62	103	116	111	142	141

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	165	0	457	114
Stage 1	-	-	-	-	114	-
Stage 2	-	-	-	-	343	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1426	-	565	944
Stage 1	-	-	-	-	916	-
Stage 2	-	-	-	-	723	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1426	-	516	944
Mov Cap-2 Maneuver	-	-	-	-	516	-
Stage 1	-	-	-	-	916	-
Stage 2	-	-	-	-	660	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4	14.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	666	-	-	1426	-
HCM Lane V/C Ratio	0.424	-	-	0.081	-
HCM Control Delay (s)	14.3	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	2.1	-	-	0.3	-

Intersection	
Int Delay, s/veh	8.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	3	12	42	0	195	10	14	0	97	63	3
Future Vol, veh/h	0	3	12	42	0	195	10	14	0	97	63	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	69	69	69	69	69	69	69	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	4	17	61	0	283	14	20	0	141	91	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	565	423	93	434	425	20	95	0	0	20	0	0
Stage 1	375	375	-	48	48	-	-	-	-	-	-	-
Stage 2	190	48	-	386	377	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	439	526	970	536	524	1064	1512	-	-	1609	-	-
Stage 1	650	621	-	971	859	-	-	-	-	-	-	-
Stage 2	816	859	-	641	619	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	298	473	970	482	471	1064	1512	-	-	1609	-	-
Mov Cap-2 Maneuver	298	473	-	482	471	-	-	-	-	-	-	-
Stage 1	644	563	-	962	851	-	-	-	-	-	-	-
Stage 2	594	851	-	567	561	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.6	11.7	3.1	4.4
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1512	-	-	802	876	1609	-	-
HCM Lane V/C Ratio	0.01	-	-	0.027	0.392	0.087	-	-
HCM Control Delay (s)	7.4	0	-	9.6	11.7	7.5	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	1.9	0.3	-	-

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	15	15	17	40	9	14	12	20	0	88	2
Future Vol, veh/h	1	15	15	17	40	9	14	12	20	0	88	2
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	20	20	23	54	12	19	16	27	0	119	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.3	7.8	7.4	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	30%	3%	26%	0%
Vol Thru, %	26%	48%	61%	98%
Vol Right, %	43%	48%	14%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	46	31	66	90
LT Vol	14	1	17	0
Through Vol	12	15	40	88
RT Vol	20	15	9	2
Lane Flow Rate	62	42	89	122
Geometry Grp	1	1	1	1
Degree of Util (X)	0.071	0.048	0.107	0.141
Departure Headway (Hd)	4.121	4.118	4.323	4.161
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	873	874	834	849
Service Time	2.127	2.123	2.323	2.251
HCM Lane V/C Ratio	0.071	0.048	0.107	0.144
HCM Control Delay	7.4	7.3	7.8	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.2	0.4	0.5

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	3	11	8	0	0	14	69	13	3	157	5
Future Vol, veh/h	3	3	11	8	0	0	14	69	13	3	157	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	4	4	14	10	0	0	18	90	17	4	204	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	350	358	207	359	353	99	210	0	0	107	0	0
Stage 1	215	215	-	135	135	-	-	-	-	-	-	-
Stage 2	135	143	-	224	218	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	608	572	839	600	575	962	1373	-	-	1497	-	-
Stage 1	792	729	-	873	789	-	-	-	-	-	-	-
Stage 2	873	782	-	783	726	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	600	562	839	579	565	962	1373	-	-	1497	-	-
Mov Cap-2 Maneuver	600	562	-	579	565	-	-	-	-	-	-	-
Stage 1	781	727	-	861	778	-	-	-	-	-	-	-
Stage 2	861	771	-	763	724	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.1	11.3	1.1	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1373	-	-	725	579	1497	-	-
HCM Lane V/C Ratio	0.013	-	-	0.03	0.018	0.003	-	-
HCM Control Delay (s)	7.7	0	-	10.1	11.3	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	1304	79	55	1131	44	102	22	44	70	23	55
Future Volume (veh/h)	38	1304	79	55	1131	44	102	22	44	70	23	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1000	1000	1900	1000	1000	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	40	1373	83	58	1191	46	107	23	46	74	24	58
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	184	1543	93	144	1581	61	338	77	128	274	96	190
Arrive On Green	0.78	0.78	0.78	0.59	0.59	0.59	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	457	2632	159	371	2697	104	860	232	386	681	289	574
Grp Volume(v), veh/h	40	949	507	58	804	433	176	0	0	156	0	0
Grp Sat Flow(s),veh/h/ln	457	910	971	371	910	981	1479	0	0	1544	0	0
Q Serve(g_s), s	7.1	41.2	41.2	16.1	36.0	36.0	1.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	43.1	41.2	41.2	57.3	36.0	36.0	9.5	0.0	0.0	7.7	0.0	0.0
Prop In Lane	1.00		0.16	1.00		0.11	0.61		0.26	0.47		0.37
Lane Grp Cap(c), veh/h	184	1067	570	144	1067	575	543	0	0	560	0	0
V/C Ratio(X)	0.22	0.89	0.89	0.40	0.75	0.75	0.32	0.00	0.00	0.28	0.00	0.00
Avail Cap(c_a), veh/h	184	1067	570	144	1067	575	543	0	0	560	0	0
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.50	0.50	0.50	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	23.1	9.5	9.5	40.5	16.8	16.9	27.6	0.0	0.0	27.1	0.0	0.0
Incr Delay (d2), s/veh	1.4	6.1	10.5	8.2	4.9	8.8	1.6	0.0	0.0	1.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	5.4	6.4	1.8	7.7	9.0	3.7	0.0	0.0	3.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.5	15.6	20.1	48.7	21.8	25.7	29.2	0.0	0.0	28.3	0.0	0.0
LnGrp LOS	C	B	C	D	C	C	C	A	A	C	A	A
Approach Vol, veh/h		1496			1295			176			156	
Approach Delay, s/veh		17.3			24.3			29.2			28.3	
Approach LOS		B			C			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		69.0		41.0		69.0		41.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		64.5		36.5		64.5		36.5				
Max Q Clear Time (g_c+I1), s		45.1		9.7		59.3		11.5				
Green Ext Time (p_c), s		10.7		0.9		3.6		1.0				
Intersection Summary												
HCM 6th Ctrl Delay			21.4									
HCM 6th LOS			C									

Intersection	
Int Delay, s/veh	45.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	27	1316	1180	230	170	31
Future Vol, veh/h	27	1316	1180	230	170	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	45	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	29	1400	1255	245	181	33

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1500	0	-	0	1996	750
Stage 1	-	-	-	-	1378	-
Stage 2	-	-	-	-	618	-
Critical Hdwy	5.3	-	-	-	5.7	7.1
Critical Hdwy Stg 1	-	-	-	-	6.6	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	3.1	-	-	-	3.8	3.9
Pot Cap-1 Maneuver	227	-	-	-	~ 96	307
Stage 1	-	-	-	-	~ 144	-
Stage 2	-	-	-	-	460	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	227	-	-	-	~ 84	307
Mov Cap-2 Maneuver	-	-	-	-	~ 84	-
Stage 1	-	-	-	-	~ 126	-
Stage 2	-	-	-	-	460	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	$ 667.2
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	227	-	-	-	95
HCM Lane V/C Ratio	0.127	-	-	-	2.251
HCM Control Delay (s)	23.1	-	-	-	$ 667.2
HCM Lane LOS	C	-	-	-	F
HCM 95th %tile Q(veh)	0.4	-	-	-	19.1

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	19	4	3	46	19	0	5	1	12	0	10
Future Vol, veh/h	6	19	4	3	46	19	0	5	1	12	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	8	24	5	4	58	24	0	6	1	15	0	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	82	0	0	29	0	0	128	133	27	124	123	70
Stage 1	-	-	-	-	-	-	43	43	-	78	78	-
Stage 2	-	-	-	-	-	-	85	90	-	46	45	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1528	-	-	1597	-	-	850	761	1054	855	771	998
Stage 1	-	-	-	-	-	-	976	863	-	936	834	-
Stage 2	-	-	-	-	-	-	928	824	-	973	861	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1528	-	-	1597	-	-	834	755	1054	843	765	998
Mov Cap-2 Maneuver	-	-	-	-	-	-	834	755	-	843	765	-
Stage 1	-	-	-	-	-	-	971	859	-	931	831	-
Stage 2	-	-	-	-	-	-	914	822	-	960	857	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	0.3	9.6	9.1
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	792	1528	-	-	1597	-	-	907
HCM Lane V/C Ratio	0.009	0.005	-	-	0.002	-	-	0.03
HCM Control Delay (s)	9.6	7.4	0	-	7.3	0	-	9.1
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	7.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	1545	15	64	1474	38	4	0	102	19	0	32
Future Vol, veh/h	19	1545	15	64	1474	38	4	0	102	19	0	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	45	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	20	1593	15	66	1520	39	4	0	105	20	0	33

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1559	0	0	1608	0	0	2381	3332	804	2349	3320	780
Stage 1	-	-	-	-	-	-	1641	1641	-	1672	1672	-
Stage 2	-	-	-	-	-	-	740	1691	-	677	1648	-
Critical Hdwy	5.3	-	-	5.3	-	-	6.4	6.5	7.1	6.4	6.5	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	7.3	5.5	-	7.3	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.5	-	6.7	5.5	-
Follow-up Hdwy	3.1	-	-	3.1	-	-	3.8	4	3.9	3.8	4	3.9
Pot Cap-1 Maneuver	213	-	-	201	-	-	38	8	283	39	8	294
Stage 1	-	-	-	-	-	-	72	160	-	68	154	-
Stage 2	-	-	-	-	-	-	344	151	-	376	158	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	213	-	-	201	-	-	23	5	283	~ 17	5	294
Mov Cap-2 Maneuver	-	-	-	-	-	-	23	5	-	~ 17	5	-
Stage 1	-	-	-	-	-	-	65	145	-	62	103	-
Stage 2	-	-	-	-	-	-	205	101	-	214	143	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	1.3	43.5	$ 374.3
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	198	213	-	-	201	-	-	42
HCM Lane V/C Ratio	0.552	0.092	-	-	0.328	-	-	1.252
HCM Control Delay (s)	43.5	23.6	-	-	31.4	-	-	$ 374.3
HCM Lane LOS	E	C	-	-	D	-	-	F
HCM 95th %tile Q(veh)	2.9	0.3	-	-	1.4	-	-	5.2

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	20	54	257	217	3
Future Vol, veh/h	2	20	54	257	217	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	24	64	302	255	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	687	257	259	0	-	0
Stage 1	257	-	-	-	-	-
Stage 2	430	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	416	787	1317	-	-	-
Stage 1	791	-	-	-	-	-
Stage 2	660	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	392	787	1317	-	-	-
Mov Cap-2 Maneuver	392	-	-	-	-	-
Stage 1	745	-	-	-	-	-
Stage 2	660	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	1.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1317	-	721	-	-
HCM Lane V/C Ratio	0.048	-	0.036	-	-
HCM Control Delay (s)	7.9	0	10.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.1	-	-

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	525	23	5	257	28
Future Volume (veh/h)	0	525	23	5	257	28
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	590	26	6	289	31
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	389	692	1042	224	674	3489
Arrive On Green	0.00	0.21	0.24	0.24	0.37	0.67
Sat Flow, veh/h	1810	3220	4444	920	1810	5358
Grp Volume(v), veh/h	0	590	21	11	289	31
Grp Sat Flow(s),veh/h/ln	1810	1610	1729	1734	1810	1729
Q Serve(g_s), s	0.0	14.1	0.4	0.4	9.5	0.2
Cycle Q Clear(g_c), s	0.0	14.1	0.4	0.4	9.5	0.2
Prop In Lane	1.00	1.00		0.53	1.00	
Lane Grp Cap(c), veh/h	389	692	843	423	674	3489
V/C Ratio(X)	0.00	0.85	0.02	0.03	0.43	0.01
Avail Cap(c_a), veh/h	464	825	843	423	674	3489
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.73	0.73	1.00	1.00
Uniform Delay (d), s/veh	0.0	30.2	23.0	23.0	18.7	4.3
Incr Delay (d2), s/veh	0.0	7.5	0.0	0.1	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.0	0.1	0.2	3.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	37.7	23.1	23.1	19.2	4.3
LnGrp LOS	A	D	C	C	B	A
Approach Vol, veh/h	590		32			320
Approach Delay, s/veh	37.7		23.1			17.7
Approach LOS	D		C			B

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	34.3	24.0				58.3		21.7
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	26.5	19.5				50.5		20.5
Max Q Clear Time (g_c+I1), s	11.5	2.4				2.2		16.1
Green Ext Time (p_c), s	0.7	0.1				0.2		1.1

Intersection Summary			
HCM 6th Ctrl Delay			30.4
HCM 6th LOS			C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	188	518	1008	183	362	872
Future Volume (veh/h)	188	518	1008	183	362	872
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	192	529	1029	187	369	890
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	441	392	1582	287	414	3339
Arrive On Green	0.24	0.24	0.36	0.36	0.23	0.64
Sat Flow, veh/h	1810	1610	4584	801	1810	5358
Grp Volume(v), veh/h	192	529	806	410	369	890
Grp Sat Flow(s),veh/h/ln	1810	1610	1729	1756	1810	1729
Q Serve(g_s), s	7.2	19.5	15.6	15.6	15.8	5.9
Cycle Q Clear(g_c), s	7.2	19.5	15.6	15.6	15.8	5.9
Prop In Lane	1.00	1.00		0.46	1.00	
Lane Grp Cap(c), veh/h	441	392	1240	629	414	3339
V/C Ratio(X)	0.44	1.35	0.65	0.65	0.89	0.27
Avail Cap(c_a), veh/h	441	392	1240	629	509	3339
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.43	0.43	1.00	1.00	0.98	0.98
Uniform Delay (d), s/veh	25.6	30.3	21.5	21.5	29.9	6.1
Incr Delay (d2), s/veh	0.3	163.8	2.7	5.2	15.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	25.1	6.4	7.0	8.3	1.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	25.9	194.1	24.1	26.7	44.9	6.3
LnGrp LOS	C	F	C	C	D	A
Approach Vol, veh/h	721		1216			1259
Approach Delay, s/veh	149.3		25.0			17.6
Approach LOS	F		C			B

Timer - Assigned Phs	1	2	6	8
Phs Duration (G+Y+Rc), s	22.8	33.2	56.0	24.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	22.5	24.5	51.5	19.5
Max Q Clear Time (g_c+I1), s	17.8	17.6	7.9	21.5
Green Ext Time (p_c), s	0.5	4.2	7.7	0.0

Intersection Summary	
HCM 6th Ctrl Delay	50.1
HCM 6th LOS	D

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	342	1306	1266	313	210	363
Future Volume (veh/h)	342	1306	1266	313	210	363
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	368	1404	1361	337	226	390
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	404	2642	1941	479	337	300
Arrive On Green	0.22	0.73	0.47	0.47	0.19	0.19
Sat Flow, veh/h	1810	3705	4320	1025	1810	1610
Grp Volume(v), veh/h	368	1404	1134	564	226	390
Grp Sat Flow(s),veh/h/ln	1810	1805	1729	1716	1810	1610
Q Serve(g_s), s	21.8	18.8	28.6	28.7	12.8	20.5
Cycle Q Clear(g_c), s	21.8	18.8	28.6	28.7	12.8	20.5
Prop In Lane	1.00			0.60	1.00	1.00
Lane Grp Cap(c), veh/h	404	2642	1618	802	337	300
V/C Ratio(X)	0.91	0.53	0.70	0.70	0.67	1.30
Avail Cap(c_a), veh/h	518	2642	1618	802	337	300
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.49	0.49
Uniform Delay (d), s/veh	41.7	6.5	23.2	23.2	41.6	44.8
Incr Delay (d2), s/veh	17.4	0.8	2.6	5.1	5.1	146.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.6	6.4	11.9	12.4	6.1	28.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	59.1	7.2	25.7	28.3	46.7	191.3
LnGrp LOS	E	A	C	C	D	F
Approach Vol, veh/h		1772	1698		616	
Approach Delay, s/veh		18.0	26.6		138.3	
Approach LOS		B	C		F	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		85.0		25.0	29.0	56.0
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		80.5		20.5	31.5	44.5
Max Q Clear Time (g_c+I1), s		20.8		22.5	23.8	30.7
Green Ext Time (p_c), s		16.7		0.0	0.7	9.5

Intersection Summary						
HCM 6th Ctrl Delay			39.7			
HCM 6th LOS			D			

SYNCHRO LOS WORKSHEETS – EXISTING & YEAR 2045 WITH IMPROVEMENTS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	885	70	0	1069	51	0	0	22	0	0	49
Future Volume (Veh/h)	0	885	70	0	1069	51	0	0	22	0	0	49
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	912	72	0	1102	53	0	0	23	0	0	51
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		826			220							
pX, platoon unblocked	0.80						0.80	0.80		0.80	0.80	0.80
vC, conflicting volume	1155			984			1366	2103	264	1380	2112	394
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	295			984			560	1487	264	577	1499	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	97	100	100	94
cM capacity (veh/h)	1017			710			311	100	741	311	98	868

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	261	261	261	202	441	441	273	23	51
Volume Left	0	0	0	0	0	0	0	0	0
Volume Right	0	0	0	72	0	0	53	23	51
cSH	1700	1700	1700	1700	1700	1700	1700	741	868
Volume to Capacity	0.15	0.15	0.15	0.12	0.26	0.26	0.16	0.03	0.06
Queue Length 95th (ft)	0	0	0	0	0	0	0	2	5
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	9.4
Lane LOS								B	A
Approach Delay (s)	0.0				0.0			10.0	9.4
Approach LOS								B	A

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	51.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	45	798	1022	251	379	54
Future Volume (vph)	45	798	1022	251	379	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.91	0.91		1.00	
Frt	1.00	1.00	0.97		0.98	
Flt Protected	0.95	1.00	1.00		0.96	
Satd. Flow (prot)	1805	5187	5034		1611	
Flt Permitted	0.95	1.00	1.00		0.96	
Satd. Flow (perm)	1805	5187	5034		1611	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	47	840	1076	264	399	57
RTOR Reduction (vph)	0	0	41	0	5	0
Lane Group Flow (vph)	47	840	1299	0	451	0
Parking (#/hr)					0	
Turn Type	Prot	NA	NA		Prot	
Protected Phases	5	2	6		4	
Permitted Phases						
Actuated Green, G (s)	5.6	35.8	39.2		41.7	
Effective Green, g (s)	5.6	35.8	39.2		41.7	
Actuated g/C Ratio	0.06	0.36	0.39		0.42	
Clearance Time (s)	4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	101	1856	1973		671	
v/s Ratio Prot	c0.03	0.16	c0.26		c0.28	
v/s Ratio Perm						
v/c Ratio	0.47	0.45	0.66		0.67	
Uniform Delay, d1	45.7	24.6	24.9		23.6	
Progression Factor	1.00	1.00	0.13		1.00	
Incremental Delay, d2	3.4	0.8	1.4		5.3	
Delay (s)	49.1	25.4	4.5		28.9	
Level of Service	D	C	A		C	
Approach Delay (s)		26.6	4.5		28.9	
Approach LOS		C	A		C	

Intersection Summary			
HCM 2000 Control Delay	16.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	65.0%	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)	34	1055	30	95	1188	68	76	0	83	51	0	7
Future Volume (vph)	34	1055	30	95	1188	68	76	0	83	51	0	7
Ideal Flow (vphpl)	1900	1900	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	0.91		1.00	0.91			1.00			1.00	
Frt	1.00	1.00		1.00	0.99			0.93			0.98	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.96	
Satd. Flow (prot)	1805	5165		1805	5145			1553			1612	
Flt Permitted	0.95	1.00		0.95	1.00			0.84			0.72	
Satd. Flow (perm)	1805	5165		1805	5145			1338			1209	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	36	1111	32	100	1251	72	80	0	87	54	0	7
RTOR Reduction (vph)	0	3	0	0	6	0	0	67	0	0	36	0
Lane Group Flow (vph)	36	1140	0	100	1317	0	0	100	0	0	25	0
Parking (#/hr)								0			0	
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	5.6	35.8		9.0	39.2			41.7			41.7	
Effective Green, g (s)	5.6	35.8		9.0	39.2			41.7			41.7	
Actuated g/C Ratio	0.06	0.36		0.09	0.39			0.42			0.42	
Clearance Time (s)	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	
Lane Grp Cap (vph)	101	1849		162	2016			557			504	
v/s Ratio Prot	0.02	0.22		c0.06	c0.26							
v/s Ratio Perm								c0.07			0.02	
v/c Ratio	0.36	0.62		0.62	0.65			0.18			0.05	
Uniform Delay, d1	45.5	26.4		43.8	24.8			18.4			17.4	
Progression Factor	1.30	0.65		1.00	1.00			1.00			1.00	
Incremental Delay, d2	1.9	1.3		6.8	1.7			0.2			0.2	
Delay (s)	60.8	18.6		50.7	26.5			18.5			17.5	
Level of Service	E	B		D	C			B			B	
Approach Delay (s)		19.9			28.2			18.5			17.5	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	23.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	48.6%	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 (veh/h)	0	1033	76	0	962	38	0	0	18	0	0	52
Future Volume (Veh/h)	0	1033	76	0	962	38	0	0	18	0	0	52
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	1076	79	0	1002	40	0	0	19	0	0	54
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		826			220							
pX, platoon unblocked	0.79						0.79	0.79		0.79	0.79	0.79
vC, conflicting volume	1042			1155			1504	2158	308	1310	2177	354
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	140			1155			722	1547	308	478	1571	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	97	100	100	94
cM capacity (veh/h)	1154			612			236	92	693	366	88	865

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	307	307	307	233	401	401	240	19	54
Volume Left	0	0	0	0	0	0	0	0	0
Volume Right	0	0	0	79	0	0	40	19	54
cSH	1700	1700	1700	1700	1700	1700	1700	693	865
Volume to Capacity	0.18	0.18	0.18	0.14	0.24	0.24	0.14	0.03	0.06
Queue Length 95th (ft)	0	0	0	0	0	0	0	2	5
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.3	9.4
Lane LOS								B	A
Approach Delay (s)	0.0				0.0			10.3	9.4
Approach LOS								B	A

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	46.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	108	876	930	424	347	57
Future Volume (vph)	108	876	930	424	347	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.91	0.91		1.00	
Frt	1.00	1.00	0.95		0.98	
Flt Protected	0.95	1.00	1.00		0.96	
Satd. Flow (prot)	1805	5187	4943		1608	
Flt Permitted	0.95	1.00	1.00		0.96	
Satd. Flow (perm)	1805	5187	4943		1608	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	110	894	949	433	354	58
RTOR Reduction (vph)	0	0	80	0	6	0
Lane Group Flow (vph)	110	894	1302	0	406	0
Parking (#/hr)					0	
Turn Type	Prot	NA	NA		Prot	
Protected Phases	5	2	6		4	
Permitted Phases						
Actuated Green, G (s)	10.8	39.8	37.8		37.9	
Effective Green, g (s)	10.8	39.8	37.8		37.9	
Actuated g/C Ratio	0.11	0.40	0.38		0.38	
Clearance Time (s)	4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	194	2064	1868		609	
v/s Ratio Prot	c0.06	0.17	c0.26		c0.25	
v/s Ratio Perm						
v/c Ratio	0.57	0.43	0.70		0.67	
Uniform Delay, d1	42.4	21.9	26.3		25.8	
Progression Factor	1.00	1.00	0.13		1.00	
Incremental Delay, d2	3.8	0.7	1.7		5.7	
Delay (s)	46.1	22.6	5.2		31.5	
Level of Service	D	C	A		C	
Approach Delay (s)		25.1	5.2		31.5	
Approach LOS		C	A		C	

Intersection Summary			
HCM 2000 Control Delay	16.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
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)	35	1165	33	94	1227	81	82	0	128	43	0	28
Future Volume (vph)	35	1165	33	94	1227	81	82	0	128	43	0	28
Ideal Flow (vphpl)	1900	1900	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	0.91		1.00	0.91			1.00			1.00	
Frt	1.00	1.00		1.00	0.99			0.92			0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.97	
Satd. Flow (prot)	1805	5165		1805	5139			1539			1571	
Flt Permitted	0.95	1.00		0.95	1.00			0.86			0.77	
Satd. Flow (perm)	1805	5165		1805	5139			1347			1253	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	36	1189	34	96	1252	83	84	0	131	44	0	29
RTOR Reduction (vph)	0	3	0	0	7	0	0	56	0	0	40	0
Lane Group Flow (vph)	36	1220	0	96	1328	0	0	159	0	0	33	0
Parking (#/hr)								0			0	
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	10.8	39.8		8.8	37.8			37.9			37.9	
Effective Green, g (s)	10.8	39.8		8.8	37.8			37.9			37.9	
Actuated g/C Ratio	0.11	0.40		0.09	0.38			0.38			0.38	
Clearance Time (s)	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	
Lane Grp Cap (vph)	194	2055		158	1942			510			474	
v/s Ratio Prot	0.02	0.24		c0.05	c0.26							
v/s Ratio Perm								c0.12			0.03	
v/c Ratio	0.19	0.59		0.61	0.68			0.31			0.07	
Uniform Delay, d1	40.6	23.7		43.9	26.1			21.9			19.8	
Progression Factor	1.46	0.63		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.4	1.1		6.5	2.0			0.4			0.3	
Delay (s)	59.6	16.1		50.4	28.1			22.2			20.1	
Level of Service	E	B		D	C			C			C	
Approach Delay (s)		17.4			29.6			22.2			20.1	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	23.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	54.2%	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 (veh/h)	0	1185	74	0	1113	53	0	0	41	0	0	44
Future Volume (Veh/h)	0	1185	74	0	1113	53	0	0	41	0	0	44
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	1247	78	0	1172	56	0	0	43	0	0	46
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		826			220							
pX, platoon unblocked	0.80						0.80	0.80		0.80	0.80	0.80
vC, conflicting volume	1228			1325			1723	2514	351	1555	2525	419
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	409			1325			1027	2017	351	817	2030	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	93	100	100	95
cM capacity (veh/h)	929			528			145	47	651	203	46	872

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	356	356	356	256	469	469	290	43	46
Volume Left	0	0	0	0	0	0	0	0	0
Volume Right	0	0	0	78	0	0	56	43	46
cSH	1700	1700	1700	1700	1700	1700	1700	651	872
Volume to Capacity	0.21	0.21	0.21	0.15	0.28	0.28	0.17	0.07	0.05
Queue Length 95th (ft)	0	0	0	0	0	0	0	5	4
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.9	9.4
Lane LOS								B	A
Approach Delay (s)	0.0				0.0			10.9	9.4
Approach LOS								B	A

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	53.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	66	1099	1117	243	262	38
Future Volume (vph)	66	1099	1117	243	262	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.91	0.91		1.00	
Frt	1.00	1.00	0.97		0.98	
Flt Protected	0.95	1.00	1.00		0.96	
Satd. Flow (prot)	1805	5187	5048		1611	
Flt Permitted	0.95	1.00	1.00		0.96	
Satd. Flow (perm)	1805	5187	5048		1611	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	70	1169	1188	259	279	40
RTOR Reduction (vph)	0	0	33	0	5	0
Lane Group Flow (vph)	70	1169	1414	0	314	0
Parking (#/hr)					0	
Turn Type	Prot	NA	NA		Prot	
Protected Phases	5	2	6		4	
Permitted Phases						
Actuated Green, G (s)	7.3	42.9	46.7		32.5	
Effective Green, g (s)	7.3	42.9	46.7		32.5	
Actuated g/C Ratio	0.07	0.43	0.47		0.32	
Clearance Time (s)	4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	131	2225	2357		523	
v/s Ratio Prot	c0.04	0.23	c0.28		c0.19	
v/s Ratio Perm						
v/c Ratio	0.53	0.53	0.60		0.60	
Uniform Delay, d1	44.7	21.0	19.7		28.3	
Progression Factor	1.00	1.00	0.27		1.00	
Incremental Delay, d2	4.1	0.9	1.0		5.0	
Delay (s)	48.9	21.9	6.3		33.3	
Level of Service	D	C	A		C	
Approach Delay (s)		23.5	6.3		33.3	
Approach LOS		C	A		C	

Intersection Summary			
HCM 2000 Control Delay	16.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	59.2%	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)	18	1321	36	111	1207	37	127	0	96	19	1	29
Future Volume (vph)	18	1321	36	111	1207	37	127	0	96	19	1	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	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.94			0.92	
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.98	
Satd. Flow (prot)	1805	5166		1805	5164			1566			1544	
Flt Permitted	0.95	1.00		0.95	1.00			0.80			0.87	
Satd. Flow (perm)	1805	5166		1805	5164			1283			1364	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	19	1362	37	114	1244	38	131	0	99	20	1	30
RTOR Reduction (vph)	0	3	0	0	3	0	0	44	0	0	20	0
Lane Group Flow (vph)	19	1396	0	114	1279	0	0	186	0	0	31	0
Parking (#/hr)								0			0	
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	7.3	42.9		11.1	46.7			32.5			32.5	
Effective Green, g (s)	7.3	42.9		11.1	46.7			32.5			32.5	
Actuated g/C Ratio	0.07	0.43		0.11	0.47			0.32			0.32	
Clearance Time (s)	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	
Lane Grp Cap (vph)	131	2216		200	2411			416			443	
v/s Ratio Prot	0.01	c0.27		c0.06	c0.25							
v/s Ratio Perm								c0.15			0.02	
v/c Ratio	0.15	0.63		0.57	0.53			0.45			0.07	
Uniform Delay, d1	43.4	22.3		42.2	18.9			26.7			23.3	
Progression Factor	1.40	0.47		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.4	1.2		3.7	0.8			0.8			0.3	
Delay (s)	61.2	11.7		45.9	19.7			27.4			23.6	
Level of Service	E	B		D	B			C			C	
Approach Delay (s)		12.4			21.9			27.4			23.6	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	18.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	63.3%	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 (veh/h)	0	1031	75	0	1240	55	0	0	23	0	0	52
Future Volume (Veh/h)	0	1031	75	0	1240	55	0	0	23	0	0	52
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	1063	77	0	1278	57	0	0	24	0	0	54
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		826			220							
pX, platoon unblocked	0.77						0.77	0.77		0.77	0.77	0.77
vC, conflicting volume	1335			1140			1582	2436	304	1596	2446	454
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	375			1140			697	1811	304	716	1824	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	97	100	100	94
cM capacity (veh/h)	916			620			238	61	698	238	60	837

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	304	304	304	229	511	511	313	24	54
Volume Left	0	0	0	0	0	0	0	0	0
Volume Right	0	0	0	77	0	0	57	24	54
cSH	1700	1700	1700	1700	1700	1700	1700	698	837
Volume to Capacity	0.18	0.18	0.18	0.13	0.30	0.30	0.18	0.03	0.06
Queue Length 95th (ft)	0	0	0	0	0	0	0	3	5
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.3	9.6
Lane LOS								B	A
Approach Delay (s)	0.0				0.0			10.3	9.6
Approach LOS								B	A

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	47	933	1185	252	384	54
Future Volume (vph)	47	933	1185	252	384	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.91	0.91		1.00	
Frt	1.00	1.00	0.97		0.98	
Flt Protected	0.95	1.00	1.00		0.96	
Satd. Flow (prot)	1805	5187	5051		1611	
Flt Permitted	0.95	1.00	1.00		0.96	
Satd. Flow (perm)	1805	5187	5051		1611	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	49	982	1247	265	404	57
RTOR Reduction (vph)	0	0	32	0	5	0
Lane Group Flow (vph)	49	982	1480	0	456	0
Parking (#/hr)					0	
Turn Type	Prot	NA	NA		Prot	
Protected Phases	5	2	6		4	
Permitted Phases						
Actuated Green, G (s)	4.6	38.3	42.4		39.5	
Effective Green, g (s)	4.6	38.3	42.4		39.5	
Actuated g/C Ratio	0.05	0.38	0.42		0.40	
Clearance Time (s)	4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	83	1986	2141		636	
v/s Ratio Prot	c0.03	0.19	c0.29		c0.28	
v/s Ratio Perm						
v/c Ratio	0.59	0.49	0.69		0.72	
Uniform Delay, d1	46.8	23.5	23.5		25.5	
Progression Factor	1.00	1.00	0.13		1.00	
Incremental Delay, d2	10.7	0.9	1.3		6.8	
Delay (s)	57.5	24.4	4.3		32.3	
Level of Service	E	C	A		C	
Approach Delay (s)		25.9	4.3		32.3	
Approach LOS		C	A		C	

Intersection Summary			
HCM 2000 Control Delay	16.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
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												
Traffic Volume (vph)	35	1298	32	100	1448	70	81	0	87	51	0	7
Future Volume (vph)	35	1298	32	100	1448	70	81	0	87	51	0	7
Ideal Flow (vphpl)	1900	1900	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	0.91		1.00	0.91			1.00			1.00	
Frt	1.00	1.00		1.00	0.99			0.93			0.98	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.96	
Satd. Flow (prot)	1805	5168		1805	5151			1553			1612	
Flt Permitted	0.95	1.00		0.95	1.00			0.84			0.71	
Satd. Flow (perm)	1805	5168		1805	5151			1332			1197	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	37	1366	34	105	1524	74	85	0	92	54	0	7
RTOR Reduction (vph)	0	2	0	0	5	0	0	70	0	0	37	0
Lane Group Flow (vph)	37	1398	0	105	1593	0	0	107	0	0	24	0
Parking (#/hr)								0			0	
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	4.6	38.3		8.7	42.4			39.5			39.5	
Effective Green, g (s)	4.6	38.3		8.7	42.4			39.5			39.5	
Actuated g/C Ratio	0.05	0.38		0.09	0.42			0.40			0.40	
Clearance Time (s)	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	
Lane Grp Cap (vph)	83	1979		157	2184			526			472	
v/s Ratio Prot	0.02	0.27		c0.06	c0.31							
v/s Ratio Perm								c0.08			0.02	
v/c Ratio	0.45	0.71		0.67	0.73			0.20			0.05	
Uniform Delay, d1	46.5	26.1		44.3	24.0			19.9			18.7	
Progression Factor	1.24	0.64		1.00	1.00			1.00			1.00	
Incremental Delay, d2	3.2	1.8		10.3	2.2			0.2			0.2	
Delay (s)	61.0	18.6		54.6	26.2			20.1			18.9	
Level of Service	E	B		D	C			C			B	
Approach Delay (s)		19.7			27.9			20.1			18.9	
Approach LOS		B			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	23.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	54.2%	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 (veh/h)	0	1209	81	0	1121	41	0	0	19	0	0	56
Future Volume (Veh/h)	0	1209	81	0	1121	41	0	0	19	0	0	56
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	1259	84	0	1168	43	0	0	20	0	0	58
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		826			220							
pX, platoon unblocked	0.77						0.77	0.77		0.77	0.77	0.77
vC, conflicting volume	1211			1343			1748	2512	357	1524	2532	411
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	219			1343			918	1912	357	626	1939	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	97	100	100	93
cM capacity (veh/h)	1047			520			164	53	646	277	51	838

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	360	360	360	264	467	467	277	20	58
Volume Left	0	0	0	0	0	0	0	0	0
Volume Right	0	0	0	84	0	0	43	20	58
cSH	1700	1700	1700	1700	1700	1700	1700	646	838
Volume to Capacity	0.21	0.21	0.21	0.16	0.27	0.27	0.16	0.03	0.07
Queue Length 95th (ft)	0	0	0	0	0	0	0	2	6
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.8	9.6
Lane LOS								B	A
Approach Delay (s)	0.0				0.0			10.8	9.6
Approach LOS								B	A

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	112	1036	1074	425	351	57
Future Volume (vph)	112	1036	1074	425	351	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.91	0.91		1.00	
Frt	1.00	1.00	0.96		0.98	
Flt Protected	0.95	1.00	1.00		0.96	
Satd. Flow (prot)	1805	5187	4966		1609	
Flt Permitted	0.95	1.00	1.00		0.96	
Satd. Flow (perm)	1805	5187	4966		1609	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	114	1057	1096	434	358	58
RTOR Reduction (vph)	0	0	70	0	6	0
Lane Group Flow (vph)	114	1057	1460	0	410	0
Parking (#/hr)					0	
Turn Type	Prot	NA	NA		Prot	
Protected Phases	5	2	6		4	
Permitted Phases						
Actuated Green, G (s)	10.3	43.3	41.7		34.5	
Effective Green, g (s)	10.3	43.3	41.7		34.5	
Actuated g/C Ratio	0.10	0.43	0.42		0.34	
Clearance Time (s)	4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	185	2245	2070		555	
v/s Ratio Prot	c0.06	0.20	c0.29		c0.25	
v/s Ratio Perm						
v/c Ratio	0.62	0.47	0.71		0.74	
Uniform Delay, d1	43.0	20.2	24.1		28.8	
Progression Factor	1.00	1.00	0.13		1.00	
Incremental Delay, d2	6.0	0.7	1.3		8.6	
Delay (s)	48.9	20.9	4.4		37.3	
Level of Service	D	C	A		D	
Approach Delay (s)		23.6	4.4		37.3	
Approach LOS		C	A		D	

Intersection Summary			
HCM 2000 Control Delay	16.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	70.6%	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)	36	1441	35	99	1548	82	88	0	135	44	0	29
Future Volume (vph)	36	1441	35	99	1548	82	88	0	135	44	0	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	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	
Frt	1.00	1.00		1.00	0.99			0.92			0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.97	
Satd. Flow (prot)	1805	5168		1805	5148			1540			1571	
Flt Permitted	0.95	1.00		0.95	1.00			0.85			0.77	
Satd. Flow (perm)	1805	5168		1805	5148			1338			1242	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	37	1470	36	101	1580	84	90	0	138	45	0	30
RTOR Reduction (vph)	0	2	0	0	6	0	0	55	0	0	43	0
Lane Group Flow (vph)	37	1504	0	101	1658	0	0	173	0	0	32	0
Parking (#/hr)								0			0	
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	10.3	43.3		8.7	41.7			34.5			34.5	
Effective Green, g (s)	10.3	43.3		8.7	41.7			34.5			34.5	
Actuated g/C Ratio	0.10	0.43		0.09	0.42			0.34			0.34	
Clearance Time (s)	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	
Lane Grp Cap (vph)	185	2237		157	2146			461			428	
v/s Ratio Prot	0.02	0.29		c0.06	c0.32							
v/s Ratio Perm								c0.13			0.03	
v/c Ratio	0.20	0.67		0.64	0.77			0.38			0.08	
Uniform Delay, d1	41.1	22.7		44.1	25.1			24.6			22.0	
Progression Factor	1.37	0.64		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.5	1.4		8.7	2.8			0.5			0.3	
Delay (s)	56.8	16.1		52.9	27.8			25.2			22.4	
Level of Service	E	B		D	C			C			C	
Approach Delay (s)		17.0			29.3			25.2			22.4	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	23.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	61.3%	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 (veh/h)	0	1340	79	0	1241	57	0	0	44	0	0	47
Future Volume (Veh/h)	0	1340	79	0	1241	57	0	0	44	0	0	47
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	1411	83	0	1306	60	0	0	46	0	0	49
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		826			220							
pX, platoon unblocked	0.77						0.77	0.77		0.77	0.77	0.77
vC, conflicting volume	1366			1494			1937	2818	394	1735	2830	465
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	453			1494			1190	2329	394	930	2344	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	92	100	100	94
cM capacity (veh/h)	866			455			106	29	611	161	28	845

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	403	403	403	285	522	522	321	46	49
Volume Left	0	0	0	0	0	0	0	0	0
Volume Right	0	0	0	83	0	0	60	46	49
cSH	1700	1700	1700	1700	1700	1700	1700	611	845
Volume to Capacity	0.24	0.24	0.24	0.17	0.31	0.31	0.19	0.08	0.06
Queue Length 95th (ft)	0	0	0	0	0	0	0	6	5
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.4	9.5
Lane LOS								B	A
Approach Delay (s)	0.0				0.0			11.4	9.5
Approach LOS								B	A

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	58.0%	ICU Level of Service	B
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis
19: Pacific Coast Hwy & Drumm Ave

11/19/2021

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	68	1241	1240	245	268	39
Future Volume (vph)	68	1241	1240	245	268	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.91	0.91		1.00	
Frt	1.00	1.00	0.98		0.98	
Flt Protected	0.95	1.00	1.00		0.96	
Satd. Flow (prot)	1805	5187	5058		1611	
Flt Permitted	0.95	1.00	1.00		0.96	
Satd. Flow (perm)	1805	5187	5058		1611	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	72	1320	1319	261	285	41
RTOR Reduction (vph)	0	0	28	0	5	0
Lane Group Flow (vph)	72	1320	1552	0	321	0
Parking (#/hr)					0	
Turn Type	Prot	NA	NA		Prot	
Protected Phases	5	2	6		4	
Permitted Phases						
Actuated Green, G (s)	7.3	43.7	47.7		31.5	
Effective Green, g (s)	7.3	43.7	47.7		31.5	
Actuated g/C Ratio	0.07	0.44	0.48		0.32	
Clearance Time (s)	4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	131	2266	2412		507	
v/s Ratio Prot	c0.04	0.25	c0.31		c0.20	
v/s Ratio Perm						
v/c Ratio	0.55	0.58	0.64		0.63	
Uniform Delay, d1	44.8	21.3	19.7		29.3	
Progression Factor	1.00	1.00	0.22		1.00	
Incremental Delay, d2	4.7	1.1	1.1		5.9	
Delay (s)	49.4	22.4	5.5		35.2	
Level of Service	D	C	A		D	
Approach Delay (s)		23.8	5.5		35.2	
Approach LOS		C	A		D	

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)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	62.1%	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)	19	1545	38	118	1420	38	134	0	102	19	1	31
Future Volume (vph)	19	1545	38	118	1420	38	134	0	102	19	1	31
Ideal Flow (vphpl)	1900	1900	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	0.91		1.00	0.91			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.94			0.92	
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.98	
Satd. Flow (prot)	1805	5168		1805	5167			1566			1542	
Flt Permitted	0.95	1.00		0.95	1.00			0.79			0.87	
Satd. Flow (perm)	1805	5168		1805	5167			1279			1361	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	20	1593	39	122	1464	39	138	0	105	20	1	32
RTOR Reduction (vph)	0	2	0	0	3	0	0	45	0	0	22	0
Lane Group Flow (vph)	20	1630	0	122	1500	0	0	198	0	0	31	0
Parking (#/hr)								0			0	
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	7.3	43.7		11.3	47.7			31.5			31.5	
Effective Green, g (s)	7.3	43.7		11.3	47.7			31.5			31.5	
Actuated g/C Ratio	0.07	0.44		0.11	0.48			0.32			0.32	
Clearance Time (s)	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	
Lane Grp Cap (vph)	131	2258		203	2464			402			428	
v/s Ratio Prot	0.01	c0.32		c0.07	c0.29							
v/s Ratio Perm								c0.16			0.02	
v/c Ratio	0.15	0.72		0.60	0.61			0.49			0.07	
Uniform Delay, d1	43.5	23.2		42.2	19.3			27.8			24.0	
Progression Factor	1.37	0.47		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.4	1.7		4.9	1.1			4.3			0.3	
Delay (s)	59.8	12.6		47.1	20.4			32.1			24.3	
Level of Service	E	B		D	C			C			C	
Approach Delay (s)		13.2			22.4			32.1			24.3	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	18.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	68.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

SYNCHRO QUEUES WORKSHEETS – EXISTING & YEAR 2045 WITHOUT IMPROVEMENTS

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	34	953	36	1062	101	146
v/c Ratio	0.11	0.55	0.10	0.61	0.33	0.40
Control Delay	4.2	7.9	2.0	4.5	27.6	24.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.2	7.9	2.0	4.5	27.6	24.0
Queue Length 50th (ft)	5	100	2	31	40	48
Queue Length 95th (ft)	m10	167	m3	34	86	105
Internal Link Dist (ft)		746		140	200	494
Turn Bay Length (ft)	160		50			
Base Capacity (vph)	301	1736	344	1738	305	362
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.55	0.10	0.61	0.33	0.40

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	75	1080	23	946	98	185
v/c Ratio	0.22	0.63	0.08	0.55	0.31	0.51
Control Delay	3.3	4.2	6.5	7.4	27.0	28.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.3	4.2	6.5	7.4	27.0	28.5
Queue Length 50th (ft)	5	39	3	51	39	71
Queue Length 95th (ft)	m10	47	m8	94	84	138
Internal Link Dist (ft)		746		140	200	494
Turn Bay Length (ft)	160		50			
Base Capacity (vph)	339	1706	289	1711	313	361
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.63	0.08	0.55	0.31	0.51

Intersection Summary
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	38	1290	55	1105	166	146
v/c Ratio	0.13	0.74	0.24	0.63	0.54	0.43
Control Delay	2.4	4.0	4.5	5.0	40.1	32.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.4	4.0	4.5	5.0	40.1	32.8
Queue Length 50th (ft)	2	28	4	32	93	71
Queue Length 95th (ft)	m3	31	m8	42	164	134
Internal Link Dist (ft)		746		140	200	494
Turn Bay Length (ft)	160		50			
Base Capacity (vph)	286	1753	227	1756	306	342
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.74	0.24	0.63	0.54	0.43

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Intersection	
Int Delay, s/veh	73

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	856	986	246	296	36
Future Vol, veh/h	9	856	986	246	296	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	9	901	1038	259	312	38

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1297	0	-	0	1546	649
Stage 1	-	-	-	-	1168	-
Stage 2	-	-	-	-	378	-
Critical Hdwy	5.3	-	-	-	5.7	7.1
Critical Hdwy Stg 1	-	-	-	-	6.6	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	3.1	-	-	-	3.8	3.9
Pot Cap-1 Maneuver	286	-	-	-	~ 166	357
Stage 1	-	-	-	-	~ 194	-
Stage 2	-	-	-	-	612	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	286	-	-	-	~ 161	357
Mov Cap-2 Maneuver	-	-	-	-	~ 161	-
Stage 1	-	-	-	-	~ 188	-
Stage 2	-	-	-	-	612	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	$ 533.8
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	286	-	-	-	171
HCM Lane V/C Ratio	0.033	-	-	-	2.044
HCM Control Delay (s)	18	-	-	-	$ 533.8
HCM Lane LOS	C	-	-	-	F
HCM 95th %tile Q(veh)	0.1	-	-	-	27.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	49.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	33	964	886	412	242	31
Future Vol, veh/h	33	964	886	412	242	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	34	984	904	420	247	32

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1324	0	-	0	1576	662
Stage 1	-	-	-	-	1114	-
Stage 2	-	-	-	-	462	-
Critical Hdwy	5.3	-	-	-	5.7	7.1
Critical Hdwy Stg 1	-	-	-	-	6.6	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	3.1	-	-	-	3.8	3.9
Pot Cap-1 Maneuver	277	-	-	-	~ 160	350
Stage 1	-	-	-	-	~ 209	-
Stage 2	-	-	-	-	554	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	277	-	-	-	~ 140	350
Mov Cap-2 Maneuver	-	-	-	-	~ 140	-
Stage 1	-	-	-	-	~ 183	-
Stage 2	-	-	-	-	554	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	$ 461.1
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	277	-	-	-	150
HCM Lane V/C Ratio	0.122	-	-	-	1.857
HCM Control Delay (s)	19.8	-	-	-	$ 461.1
HCM Lane LOS	C	-	-	-	F
HCM 95th %tile Q(veh)	0.4	-	-	-	21

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	33.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	27	1170	1061	228	170	30
Future Vol, veh/h	27	1170	1061	228	170	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	29	1245	1129	243	181	32

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1372	0	-	0	1807	686
Stage 1	-	-	-	-	1251	-
Stage 2	-	-	-	-	556	-
Critical Hdwy	5.3	-	-	-	5.7	7.1
Critical Hdwy Stg 1	-	-	-	-	6.6	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	3.1	-	-	-	3.8	3.9
Pot Cap-1 Maneuver	263	-	-	-	~ 121	338
Stage 1	-	-	-	-	~ 172	-
Stage 2	-	-	-	-	496	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	263	-	-	-	~ 108	338
Mov Cap-2 Maneuver	-	-	-	-	~ 108	-
Stage 1	-	-	-	-	~ 153	-
Stage 2	-	-	-	-	496	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	$ 441.7
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	263	-	-	-	120
HCM Lane V/C Ratio	0.109	-	-	-	1.773
HCM Control Delay (s)	20.4	-	-	-	$ 441.7
HCM Lane LOS	C	-	-	-	F
HCM 95th %tile Q(veh)	0.4	-	-	-	16.4

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	9.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	34	1055	5	60	1223	68	0	0	83	51	0	7
Future Vol, veh/h	34	1055	5	60	1223	68	0	0	83	51	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	36	1111	5	63	1287	72	0	0	87	54	0	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1359	0	0	1116	0	0	1827	2671	558	1965	2637	680
Stage 1	-	-	-	-	-	-	1186	1186	-	1449	1449	-
Stage 2	-	-	-	-	-	-	641	1485	-	516	1188	-
Critical Hdwy	5.3	-	-	5.3	-	-	6.4	6.5	7.1	6.4	6.5	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	7.3	5.5	-	7.3	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.5	-	6.7	5.5	-
Follow-up Hdwy	3.1	-	-	3.1	-	-	3.8	4	3.9	3.8	4	3.9
Pot Cap-1 Maneuver	266	-	-	350	-	-	83	23	409	68	24	341
Stage 1	-	-	-	-	-	-	150	265	-	98	198	-
Stage 2	-	-	-	-	-	-	395	190	-	470	264	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	266	-	-	350	-	-	63	16	409	~ 41	17	341
Mov Cap-2 Maneuver	-	-	-	-	-	-	63	16	-	~ 41	17	-
Stage 1	-	-	-	-	-	-	130	229	-	85	162	-
Stage 2	-	-	-	-	-	-	317	156	-	320	228	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.8	16.2	$ 385.3
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	409	266	-	-	350	-	-	46
HCM Lane V/C Ratio	0.214	0.135	-	-	0.18	-	-	1.327
HCM Control Delay (s)	16.2	20.6	-	-	17.5	-	-	$ 385.3
HCM Lane LOS	C	C	-	-	C	-	-	F
HCM 95th %tile Q(veh)	0.8	0.5	-	-	0.6	-	-	5.8

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	13.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	35	1165	16	72	1249	81	4	0	128	43	0	28
Future Vol, veh/h	35	1165	16	72	1249	81	4	0	128	43	0	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	36	1189	16	73	1274	83	4	0	131	44	0	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1357	0	0	1205	0	0	1925	2772	603	2010	2739	679
Stage 1	-	-	-	-	-	-	1269	1269	-	1462	1462	-
Stage 2	-	-	-	-	-	-	656	1503	-	548	1277	-
Critical Hdwy	5.3	-	-	5.3	-	-	6.4	6.5	7.1	6.4	6.5	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	7.3	5.5	-	7.3	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.5	-	6.7	5.5	-
Follow-up Hdwy	3.1	-	-	3.1	-	-	3.8	4	3.9	3.8	4	3.9
Pot Cap-1 Maneuver	267	-	-	317	-	-	72	19	383	64	20	342
Stage 1	-	-	-	-	-	-	131	242	-	96	195	-
Stage 2	-	-	-	-	-	-	387	186	-	450	239	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	267	-	-	317	-	-	49	13	383	~ 31	13	342
Mov Cap-2 Maneuver	-	-	-	-	-	-	49	13	-	~ 31	13	-
Stage 1	-	-	-	-	-	-	113	209	-	83	150	-
Stage 2	-	-	-	-	-	-	273	143	-	257	207	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	1	24.5	$ 447.7
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	317	267	-	-	317	-	-	48
HCM Lane V/C Ratio	0.425	0.134	-	-	0.232	-	-	1.509
HCM Control Delay (s)	24.5	20.6	-	-	19.7	-	-	$ 447.7
HCM Lane LOS	C	C	-	-	C	-	-	F
HCM 95th %tile Q(veh)	2	0.5	-	-	0.9	-	-	7

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	1321	15	60	1258	37	4	0	96	19	0	30
Future Vol, veh/h	18	1321	15	60	1258	37	4	0	96	19	0	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	19	1362	15	62	1297	38	4	0	99	20	0	31

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1335	0	0	1377	0	0	2051	2867	689	2023	2855	668
Stage 1	-	-	-	-	-	-	1408	1408	-	1440	1440	-
Stage 2	-	-	-	-	-	-	643	1459	-	583	1415	-
Critical Hdwy	5.3	-	-	5.3	-	-	6.4	6.5	7.1	6.4	6.5	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	7.3	5.5	-	7.3	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.5	-	6.7	5.5	-
Follow-up Hdwy	3.1	-	-	3.1	-	-	3.8	4	3.9	3.8	4	3.9
Pot Cap-1 Maneuver	274	-	-	261	-	-	60	17	337	63	17	347
Stage 1	-	-	-	-	-	-	105	207	-	99	200	-
Stage 2	-	-	-	-	-	-	394	196	-	429	206	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	274	-	-	261	-	-	42	12	337	35	12	347
Mov Cap-2 Maneuver	-	-	-	-	-	-	42	12	-	35	12	-
Stage 1	-	-	-	-	-	-	98	193	-	92	152	-
Stage 2	-	-	-	-	-	-	274	149	-	282	192	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	1	27.2	112.4
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	263	274	-	-	261	-	-	78
HCM Lane V/C Ratio	0.392	0.068	-	-	0.237	-	-	0.648
HCM Control Delay (s)	27.2	19.1	-	-	23	-	-	112.4
HCM Lane LOS	D	C	-	-	C	-	-	F
HCM 95th %tile Q(veh)	1.8	0.2	-	-	0.9	-	-	3

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	36	1107	38	1239	107	154
v/c Ratio	0.14	0.62	0.13	0.69	0.41	0.46
Control Delay	4.6	9.4	1.9	5.2	31.3	27.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.6	9.4	1.9	5.2	31.3	27.4
Queue Length 50th (ft)	5	173	2	32	45	55
Queue Length 95th (ft)	m10	190	m2	32	95	115
Internal Link Dist (ft)		746		140	200	494
Turn Bay Length (ft)	160		50			
Base Capacity (vph)	254	1795	298	1797	264	334
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.62	0.13	0.69	0.41	0.46

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	79	1264	24	1108	105	193
v/c Ratio	0.28	0.73	0.10	0.64	0.36	0.56
Control Delay	3.8	4.9	8.2	9.4	29.2	30.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.8	4.9	8.2	9.4	29.2	30.7
Queue Length 50th (ft)	6	36	4	74	44	76
Queue Length 95th (ft)	m9	85	m8	126	92	147
Internal Link Dist (ft)		746		140	200	494
Turn Bay Length (ft)	160		50			
Base Capacity (vph)	283	1730	233	1733	292	347
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.73	0.10	0.64	0.36	0.56

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	40	1456	58	1237	176	156
v/c Ratio	0.20	0.95	0.40	0.80	0.43	0.35
Control Delay	8.5	21.4	10.1	11.1	29.5	25.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.5	21.4	10.1	11.1	29.5	25.0
Queue Length 50th (ft)	5	202	5	44	86	66
Queue Length 95th (ft)	m9	#460	m10	94	152	125
Internal Link Dist (ft)		746		140	200	494
Turn Bay Length (ft)	160		50			
Base Capacity (vph)	198	1539	146	1541	414	451
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.95	0.40	0.80	0.43	0.35

Intersection Summary

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Intersection	
Int Delay, s/veh	100.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	994	1146	247	296	36
Future Vol, veh/h	9	994	1146	247	296	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	9	1046	1206	260	312	38

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1466	0	-	0	1772	733
Stage 1	-	-	-	-	1336	-
Stage 2	-	-	-	-	436	-
Critical Hdwy	5.3	-	-	-	5.7	7.1
Critical Hdwy Stg 1	-	-	-	-	6.6	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	3.1	-	-	-	3.8	3.9
Pot Cap-1 Maneuver	236	-	-	-	~ 127	315
Stage 1	-	-	-	-	~ 153	-
Stage 2	-	-	-	-	572	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	236	-	-	-	~ 122	315
Mov Cap-2 Maneuver	-	-	-	-	~ 122	-
Stage 1	-	-	-	-	~ 147	-
Stage 2	-	-	-	-	572	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	$ 824.6
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	236	-	-	-	131
HCM Lane V/C Ratio	0.04	-	-	-	2.668
HCM Control Delay (s)	20.9	-	-	-	$ 824.6
HCM Lane LOS	C	-	-	-	F
HCM 95th %tile Q(veh)	0.1	-	-	-	31.5

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	68.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	33	1127	1025	413	242	31
Future Vol, veh/h	33	1127	1025	413	242	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	34	1150	1046	421	247	32

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1467	0	-	0	1785	734
Stage 1	-	-	-	-	1257	-
Stage 2	-	-	-	-	528	-
Critical Hdwy	5.3	-	-	-	5.7	7.1
Critical Hdwy Stg 1	-	-	-	-	6.6	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	3.1	-	-	-	3.8	3.9
Pot Cap-1 Maneuver	236	-	-	-	~ 125	315
Stage 1	-	-	-	-	~ 171	-
Stage 2	-	-	-	-	513	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	236	-	-	-	~ 107	315
Mov Cap-2 Maneuver	-	-	-	-	~ 107	-
Stage 1	-	-	-	-	~ 146	-
Stage 2	-	-	-	-	513	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	$ 716
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	236	-	-	-	116
HCM Lane V/C Ratio	0.143	-	-	-	2.401
HCM Control Delay (s)	22.8	-	-	-	$ 716
HCM Lane LOS	C	-	-	-	F
HCM 95th %tile Q(veh)	0.5	-	-	-	24.6

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	45.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	27	1316	1180	230	170	31
Future Vol, veh/h	27	1316	1180	230	170	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	29	1400	1255	245	181	33

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1500	0	-	0	1996	750
Stage 1	-	-	-	-	1378	-
Stage 2	-	-	-	-	618	-
Critical Hdwy	5.3	-	-	-	5.7	7.1
Critical Hdwy Stg 1	-	-	-	-	6.6	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	3.1	-	-	-	3.8	3.9
Pot Cap-1 Maneuver	227	-	-	-	~ 96	307
Stage 1	-	-	-	-	~ 144	-
Stage 2	-	-	-	-	460	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	227	-	-	-	~ 84	307
Mov Cap-2 Maneuver	-	-	-	-	~ 84	-
Stage 1	-	-	-	-	~ 126	-
Stage 2	-	-	-	-	460	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	$ 667.2
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	227	-	-	-	95
HCM Lane V/C Ratio	0.127	-	-	-	2.251
HCM Control Delay (s)	23.1	-	-	-	$ 667.2
HCM Lane LOS	C	-	-	-	F
HCM 95th %tile Q(veh)	0.4	-	-	-	19.1

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	22

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	35	1298	5	63	1485	70	0	0	87	51	0	7
Future Vol, veh/h	35	1298	5	63	1485	70	0	0	87	51	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	37	1366	5	66	1563	74	0	0	92	54	0	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1637	0	0	1371	0	0	2200	3212	686	2352	3177	819
Stage 1	-	-	-	-	-	-	1443	1443	-	1732	1732	-
Stage 2	-	-	-	-	-	-	757	1769	-	620	1445	-
Critical Hdwy	5.3	-	-	5.3	-	-	6.4	6.5	7.1	6.4	6.5	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	7.3	5.5	-	7.3	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.5	-	6.7	5.5	-
Follow-up Hdwy	3.1	-	-	3.1	-	-	3.8	4	3.9	3.8	4	3.9
Pot Cap-1 Maneuver	195	-	-	263	-	-	49	10	338	~ 39	11	277
Stage 1	-	-	-	-	-	-	99	199	-	62	144	-
Stage 2	-	-	-	-	-	-	336	138	-	407	199	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	195	-	-	263	-	-	33	6	338	~ 20	7	277
Mov Cap-2 Maneuver	-	-	-	-	-	-	33	6	-	~ 20	7	-
Stage 1	-	-	-	-	-	-	80	161	-	~ 50	108	-
Stage 2	-	-	-	-	-	-	245	103	-	240	161	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.9	19.6	$ 1104.3
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	338	195	-	-	263	-	-	23
HCM Lane V/C Ratio	0.271	0.189	-	-	0.252	-	-	2.654
HCM Control Delay (s)	19.6	27.7	-	-	23.2	-	$	1104.3
HCM Lane LOS	C	D	-	-	C	-	-	F
HCM 95th %tile Q(veh)	1.1	0.7	-	-	1	-	-	7.7

Notes
~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	39.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	36	1441	17	76	1571	82	4	0	135	44	0	29
Future Vol, veh/h	36	1441	17	76	1571	82	4	0	135	44	0	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	37	1470	17	78	1603	84	4	0	138	45	0	30

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1687	0	0	1487	0	0	2350	3396	744	2463	3362	844
Stage 1	-	-	-	-	-	-	1553	1553	-	1801	1801	-
Stage 2	-	-	-	-	-	-	797	1843	-	662	1561	-
Critical Hdwy	5.3	-	-	5.3	-	-	6.4	6.5	7.1	6.4	6.5	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	7.3	5.5	-	7.3	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.5	-	6.7	5.5	-
Follow-up Hdwy	3.1	-	-	3.1	-	-	3.8	4	3.9	3.8	4	3.9
Pot Cap-1 Maneuver	184	-	-	231	-	-	39	8	310	~ 33	8	267
Stage 1	-	-	-	-	-	-	83	176	-	55	133	-
Stage 2	-	-	-	-	-	-	318	127	-	384	175	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	184	-	-	231	-	-	22	4	310	~ 12	4	267
Mov Cap-2 Maneuver	-	-	-	-	-	-	22	4	-	~ 12	4	-
Stage 1	-	-	-	-	-	-	66	141	-	~ 44	88	-
Stage 2	-	-	-	-	-	-	187	84	-	170	140	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	1.2	44.9	$ 1726.8
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	225	184	-	-	231	-	-	19
HCM Lane V/C Ratio	0.63	0.2	-	-	0.336	-	-	3.921
HCM Control Delay (s)	44.9	29.4	-	-	28.3	-	$ 1726.8	
HCM Lane LOS	E	D	-	-	D	-	-	F
HCM 95th %tile Q(veh)	3.8	0.7	-	-	1.4	-	-	9.8

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	7.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	1545	15	64	1474	38	4	0	102	19	0	32
Future Vol, veh/h	19	1545	15	64	1474	38	4	0	102	19	0	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	20	1593	15	66	1520	39	4	0	105	20	0	33

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1559	0	0	1608	0	0	2381	3332	804	2349	3320	780
Stage 1	-	-	-	-	-	-	1641	1641	-	1672	1672	-
Stage 2	-	-	-	-	-	-	740	1691	-	677	1648	-
Critical Hdwy	5.3	-	-	5.3	-	-	6.4	6.5	7.1	6.4	6.5	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	7.3	5.5	-	7.3	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.5	-	6.7	5.5	-
Follow-up Hdwy	3.1	-	-	3.1	-	-	3.8	4	3.9	3.8	4	3.9
Pot Cap-1 Maneuver	213	-	-	201	-	-	38	8	283	39	8	294
Stage 1	-	-	-	-	-	-	72	160	-	68	154	-
Stage 2	-	-	-	-	-	-	344	151	-	376	158	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	213	-	-	201	-	-	23	5	283	~ 17	5	294
Mov Cap-2 Maneuver	-	-	-	-	-	-	23	5	-	~ 17	5	-
Stage 1	-	-	-	-	-	-	65	145	-	62	103	-
Stage 2	-	-	-	-	-	-	205	101	-	214	143	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	1.3	43.5	$ 374.3
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	198	213	-	-	201	-	-	42
HCM Lane V/C Ratio	0.552	0.092	-	-	0.328	-	-	1.252
HCM Control Delay (s)	43.5	23.6	-	-	31.4	-	-	$ 374.3
HCM Lane LOS	E	C	-	-	D	-	-	F
HCM 95th %tile Q(veh)	2.9	0.3	-	-	1.4	-	-	5.2

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

APPENDIX D: BUSINESS FOCUS GROUPS

WILMINGTON FREIGHT MITIGATION STUDY FOCUS GROUPS SUMMARY

BACKGROUND AND PURPOSE

The Wilmington Freight Mitigation Study held two set of focus groups – one for businesses (implemented on a one-on-one conference calls) and one for residents (collective phone call). Both the business and resident focus groups took place over the span of two days on May 13, 2020 and May 14, 2020. The purpose of the focus groups was to assess the impacts of increased truck travel within the identified Wilmington community area and (2) recommend both traffic and general land use mitigations to improve the quality of life for residents in this community. The facilitated discussion during the focus groups provided an opportunity to learn more from selected community members (business owners and residents) who provided more in-depth answers to important questions posed by the team, such as their observations with the following: truck/pedestrian conflicts and/or issues, intersections that experience significant delay due to truck traffic, unsafe intersections, and general issues on streets and intersections.

Katherine Padilla & Associates (KPA) conducted the research and facilitated the focus groups. KPA staff used an interview guide to focus the discussions on questions previously emailed to participants and asked probing follow-up questions in order to understand and clarify participants' responses. Following is a summary report of the focus group discussions.

PARTICIPANTS

The Office of Councilmember Joe Buscaino identified the participants for the focus groups.

Group 1 Businesses - held on May 13, 2020 and May 14, 2020
There were a total of nine participants in Focus Group 1 comprised of six businesses, eight males and one female. The majority were long-term businesses who have operated their businesses from these locations for decades. Almost all participants characterized themselves as being involved in the neighborhood where their business operates, and at least one is a member of a freight association.

Group 2 Residents – held on May 13, 2020 from 6:00 pm to 7:30 pm
There were three participants in Group 2 – all women. All three are very active residents in the community, volunteering with the East Wilmington Neighborhood Watch. They were all long-term residents of the identified area. All three shared they appreciated very much being included in the study. Notwithstanding the positive comments, participants offered insightful comments about issues that need addressing and suggested improvements for consideration.

SUMMARY OF FINDINGS

Participants' responses to the key questions are presented below using their own words as much as possible. Comments are listed in the order in which they were asked, and those that were expressed with the strongest level of emotion are italicized, based on the moderators' observations.

Similar responses from multiple stakeholders are in Italics.

Focus Group 1: Businesses (13 questions)

1. WHEN ASKED TO DESCRIBE GENERAL AND/OR SPECIFIC CONCERNS REGARDING TRUCK TRAVEL NEAR THEIR BUSINESS, THIS IS WHAT BUSINESS OWNERS HAD TO SAY:

   For one business owner, this was a nonissue. He shared that their company utilized freight approved routes, so it was not an issue. He did acknowledge, however, that he has heard of the impacts of the closure of the crossing at Lomita Blvd (Chandler crossing) for BNSF and raised the concern of the traffic being pushed to residential streets.

   For all other businesses, the major concerns were related to the closure of Lomita Blvd and Alameda St for the BNSF crossing. The concerns involved access (egress/ingress) to their facilities for both operations and in case of an emergency, the on-going poor condition of the road and its inability to safely hold the amount of truck traffic that utilizes it, and the dumping problem. The closure of Lomita Blvd has also created an increase of truck traffic caused by the passing of the train. This can take up to 30-45 minutes time during which the trucks get "trapped." Additionally, the closure of Lomita Blvd also requires that drives further out to streets like Figueroa St. This is challenging because truck routes are limited. For one business owner, this new truck route has left "only two access points remaining are Blinn Ave and Q St."

   The poor road maintenance of Lomita Blvd has left businesses to sometimes repair the road potholes temporarily themselves. One business owner is worried about safety and efficiency in queuing trucks for access to PCH and main arteries. Because of its location, it has been difficult for Lomita Blvd to be maintained. Business contact both the City of Los Angeles and the City of Carson. There are only two points of access, one on PCH to Drumm Ave, then Q St to Blinn Ave. This is a listed truck route. The second is Lomita Blvd to Figueroa St or Wilmington Blvd to Lomita Blvd.

   A second street of concern was Blinn Ave and the ongoing illegal dumping that takes place. As a result, an informal association of about 10-15 members was created by local businesses a few years ago to help clean up. The association is called Hart and they do these clean ups a few times a year. To support this effort, the City of Los Angeles provides large containers. Illegal dumping is a big problem. It happens at all hours of the day, even in the middle of the street. The dumping includes large items, and as many as 250 tires.

   Other observations included unsuccessful mitigations (by the City of Los Angeles) at the corner of Eubank Ave and PCH and Drumm Ave to PCH. The drain on the curb at Drumm Ave and PCH were resurfaced, and a bollard was added, but immediately taken out by a truck. A suggestion made was for the curb to go back 10 feet. The same was done on Eubank Ave for vehicles making a right turn onto PCH. There, trucks would go over the gutter and the container could topple over.

Lastly, there was a large concern by a business about the lack of parking enforcement on Q St. Q St has “No Parking Anytime” signs on both sides of the street and they are not enforced. As a result, the street has become a trailer drop off. Truck drivers use it to park and drop off trailers. This has caused the street to turn into a one lane. There are two lots there that are now trailer drop offs. When their lot gets full, the company tends to leave their containers on the street. This is every day. COVID-19 has not changed this. Without the parking of these, two trucks can pass easily. Concrete barriers were used before and mitigated the problem for a bit, but drivers began parking next to them after a while. This impacts driver’s safety. Most of the congestion is from storage yards and the container trailers that are left there. Tractor trailers take breaks there as well.

2. HAVE YOU OBSERVED ANY TRUCK/PEDESTRIAN CONFLICTS AND/OR ISSUES?

There was a consensus that this was not an issue. This is not a pedestrian used area. Comments around this question included homeless and street maintenance on Lomita Blvd by Watson Ave crossing. Observations about homeless activity being an issue varied.

3. DO YOU OBSERVE HEAVY TRUCK ACTIVITY ON SMALLER STREETS IN THE NEIGHBORHOOD? IF YES, WHAT STREETS?

Streets identified:

- ***Eubank Ave***
- ***Blinn Ave***
- ***Q St***
- ***Drumm Ave***

Additional comments:

- **PCH** and **Drumm Ave**. The northeast curb for right hand turn movement needs improvement. A traffic light at would be helpful. There's only a stop sign on Drumm Ave and none at PCH. This causes backing up on PCH.
- **PCH and Eubank Ave** (by customer container storage where containers are delivered, near ICE and Eubank Ave.)
- **Drumm Ave** and **Q St**. This area is used by trailers for illegal trailer parking. There's room for street to be widen and if sidewalk was removed on Drumm Ave (on the east side).
- **Blinn Ave**. Street should be widened and maintained better. North of residential area.
- **Blinn Ave** and **Q St.** Streets are satisfactory.
- **Sandison St,** south of Sandison is restricted to trucks. There are signs posted. That is why it is important to keep Q St open.

4. ARE THERE ANY INTERSECTIONS THAT EXPERIENCE SIGNIFICANT DELAY DUE TO TRUCK TRAFFIC? IF SO, PLEASE STATE WHICH INTERSECTIONS AND SPECIFIC TIMES OF DAY OR DAYS OF THE WEEK YOU SEE THE MOST ACTIVITY.

Drumm Ave and PCH

- *"A signal light on PCH and Drumm Ave would be very helpful. Drumm is very dangerous. People come flying there. Business owner has seen accidents there and it can be quite traumatic."*
- ***"****This intersection only has a stop sign on Drumm Ave. Trucks trying to exit from Drumm Ave onto PCH back up on Drumm Ave. When cargo is moving this varies, but this is the case Monday through Saturday."*

Alameda St by railroad and the BNSF crossing

- *"There is more traffic due to the railroad crossing. At least 30 minutes or longer. Trucks cannot go anywhere, they are stuck. It is technically an intersection and it causes the most traffic."*
- *"Tracks by Global yard (Alameda St and Eubank Ave) cause major back up. About 35 minutes or so."*

PCH and Drumm Ave

- *A stop sign for traffic headed southbound on Drumm Ave, making a left onto PCH (west) would be very helpful. There are delays that would be addressed by a signal light. Business owner arrives to work by 7:00 am, and the ports open by 8:00 am. He leaves by 5:00 pm or 6:00 pm Monday through Friday and observes the same conditions every day.*

Q St

- *"There is an illegal parking problem. No sign restrictions are followed. This is true Monday through Friday, all day and night, including weekends."*

Wilmington Blvd and Lomita Blvd

Eubank Ave and Lomita Blvd

5. ARE THERE ANY INTERSECTIONS THAT EXPERIENCE SIGNIFICANT DELAY DUE TO SHORT OR TOO LONG GREEN/RED LIGHTS?

Several business owners responded, "**no**" and added that is because they lack intersection lights. They mostly have stop signs. They added that the following intersections should have a signal light:

Drumm Ave and PCH

- ***Lomita Blvd and Wilmington Blvd*** *(train ends up sitting across rail, creates backup on Lomita Blvd for up to 45 minutes every day)*

- ***Lomita Blvd at Watson****. There are two crossings, eastbound and westbound. That is where you get a lot of back up. Crossing takes at least 20 minutes. Drivers will bleed into Wilmington Blvd and Alameda St.*

6. ARE THERE ANY NOTICEABLE BLIND SPOTS OR SIGHT DISTANCE ISSUES? EXAMPLES ARE TREES OR POLES THAT BLOCK THE VIEW OF ONCOMING VEHICLES OR PEDESTRIANS.

Four of the businesses responded, **"no".** Others shared the following observations:

Blinn Ave and Q St - Signs are not clear

- *"Blinn Ave stop signs are not clear. The trees are blocking sight. They were cut down in the winter, but they grow back and block the stop sign. Also, if the paint on the street is not visible, then cars on Blinn Ave can't/don't stop."*

Drumm Ave and PCH – Traffic speed

- *"Driving westbound on PCH can be an issue for drivers going over bridge and coming downhill, if the driver is going too fast or is distracted. Also, it is difficult to make a left turn on to PCH from Drumm Ave because traffic is going very fast. A truck cannot pull out fast enough."*
- *"There is a safety concern for trucks on Drumm Ave and PCH. KPAC business (recycling center) entering by Coil Ave is dangerous and causes delays for those leaving eastbound and westbound. Significant concern when the sun is coming down (westbound), west on PCH. Coil Ave and Drumm Ave, turning right onto PCH is very blinding especially during peak hours."*

Drumm Ave and Q St – Southwest corner blind spot

- *"The facility at southwest corner of Drumm Ave and Q St has a tall brick wall for security reasons. Vehicles make wide turns here."*

7. ARE THERE ANY DANGEROUS INTERSECTIONS WHERE ACCIDENTS ARE FREQUENT?

Three business responded "**no"** to this question, while the other made the following comments:

- ***PCH and Drumm Ave.*** *There is a lack of a signal light at that location. Currently there is only a stop sign. An intersection light could increase safety and trucks not idling. It would improve the trucks' ability to go in and out rapidly.*
- ***Eubank Ave and PCH*** *turning right (westbound). It is a sharp turn. I do not know if there has been an accident there but it is an accident waiting to happen.*
- ***Drumm Ave and Coil Ave***
- ***Every intersection.*** *I have been in the area for 10 years and think it is every intersection.*
- *The accident that led to the closure of Lomita Ave.*

8. WHAT ARE THE ISSUES ON THE STREETS/INTERSECTIONS? EXAMPLES INCLUDE EXCESSIVE POTHOLES, BUMPY PAVEMENT, ETC.

Lomita Blvd – Poor road conditions and street dumping

- *"Eubank Ave to Lomita Blvd is horrific. Simply terrible. I have traveled the world, and this looks like a third world. That is why people dump here. They dump couches, tubs, roofs, shingles, construction debris and tires. The last pickup was for 250 tires. There are break-ins. With City permission, cameras have been installed to prevent dumping. We have added about 20 k-rails on Q St, 20 feet apart to deter dumping. "*
- *"The street has crater-like potholes, east, coming from Eubank Ave. They are dangerous. Trucks can pop tires. It is the border of the City of Carson and Los Angeles. This delays repairs to the street. So we take it upon ourselves to fix potholes."*
- *"The street has crater-size potholes and trash. The potholes have been there years. All the way to Alameda St."*
- *Lomita Blvd. All of Alameda St to Wilmington Blvd. Blinn Ave from Lomita Blvd to Q St.*
- *There is no storm drain on the street. The street also has water problems.*

Eubank Ave and PCH – Narrow Streets

- *There is concern over the streets being very narrow for a big truck to deliver to company site, ICE.*
- *"Driving westbound on PCH and making a right onto northbound Eubank Ave could create a problem for cars going south and turning left onto PCH and having to make sure a wide turn that they go into adjacent turn. The street is too narrow."*

PCH into Drumm Ave – Corner configuration

- "When you come from PCH, there is a tight entrance onto Drumm Ave. Trucks run over curb; and as a result, the curb is worn. The City fixed it by adding a yellow pole a few years ago, but it did not fix the problem long term. It deters drivers to continue to drive over it. Pole has helped by deterring drivers to drive over it, but the access point should be designed differently. A different type of curb might be needed there. The curb itself is not damaged but the curb gutter needs to be fixed. There are tire marks that show ongoing problem."
- **Q St – Road conditions**
- **Q St and Drumm Ave are in decent conditions**

9. WHAT ARE THE ISSUES FOR THE SIDEWALKS SURROPUNDING YOUR BUSINESS (TOO NARROW, INCOMPLETE, DAMAGE DUE TO TRUCKS OR TREE ROOTS, ETC.)

Most of the business owners responded that there were no issues with sidewalks because they are non-existent, and this is an industrial area, so there are not a lot of pedestrians walking around. In addition to the general response, the following observations were also shared:

- "There is no sidewalk except for the one on Eubank Ave, and you can see trucks go into the sidewalk. Drumm Ave also has a sidewalk on the west side of the street."
- "We have a crushed, runover catch basin with visible curb damage on Drumm Ave. It is about a quarter mile away on Drumm Ave and PCH."
- "A sidewalk on Drumm Ave and PCH is needed."
- "Sidewalks are used by the homeless. They are not used on Q St and Drumm Ave."

10. IS THERE ANY VISIBLE CURB DAMAGE WHERE VEHICLES OR TRUCKS CONSTANTLY HIT A SPECIFIC LOCATION?

One business owner said no. The remaining businesses shared the following locations:

- ***PCH and Drumm Ave*** *(northeast curb)*
- ***PCH and Drumm Ave*** *(southwest corner). There's visible curb damage. The curb itself is not damaged, but when it rains the truck wheels pivot over the dirt and go over the curb.*
- ***PCH and Drumm Ave*** *(east side of Drumm Ave). Both streets are a tight corner. Their speed of the trucks is also of concern.*
- **PCH and Eubank Ave** (northeast corner). There, the latter part the truck hits the curb.
- **Drumm Ave and Eubank Ave**. Cars are normally parked there.
- **Q St to Blinn Ave**, (right turn movements). The turn from Q St to Drumm Ave has an ill design. It's a tight turn, in an acute angle. The light pole has been hit before.

11. DO YOU OBSERVE TRUCKS HAVING A DIFFICULTY MANEUVERING ALONG STREETS (TIGHT CORNERS, NARROW ROAD WIDTHS, THREE POINT TURNS)?

- ***PCH and Drumm Ave*** *(westbound to northbound). If driver is going eastbound, there is no stop sign. The turn is also too narrow. (See pictures below shared by business owner.)*

- ***Blinn Ave between Q St and Lomita Blvd****. The street is too narrow.*
- ***PCH and Eubank Ave***
- **PCH and Coil Ave**
- **Lomita Blvd between Q St and Blinn Ave**
- ***Q St and Drumm Ave***

One of the business owners shared he regularly drives the truck routes to see how things are going and to make sure his drivers are driving safely and making safe turns, etc.

12. IF YOUR BUSINESS HAS HIGH TRUCK ACTIVITY, WHAT WOULD YOU LIKE TO SEE IMPROVED?

Installation of Traffic Light at PCH and Drumm Ave

- *"Adding a traffic light at PCH and Drumm Ave would improve safety significantly for drivers making a left."*
- *"There is tons of traffic when BNSF is done with their switching – on Lomita Blvd between Wilmington Blvd and Alameda St - it's a nightmare. Up to 15 to 45 minutes delay."*

Safety / Sign Installation

- "Safety, it is all about safety. We need lots of signage. That would improve the conditions and stop any safety concerns between vehicles and trucks. Stop signs, painting on the road, and maintenance. This would alert drivers even with trees blocking signs. These could be multiple ways to warn drivers about the stop ahead, even for fast drivers."

Road Conditions and Access to Lomita Blvd

- "The roads on Lomita Blvd are of concern. The quality of the street surface is poor. The City has refused to repair the street. The two crossings on Lomita Blvd are significant problems. On Wilmington Blvd nothing significant."
- "Having multiple points of access to Lomita Blvd. Fixing potholes that have been neglected for so long and no city wanting to maintain the street. The neglect reflects on the potholes and uneven pavement. The trains blocking traffic really delay traffic. The other side of the street use to get out before but now they're stuck."
- "Improve movement from Q St to Lomita Blvd and improve the conditions of Lomita Blvd. This would lower idling, help access (in and out), and improve air quality in the process. Getting rid of the rail crossing would help a lot."

Parking Enforcement Issues

- Lack of parking enforcement on Q St has led to an ongoing issue of trucks parking their cargo either overnight or longer. There are drop yards that can be used by multiple users on a day by day basis. These companies do daily drop offs but they must keep space to maneuver etc. The problem could be cause by over selling capacity or because some trucks may be unable to deliver their cargo. As a result, they must find a place to store the cargo in the meantime and Q St is used to wait or sleep. It is done by multiple trucks to the point that the street looks like a one way.

13. WHAT ARE YOUR PRIMARY CONCERNS RELATED TO TRUCK TRAFFIC, AND WHAT IMPROVEMENTS WOULD YOU LIKE TO SEE?

Safety

- "The crossings made more traffic, and this also made more traffic for residential streets. Delays and safety concerns at PCH and Drumm Ave, PCH and Eubank Ave."

- “The north side of Lomita Blvd has an ethanol company (Kinder Morgan). It stores crude oil. The move to close Lomita Blvd makes it more dangerous because if there was an explosion how would you get out? <u>Emergency access is restricted, and emergency responders have stated that they would not be able to access in case of an emergency. Egress access conditions of Lomita Blvd is a safety concern.”</u>
- “As property owner, I would like to see safety of truck drivers and neighbors improve. The operators are doing the best they can to keep trucks moving efficiently. Business is good for the community; several drivers work and live in the neighborhood.”
- *“Moving efficiently and quickly, improves everyone’s safety.”*

Installation of Traffic Signals, Widening Streets, Local Access, and Parking Enforcement

- “A traffic light on PCH and Drumm Ave would be an improvement. Also, widening the corners at Blinn Ave between Q St and Lomita Blvd. This is a tight turn. Drumm Ave and PCH is too narrow.”
- “Lomita Blvd onto north Wilmington Blvd. If driver is on PCH, you cannot use Alameda St. Drumm Ave or Q St are the only options. You can use Figueroa St, but you must cross town. The 710 freeway to PCH is also traveling a long way to access Lomita Blvd.”
- “Signs and parking enforcement on Q St. I have been here for over 13 years and the illegal parking needs to be addressed. Our business is local—hard working people—we use local vendors; we deliver to local people. We work well in the area. We believe that there are non-enforcement issues on Q St. We ask for focus and consistency to make sure there are areas of illegal parking addressed.”

WILMINGTON FREIGHT MITIGATION STUDY FOCUS GROUPS SUMMARY

ADDENDUM

After concluding both the business interviews and resident stakeholder focus group, KPA received written comments from key stakeholders that were relevant to the study area.

Appendix D1 - Donna Ethington Background Info

Wilmington, an Annex of the Port of LA?
By Donna Ethington

Despite all the Port-Community Advisory Committee (PCAC) motions, Wilmington Neighborhood Council (WNC) recommendations, City of LA code amendments, zone changes and updates to the Wilmington-Harbor City Community Plan aimed at reducing the Port's impacts, Wilmington is swamped with truck & container yards and overrun with container trucks driving through its residential areas.

In 2005 the Harbor Commission approved PCAC's Wilmington Waterfront Development Subcommittee motion that requested the Port to 'develop and implement a transportation plan that directs Port truck and rail traffic along the Alameda Corridor and other designated routes that do not cross Wilmington residential and commercial districts.' It basically reinforces Policy 3-1.5 'Cargo container storage facilities shall have direct access from major or secondary highways or through industrial areas with **no access to such facilities through residential areas**' that has been in Wilmington-Harbor City Community Plans since 1990.

The Port constructed a large park along Harry Bridges Blvd in southwest Wilmington that effectively stopped container trucks from driving through that residential neighborhood, and truck restrictions were posted on all residential streets north and south of Anaheim St and PCH.

But for reasons unknown, the Port designated Anaheim St between Eubank Ave and Alameda St as a Heavy Container Route. It is included in the Dept of Public Works 2012 Overweight Container Corridor and on the Port's 2015 Heavy Container Corridor map. No one at the City of LA Depts of Public Works, Street Services, Engineering, or the LADOT could explain the designation change except to say that Public Works has to survey the street and approve those changes.

The 2003 Wilmington Interim Control Ordinance (ICO), initiated by then Councilwoman Janice Hahn, banned any new junkyards and container storage facilities, and limited open storage to 25% of the total lot area where storage is incidental to a main use conducted within a fully-enclosed building. It also imposed [Q] conditions that prohibit sheet metal and barbed wire fencing, requires an 8 – 12 feet tall solid fence or wall, paved parking spaces, and landscaped setbacks along major highways and adjacent to or directly across from any residential zone.

But during the 2005 Wilmington Control Ordinance (WCO) Code Amendment hearing, the argument was made that local Port-related industries provide valuable support services to the Ports, are an integral component of the economy, have a long history in Wilmington, that it would be unreasonable to force them to locate miles away, and that efforts should be made to mitigate the conflict between industrial and residential uses.

As a result, the 2006 permanent WCO was greatly pared down. While it maintains the [Q] conditions and prohibits new junkyards, auto dismantling, and the storage or stacking of cargo containers in M2 zones closest to residential zones, it permits loading and/or parking of trucks and containers on chassis - but without the limitations on operations or open storage as did the ICO. It also states that cargo container storage yards in M3 zones in proximity to residential uses would be inspected annually through an amendment to the LA Municipal Code (LAMC) Section 12.26.

In making its determination LA City Planning found that ‘the code and zoning changes were consistent with the goals of the Wilmington-Harbor City Community Plan - A physically balanced distribution of land uses that contribute to and facilitate the City's long-term fiscal and economic viability, revitalization of economically depressed areas, conservation of existing residential neighborhoods, equitable distribution of public resources, provision of adequate infrastructure and public services, reduction of traffic congestion and improvement of air quality, assurance of environmental justice and a healthful living environment.’

On June 4, 2016, to reduce the cumulative health impacts of concentrated industrial land uses and heavily freight-dominated transportation corridors, the City adopted a Clean Up Green Ordinance (CUGU) that overlays the WCO, imposes additional [Q] conditions, and requires prior approval by City Planning for certain projects or land uses in industrial areas adjacent to residential zones.

Until mid-2015, there were two container storage yards and two Foreign Trade Zones north of Anaheim St, and a freight transport company in northeast Wilmington in MR2 zones adjacent to residential areas. But in late 2015 and early 2016 new truck & container yards began to appear in these MR2 zones.

The Council Office was notified and sent photos several times and in 2016 said there was a case against the two container storage yards. But, a review of the WCO Code Amendment hearing indicates that those yards have a Conditional Use Permit and ‘nonconforming rights to their continued use.’

When these container yards continued to operate unchanged, one even posting a sign that read ‘Intermodal Container Yard for Sale,’ it was like giving a green light to owners of MR2 zoned land whose properties along Anaheim St. sold like hot cakes, many of them listed by Colliers Realty who advertised them online as ‘great for an industrial development or container storage.’

By the end of 2016, a dozen truck and container yards had replaced auto repair and dismantling businesses on Anaheim St between Alameda St and Eubank Ave, and in northeast Wilmington on Sandison St in MR2 zones adjacent to residential neighborhoods.

All of the container yards including two Port-permitted Foreign Trade Zones (FTZ) are in violation of the [Q] conditions. Fencing at all but one of these container facilities is a hodge-podge of chain-link, corrugated siding, tarps, plywood and barbed wire, some lots are unpaved, and all but the FTZs lack the required setback. Trucks and containers in yards on Dominguez and McFarland are within five feet of homes. Residents are complaining of health problems due to large clouds of dust created by trucks and yard equipment operating on unpaved lots.

There is nothing in the WCO to trigger an inspection to ensure compliance of the [Q] conditions in MR2 zones. Where the CUGU ordinance is concerned, there are no new structures at any of the yards that would require a building permit or inspection, and in most cases the land use change occurred before the CUGU went into effect.

Few of the yards have a name on the facility, and most don’t even show an address. Without reviewing the current Business License (BTRC) there is no way to know if the property owner is running the business or is leasing the property, or if the change in business operations has been reported.

In 2008, the Ports of LA and LB implemented a Clean Trucks Program Concession Agreement that requires Motor Carriers to provide off-road parking and comply with all applicable municipal ordinances and zoning, and authorizes a Port-designated Concession Administrator to inspect the property, equipment and records to ensure compliance.

In 2016 there were still vacant Port-owned parcels in far east Wilmington that were acquired for truck & container storage. The Port was contacted to see if they could identify and relocate any of the operators that are Motor Carriers with a Port Concession Agreement. The Port said it has no jurisdiction over private property, that it would be difficult to persuade operators to relocate to a site they don't own or don't want to lease, and that the operators need to abide by City ordinances.

In northeast Wilmington containers are stacked 5-7 high in yards along Lomita Blvd between Eubank Ave and Alameda St. Although Lomita Blvd is a designated truck route, Lomita is a private entrance at Alameda. The property owner and BNSF, whose rail lines cross the entrance have been allowing trucks to use the Lomita/Alameda entrance since 2004, but the LADOT cannot direct container truck traffic to a private entrance. Because Eubank has truck restrictions, the LADOT will not post truck restrictions on Drumm Ave, a residential street, which directs container trucks to use Drumm to go to/from those yards. But all container trucks don't stay on Drumm, they drive through residential areas.

In addition to Wilmington's residential areas, truck & container storage yards now occupy 40-50% of the Wilmington Industrial Park (WIP) also zoned MR2, where truckers are using the streets for parking and truck repairs.

The large volume of container trucks accessing these container yards causes frequent heavy congestion on Anaheim St and has substantially increased truck traffic on Drumm Ave in northeast Wilmington and on truck-restricted residential streets north of Anaheim St and PCH.

Even if the land uses or [Q] conditions are in violation of the WCO or CUGU, the LAMC permits container trucks to use truck-restricted residential streets in order to go to/from these facilities. As a result, neither the LAPD or Port Police will enforce the truck restrictions.

According to a Southern California Association of Governments (SCAG)-funded USC study, 'Logistics of Empty Cargo Containers in the Southern California Region,' it is primarily the ocean carriers that contract with the Motor Carriers and storage yards and determine where unloaded containers (whether carrier-owned or leased) will be sent - returned to the marine terminal, reloaded for export, to a container leasing or trucking company depot, or to an empty return depot.

Other than possibly the FTZs, there are no container loading operations at any of the container yards in Wilmington. Because there are few carrier-owned containers in these yards, it can be reasonably concluded that these yards are owned, operated or leased to container leasing companies.

Truck and container yards that occupy Wilmington's scare light industrial property do not create jobs or revenue for the community. Contrary to the City's Planning Dept determination, these land uses ONLY benefit the Port's customers. Ocean carriers should not be permitted to direct containers to residential areas just to add capacity to their marine terminal, or to maintain a competitive edge at the expense of our residents.

The Port of LA website shows that, on average 6% of imported containers are never exported. This is readily apparent in the Lomita Blvd container yards. According to the SCAG report the imbalance between imports and exports is expected to continue and even worsen. It is inconceivable that ocean carriers will ever use containers at the bottoms of these stacks, many of which are greatly deteriorated.

While these yards belong to private companies that store containers for ocean carriers or the container leasing companies, and the Port does not get involved in their business model, the Port and Council office can do something to help eliminate these impacts on Wilmington.

There is a considerable amount of industrial land with truck and container yards within four miles of the Ports on Alameda St and on Sepulveda Blvd. The SCAG report suggests, ‘there may be public policy options available that, through encouraging or discouraging certain behaviors, could modify institutional arrangements that direct the present physical movements (or storage) of empty containers.’

Appendix D2 - Donna Ethington Letter to City of LA

May 28, 2019
To: Marie Cobian, Community Planning | Los Angeles Department of City Planning
From: Donna Ethington

Background: (2001-2013) board member Wilmington Neighborhood Council, Port-Community Advisory Committee (PCAC) and WNC Transportation Committee chair, (2002-2005) chair of the PCAC Wilmington Waterfront Development subcommittee, and (2000 – 2006) editor of the Wilmington Community News. Founder of two nonprofits - Pacific Unicomm Corp (PUC), a 501(c)3, was established May 2000 to improve the quality of life of the residents of Wilmington. As administrator of the Clean Wilmington program PUC raised $500K and created a 2-acre pocket park, a 3000-ft-long jogging trail, landscaped the Drum Barracks' Powder Magazine and 38,000 sq. ft. of parkways, and conducted 30+ community cleanups. (2001 – present) PUC coordinates and co-sponsors the annual LA Harbor Holiday Afloat boat parade with the Port of LA. The Wilmington Youth Sailing Center (WYSC), a 501(c)3, established October 2011 works with local youth organizations and schools to teach youth how to apply STEM concepts to the art of sailing. The WYSC is working with the Port of LA to design and construct a 5000 sq. ft. sailing facility at Banning's Landing.

Hello Marie,
Pursuant to our telephone conversation on May 14th, I am submitting the following comments and recommendations for consideration:
Although our community plan provides great policies and objectives to create a balanced community and to improve the quality of life in Wilmington, many of the community's issues raised in the '90's are the same as those raised today.
Despite all the Port-Community Advisory Committee (PCAC) motions, Wilmington Neighborhood Council (WNC) recommendations, Wilmington Control Ordinance, City of LA code amendments, zone changes and updates to the Wilmington-Harbor City Community Plan aimed at reducing the Port's impacts, Wilmington is swamped with truck & container yards and overrun with container trucks driving through its residential areas.

I have included a second document that identifies these areas and illustrates the problems along with relevant portions of the Wilmington Control Ordinance which was designed to prevent this.

How and why these impacts have occurred:

Light industrial manufacturing properties adjacent to residential areas are now occupied by heavy industrial uses (primarily container storage) that generates heavy Port-related truck traffic, and provides no jobs or economic benefits to the community. These uses are primarily between Alameda St and Eubank Ave along Anaheim St and on the residential side streets north of Anaheim St, and in northeast Wilmington along Sandison St between Drumm Ave and Blinn Ave.

Although **Policy 16-1.1** of the community plan calls for 'strict enforcement of posted signs restricting truck traffic on residential streets,' because these facilities have been allowed to locate adjacent to residential areas, whether legally or illegally, the LAMC permits container trucks to use truck-restricted residential streets in order to go to/from these facilities. As a result, neither the LAPD or Port Police will enforce the truck restrictions.

Most of the container storage yards are in violation of permitted land uses. All but one of the container yards including two Port-permitted Foreign Trade Zones (FTZ) are in violation of the [Q] conditions.

Fencing at all but one of these container facilities is a hodge-podge of chain-link, corrugated siding, tarps, plywood and barbed wire, some lots are unpaved, and all but the FTZs lack the required setback. Trucks and containers in yards on Dominguez and McFarland are within five feet of homes. Residents are complaining of health problems due to large clouds of dust created by trucks and yard equipment operating on unpaved lots. These conditions make the community look neglected and blighted, creating a disincentive for other types of businesses to locate in Wilmington.

Few yards have a name on the facility and those that do, still have the name of the previous business. Most don't even show an address. Without reviewing the current Business License (BTRC) there is no way to know if the property owner is running the business or is leasing the property, or if the change in business ownership, operations or land uses has been reported.
Most homeowners are not familiar with zoning or the permitted land uses and assume that a business has been permitted to locate in an adjacent MR2 zone. Complaints do not tend to occur until business operations are fully established and creating environmental or quality of life issues.

<u>The Wilmington Neighborhood Council was never notified of any of these changes in land uses or business operations</u>.

Relevant Policies:

INDUSTRIAL

3-1.3 Require a transition of industrial uses, from intensive uses to less intensive uses, in those areas in proximity to residential neighborhoods.

Program: Land use designations on the Plan map, map footnotes and the corresponding zoning implement this.

3-1.5 Cargo container storage facilities shall have direct access from arterials or through industrial areas <u>with no access to such facilities through residential areas</u>. Container storage facilities shall provide landscaped buffering, height limitations and noise and view mitigation measures protecting nearby residential areas, and no container storage shall be permitted within 300 feet of any residential zone. Even though irrigation in some areas may not be feasible or allowed, it is the policy to encourage landscaping with xeriscape sensitive plants.

Program: [Q] conditions prohibit cargo container storage within 300 feet of any residential zone in most areas, and where such facilities are permitted in sensitive areas, mitigation measures such as fences or walls, landscaped buffers, and height or stacking limitations are imposed, effectuated by zone changes, with enforcement being the responsibility of the Department of Building and Safety.

DESIGN GUIDELINES FOR INDUSTRIAL/RESIDENTIAL INTERFACE AREAS

Loading Areas

1. New development of industrial uses located across a local or collector street from a residentially zoned area shall be designed in such a manner that truck loading/unloading shall be restricted to the rear portion of the lot, and/or separated from the street by the structure housing the industrial use.
2. New development adjacent to (abutting) residentially zoned areas shall locate the facilities for loading and unloading or open storage of material and finished products on the project site and/or the street frontage furthest from the residential development.

Recommendation A.

The Community plan should include a requirement that the Wilmington Neighborhood Council be notified of any heavy industrial business proposing to locate or to change a light industrial land use to a heavy industrial land use, or any proposed zoning changes that would allow MR3 land uses, including a Conditional Use Permit in an MR2 zone in proximity to a residential neighborhood.

Wilmington Industrial Park

To the detriment of the Wilmington Industrial Park, the Community Redevelopment Agency no longer exists. When revitalization efforts ceased, junkyards, auto dismantling and truck & container yards moved in. The Park, zoned Light Industrial MR2 is now 30-40% occupied by heavy industrial (MR3) uses. Streets are being used for truck parking and truck and auto repairs. Many properties are in violation of WCO [Q] conditions.

Relevant Policies

3-4.1 Develop and protect the industrial integrity and enhance the long-term stability of the Wilmington Industrial Park in conformance with the intent and provisions set forth in this Plan.

Program: The Redevelopment Plan for the Wilmington Industrial Park (Los Angeles Harbor Industrial Center Redevelopment Project) was adopted by the City Council on July 18, 1974, with the primary objective to attract labor-intensive industries which will provide new employment opportunities for the people of the community, and to provide continued recognition and support for activities bringing about the implementation of the Plan. Owners and tenants of property located in the Wilmington Industrial Park are subject to the requirements of the Redevelopment Plan, and the Community Redevelopment Agency has responsibility for administering the Plan.

3-4.3 All zoning, building, health and safety codes should be strictly enforced within the Wilmington Industrial Park, including requiring all owners and tenants to keep their properties clear at all times from the illegal accumulation of junk, trash, abandoned vehicles, weeds and debris, to maintain a safe environment for industrial activities and prevent nuisances for the benefit of all property owners, employees, and the overall community.

Program: Enforcement of zoning, building, health and safety codes is the responsibility of the Departments of Building and Safety, Fire, Sanitation, and the County Department of Health.

3-4.4 Cargo container storage should be limited or prohibited within the Industrial Park, and if permitted, in no instance should operators be allowed to stack containers more than “two-high”.

Program: The Community Redevelopment Agency can restrict or prohibit cargo container storage through the Redevelopment Plan for the Wilmington Industrial Park, with enforcement being the responsibility of the Department of Building and Safety.

Recommendation B.

The Community Plan should require Code Enforcement to inspect all MR2 and MR3 properties, in proximity to residential areas and in the Wilmington Industrial Park annually to ensure land uses are in compliance with the zoning codes, that businesses are properly licensed and reporting actual business operations in these zones, and to enforce SEC. 12.26. DEPARTMENT OF BUILDING AND SAFETY: F. (e) 3. that requires: Cargo Container Storage Yards to be inspected at least once a year to verify compliance with all applicable provisions of this Code. (full text is included in accompanying document)

Wilmington Control Ordinance

Although **ZIMAS** includes references to the WCO and/or CUGU on MR2 zoned parcels, local realtors (in particular Colliers Realty) are promoting MR2 parcels as ideal for container storage because the definition and operating restrictions have been omitted from the 2006 Wilmington Control Ordinance (WCO). In other cases, property owners are avoiding the CUGU permitting process and not constructing any buildings on the property.

Recommendation C.

The WCO should be amended to include at minimum the following:
Definition: (f) Any container storage facilities including cargo containers and trailers, refrigerated containers, shipping containers, container chassis and truck cabs, except when actively loading or unloading at a loading dock. (full text of definitions included in accompanying document)

Permitted Operations: 'Where open storage activities are incidental and accessory to a main use conducted within a fully-enclosed building, provided that the open storage activities must be conducted on the rear half of the lot, screened from public view, in compliance with all applicable regulations of the Los Angeles Municipal Code, and the open storage area does not include more than 25% of the total lot area, excluding the Code required parking.'

Northeast Wilmington

In northeast Wilmington containers are stacked 5-7 high in yards along Lomita Blvd between Eubank Ave and Alameda St. In 2006 the LADOT posted truck restrictions on PCH at Eubank Ave and all residential streets between Sanford Ave and Blinn Ave. The LADOT did not post the restriction on Drumm Ave, also a residential street, to direct container trucks to use Drumm to go to/from the Lomita Blvd yards. The LADOT said that if all streets were posted, container trucks could legally use any truck-restricted street. But all container trucks don't stay on Drumm. Even though truck restrictions are posted throughout the residential area truckers drive on any streets they choose.

Although Lomita Blvd is a designated truck route, Lomita at Alameda is a private entrance and the LADOT cannot direct container truck traffic to a private entrance. The property owner (Chandler's Sand & Gravel) and BNSF, whose rail lines cross the Lomita/Alameda entrance have been allowing trucks to use that entrance since 2004, which has helped reduce truck traffic through residential areas, but in 2019 the Public Utilities Commission closed the entrance. Trucks are now backed up on Blinn Ave, and on Wilmington Ave and Lomita Blvd east of Eubank Ave.

Relevant Policies 15-1.1

Program: Funded Capital Improvements. The following capital improvements are planned for the area, to the extent that they are feasible and consistent with the policies of the Mobility Plan:
• Widen Alameda Street to provide three lanes per direction from I-10 to Henry Ford Avenue
• Provide grade separated intersections along Alameda Street at Del Amo Boulevard, Carson Street, Sepulveda Boulevard and Pacific Coast Highway with full interchanges (Alameda Corridor)

Program: Recommended Capital Improvements [TIMP]
1. Proposed roadway extensions [TIMP]: Improvement of Lomita Boulevard, as an Avenue, east of Eubank Avenue to Alameda Street, with an at-grade intersection at Alameda. [TIMP]

Recommendation D.

Revision to *Program*: Recommended Capital Improvements [TIMP]

1. **Proposed roadway extensions [TIMP]: Improvement of Lomita Blvd, as an Avenue, east of Eubank Avenue to Alameda Street, with a <u>grade separated intersection</u> at Alameda. [TIMP]**

RELATIONSHIP TO THE PORT OF LOS ANGELES

According to a Southern California Association of Governments (SCAG)-funded USC study, 'Logistics of Empty Cargo Containers in the Southern California Region,' it is primarily the ocean carriers that contract with the Motor Carriers and storage yards and determine where unloaded containers (whether carrier-owned or leased) will be sent, i.e. returned to the marine terminal, reloaded for export, to a container leasing or trucking company depot, or to an empty return depot.

Other than possibly the Port-permitted Foreign Trade Zones (FTZs), there are no container loading operations at any of the container yards in Wilmington. Truck and container yards that occupy Wilmington's scare light industrial property do not create jobs or revenue for the community. These land uses ONLY benefit the Port's terminal customers. Ocean carriers should not be permitted to direct containers to residential areas just to add capacity to their marine terminal, or to maintain a competitive edge at the expense of our residents.

There is a considerable amount of industrial land with truck and container yards within four miles of the Ports on Alameda St and on Sepulveda Blvd. The SCAG report suggests, 'there may be public policy options available that, through encouraging or discouraging certain behaviors, could modify institutional arrangements that direct the present physical movements (or storage) of empty containers.'

The Port of LA website shows that, on average 6% of imported containers are never exported. This is readily apparent in the Lomita Blvd container yards. According to the SCAG report the imbalance between imports and exports is expected to continue and even worsen. It is inconceivable that ocean carriers will ever use containers at the bottoms of these container stacks, many of which are greatly deteriorated.

According to Port staff, the Port has no jurisdiction over private property and does not get involved in the business model of privately-owned container yards. According to a recent Port EIR, 'container terminals are contracted to load and unload ships, trains, and trucks, not to conduct or arrange for drayage. Ocean carriers are customers of the container terminals. Beneficial Cargo Owners (BCOs) and shipping lines hire drayage companies to move containers between the Port and their warehouses and the near and off-dock facilities. The trucking companies allocate resources, i.e. trucks, according to the demands of the cargo owners, not the terminals, meaning that terminals have no role in the logistics of drayage.'

Therefore, the Port cannot direct the placement of truck and container storage yards through leases to terminal operators.

The Port may no longer have a land acquisition program. However, in June 2018 the Port released a NOP to develop a Harbor Performance Enhancement Center on Terminal Island at the former LAXT and U.S. Customs House sites. The proposed Project would create an all-wheeled yard for marine terminals in the San Pedro Bay Complex which includes POLA and POLB. It is designed to serve the flow of imported containers arriving at the marine container terminals, which are experiencing an increase in container volumes due to the increase in vessel sizes. Larger numbers of containers need to be stored in stacks in terminal holding areas.

Phase 1 of the proposed Project would have a total maximum wheeled slot capacity of approximately 2,400 and a throughput capacity of approximately 270,000 containers. Phase 1 would take approximately 8 months, occurring from October 2019 through May 2020. Phase 2, constructed on approximately 32 acres would take approximately 14 months, occurring from June 2020 through July 2021. At full buildout, the Project would have a maximum wheeled slot capacity of approximately 4,200 and a throughput capacity of 650,000 containers.

This project could potentially eliminate the need to store containers on chassis in the container yards along Anaheim St and the residential side streets while substantially reducing truck traffic on those streets.

Relevant policies

18-3.2 Upgrade the circulation system both internal and external to the Port to promote efficient transportation routes to employment, waterborne commerce, and commercial and recreational areas, and to divert Port-related traffic away from adjacent residential and commercial areas.

18-3.4 Encourage the Port to consider the accommodation of those Port-related industrial land uses, which due to their existing location in or adjacent to residential areas, are proposed by the Plan to be relocated to sites more remote from inhabited areas.

Program: This policy is implemented through the ongoing Port land acquisition and expansion program, and the periodic revision of the Port of Los Angeles Master Plan. In addition, renewal of Port leases should comply with this policy.

Recommendation E.

The community plan should recommend that CD 15 Council office with input from the Port of LA establish a public policy that discourages locating truck and container storage yards in proximity to residential areas and encourages them to locate in appropriate industrial areas to reduce environmental impacts and divert Port-related truck traffic away from adjacent residential and

commercial areas. Policy should be memorialized in an agreement between the terminals, shipping lines, container leasing companies, motor carriers and other relevant entities within the logistics chain.

RESIDENTIAL

The following policy should be revised to eliminate the Community Redevelopment Agency Relevant Policy 1-1.6

Program: The Residential Rehabilitation Loan Program, administered by the Community Redevelopment Agency (CRA), makes funds available for the rehabilitation of lower-income multi-family rental housing. The program is partially funded by the U. S. Department of Housing and Urban Development (HUD) and requires matching funds from a private lender with CRA as a last resort.

COMMERCIAL

Downtown Wilmington

The shopping center in the Wilmington Central Business District has been replaced by the Harry Bridges Span School. Consider revising **Policy 2-1.2** to include educational.

Relevant Policy 2-1.2

Revitalize and strengthen the Wilmington Central Business District as the historic commercial center of the community, to provide shopping, civic, social and recreational activities.

Program: The Plan designates the Wilmington Central Business District as a Community Center.

Appendix D-3: CPUC Submitted Photos/Complaints

Mike Arizabal

From: Pereyra, Jose <jose.pereyra@cpuc.ca.gov>
Sent: Friday, August 28, 2020 8:38 AM
To: Peggy J. Ygbuhay (pygbuhay@up.com); tlmorris@up.com; ronnie.garcia@bnsf.com; Kalinosky, Kate Beth; 'cwadell@calpacland.com'; 'Jeff Baran (jbaran@chandlerscorp.com)'; 'rhodenbaugh@trenchteam.com'; 'stmartin.jim@gmail.com'; Bond, Matthew; To, Chi Cheung; 'crystal.killian@lacity.org'; 'khanh.tran@lacity.org'; 'fernando.navarrete@lacity.org'; 'Sandra Herrera (sandra.herrera@lacity.org)'; Cervantes, Matthew; gabriela.medina@lacity.org; DiCamillo, LaDonna V; KCartwright@portla.org; Holeman, Tim; Lupe C. Valdez; Gilbert Marquez (GMarquez@carson.ca.us)
Cc: Kurt Rhodenbaugh; Mike Arizabal; Ryan Kim
Subject: RE: Follow-up Meeting - Lomita Blvd crossing & Watson Rd private crossing safety issues
Attachments: LOMITA BL Photo 2.jpg; LOMITA BL Photo 3.jpg; LOMITA BL Photo 4.jpg; LOMITA BL Photo 1.jpg; 26 August 2020 Watson Yard .pdf

Importance: High

Good morning,

I hope this email finds you all in good health and spirit! This is a reminder of our upcoming meeting scheduled for next week on Wednesday, September 2, 2020. Its been quit a while since we last met so I'm hoping to get an update from the parties on where we stand at this point, now that the Watson Rd private crossing of UPRR/ACTA tracks has been closed to public through traffic for over a year. Outstanding items we need to address include:

- Status of Watson Rd private crossing agreement
- Maintaining gates closed & locked
- Status of rolling gate installation
- Request from UP to a place to park trucks on Alameda while they unlock the gates

I will also want to discuss some of the safety concerns that the Watson Rd private crossing closure has had on the BNSF crossings on Lomita Blvd. There continues to be a serious lack of traffic enforcement along Lomita Blvd. The CPUC recently visited the area with BNSF and documented serious safety concerns caused by trucks parking too close to crossings, fouling the tracks and being struck by lowering crossing gates. Fortunately, there have not been any collisions. Please see the attached photographs. I hope to discuss enforcement activities and develop a plan with your help.

As always, feel free to contact me if you have questions or concerns.

Thank you,

Jose Pereyra
Utilities Engineer
Rail Crossings & Engineering Branch - Rail Safety Division
California Public Utilities Commission
320 West 4th St, Suite 500 | Los Angeles, CA 90013
☎ (213) 576-7083 | Cell (213) 479-0181
jfp@cpuc.ca.gov | www.cpuc.ca.gov/crossings

-----Original Appointment-----
From: Pereyra, Jose
Sent: Tuesday, July 23, 2019 3:27 PM
To: Pereyra, Jose; Peggy J. Ygbuhay (pygbuhay@up.com); tlmorris@up.com; ronnie.garcia@bnsf.com; Kalinosky, Kate Beth; 'cwadell@calpacland.com'; 'Jeff Baran (jbaran@chandlerscorp.com)'; 'rhodenbaugh@trenchteam.com'; 'stmartin.jim@gmail.com'; Bond, Matthew; To, Chi Cheung; 'crystal.killian@lacity.org'; 'khanh.tran@lacity.org'; 'fernando.navarrete@lacity.org'; 'Sandra Herrera (sandra.herrera@lacity.org)'; Cervantes, Matthew; gabriela.medina@lacity.org; DiCamillo, LaDonna V; KCartwright@portla.org; Holeman, Tim; Lupe C. Valdez; Gilbert Marquez
Cc: Kurt Rhodenbaugh; Mike Arizabal; Ryan Kim
Subject: Follow-up Meeting - Lomita Blvd crossing & Watson Rd private crossing safety issues
When: Wednesday, September 2, 2020 10:00 AM-12:00 PM (UTC-08:00) Pacific Time (US & Canada).
Where: Webex Meeting
Importance: High

Good afternoon,

At the request of UPRR, I'm rescheduling this meeting to **September 2, 2020**. We'll hold the meeting via Webex. Please see the information below. In the meantime, I would like all parties to provide me an update on any remaining safety issues they may have at either the Watson Rd private crossing or the Lomita Blvd public crossing. Please provide this update by end of this week, **Friday, July 3, 2020**.

The Watson Rd private crossing has been closed to the public for a year now, and public truck traffic was rerouted to alternate public streets. If there are no remaining safety issues, then we can end the group meetings and I will pursue compliance issues, as needed, independently with the appropriate stakeholders. As always, feel free to contact me if you have questions or concerns.

Thank you,

Jose Pereyra
Utilities Engineer
Rail Crossings Engineering Branch
California Public Utilities Commission
320 West 4th St, Suite 500, Los Angeles, CA 90013
Office: (213) 576-7083 | Mobile: (213) 479-0181
http://www.cpuc.ca.gov/crossings/

-- Do not delete or change any of the following text. --

When it's time, join your Webex meeting here.

Meeting number (access code): 962 117 428
Meeting password: aAa8VNhWM73

Join meeting

Tap to join from a mobile device (attendees only)
+1-415-655-0002,,962117428## United States Toll

Join by phone
+1-415-655-0002 United States Toll
Global call-in numbers | Toll-free calling restrictions

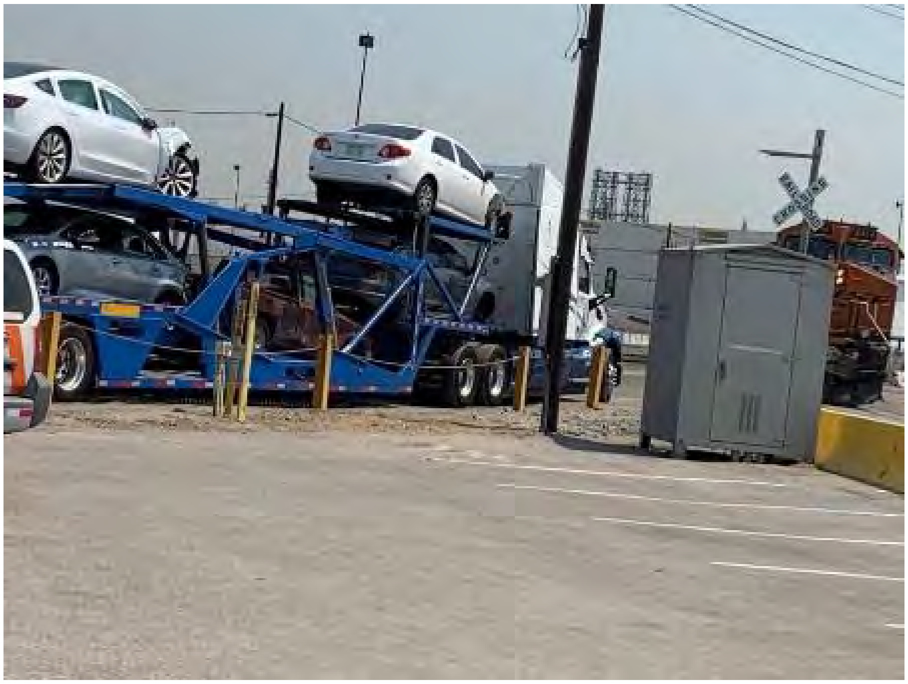
Join from a video system or application
Dial 962117428@cpuc.webex.com
You can also dial 173.243.2.68 and enter your meeting number.

Join using Microsoft Lync or Microsoft Skype for Business

Dial 962117428.cpuc@lync.webex.com

If you are a host, click here to view host information.

Need help? Go to http://help.webex.com




RAILROAD CROSSING

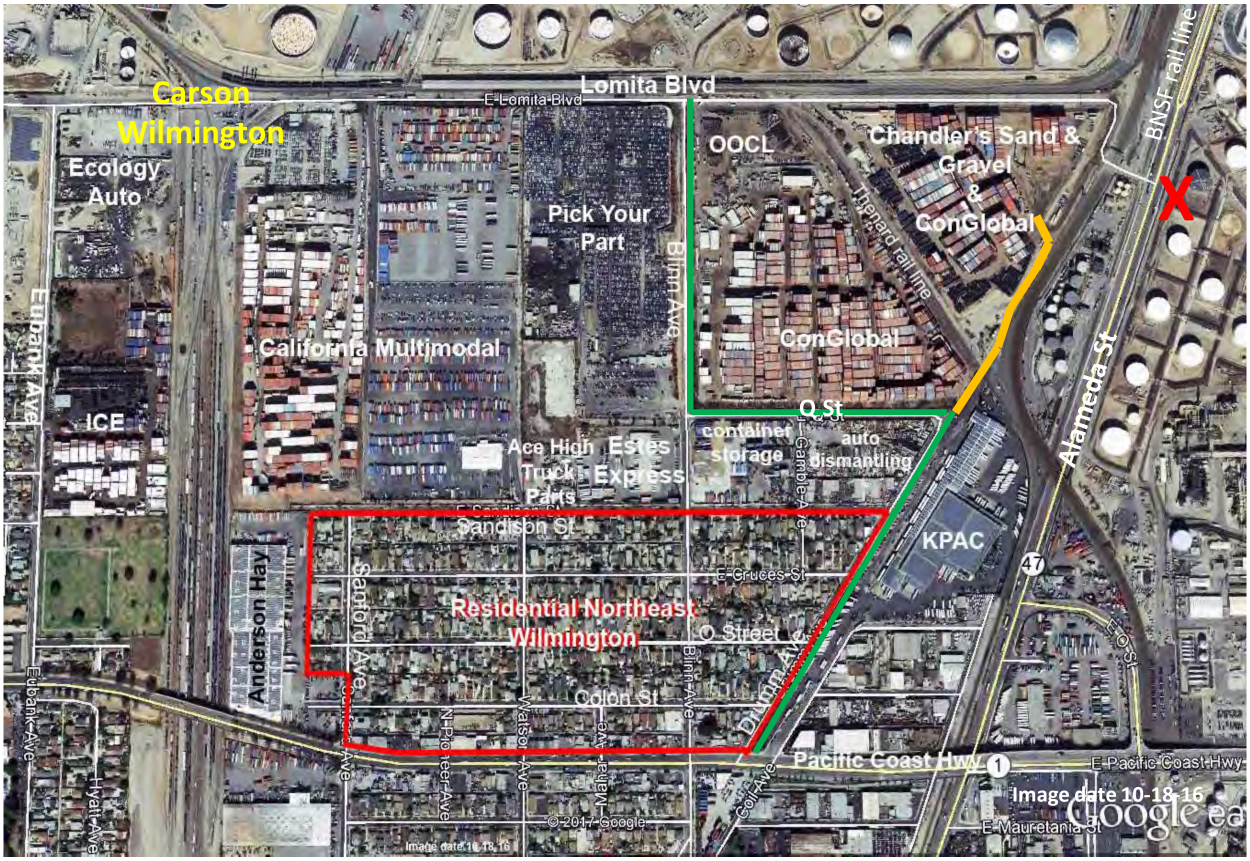

1-800-832-5452

From the desk of:
Heidi L Estrada

Watson Yard
26 August 2020


TTX

Northeast Wilmington – container storage yards and truck routes



Primary Port container truck route

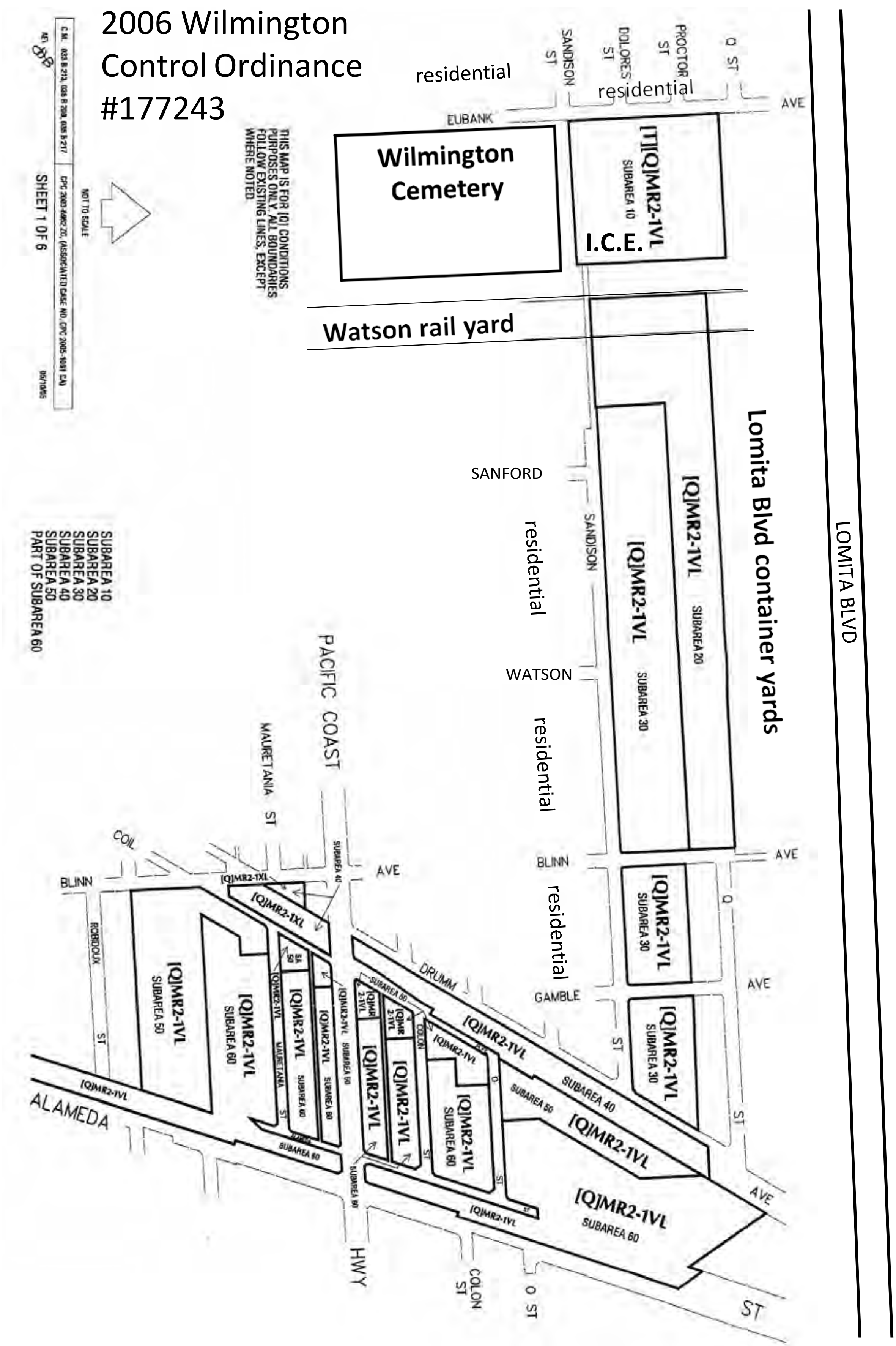
New road from Chandler's to Drumm & Q St

X Lomita entrance on Alameda St

Since 2004 Port container trucks have been using Alameda St to Lomita Blvd or PCH to Drumm Ave, a residential street, to go to/from the Lomita Blvd container storage facilities. In 2016 the Public Utilities Commission (PUC) announced it would be closing the Lomita/Alameda entrance because of the BNSF rail lines. In anticipation, in 2017 Chandler's Sand & Gravel constructed a new road from its facilities on Lomita Blvd to Drumm & Q St for Chandler & ConGlobal trucks only.

In 2019 when the PUC closed the entrance, 100's of Port container trucks that were using the Lomita/Alameda entrance are now using Drumm Ave and are backed up on Blinn Ave, and on Wilmington Ave and Lomita Blvd west of Eubank Ave.

2006 Wilmington Control Ordinance #177243



Note: this is the full text of the WCO

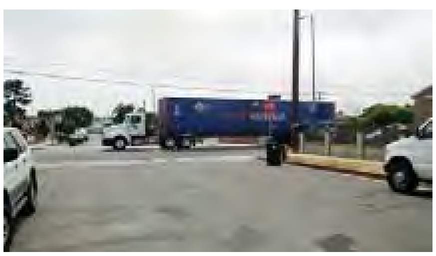
30	[Q]MR2-1VL	The property shall be subject to the following [Q] conditions: 1. Any open storage uses on the property shall be subject to the following limitations: a. A 15-foot setback shall be required along a major highway, or adjacent to or directly across from any residential zone. b. A 5-foot landscaped buffer shall be required along a Class I or II Major Highway or facing any residential zone. The setback shall be landscaped with one or more of the following: trees, climbing vines, hedges or similar living plant material. All landscaped areas shall be well maintained at all times. c. The open storage area shall be enclosed by a solid fence or wall at least 8 feet in height, not to exceed 12 feet. No material or equipment shall be stored to a height exceeding that of the enclosing fence or wall. Such fencing shall be maintained in good condition and appearance. All walls, fences and other structures shall be maintained free of graffiti. Sheet metal and barbed wire shall be prohibited as fencing material along a Class I or II Major Highway, or adjacent to or directly across from any residential zone. d. All driveways and parking spaces shall be paved. The following existing [Q] conditions are retained from Ordinance Number 172,853 and shall cover the same area described in that ordinance. 2. No cargo containers may be kept or stored on the site. However this condition shall not prohibit the loading and/or parking of trucks and truck trailers, including containers on wheels, provided that no trailers or containers may be "stacked" vertically at any time, and that any truck loading or parking facility shall maintain a landscaped buffer at least 10 feet wide that includes trees and/or shrubs, designed to visually screen the use, facing any residential zone that is adjacent or directly across a street or alley.

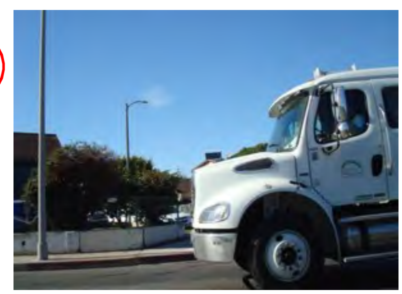
Ordinance 172853

Ordinance 172853: On September 29, 1999, the City Council adopted Ordinance No. 172853 for General Plan Amendments for the Wilmington - Harbor City Community Plan Update including zone changes, height district changes and the imposition of 'Q' Conditions. The area-wide 'Q' Condition prohibited the storage of cargo containers on-site and the stacking of containers, and required a minimum 10-foot wide landscape buffer between any truck loading or parking facility facing any residential zone that is adjacent or directly across a street or alley.

Trucking impacts on NE residential Wilmington
Port trucks headed north and south to/from PCH and Lomita Blvd

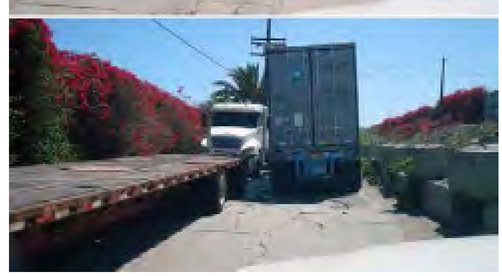
Drumm Ave between PCH & ‘Q’ Street





Container trucks on truck-restricted residential streets

Blinn Ave between ‘Q’ Street and Lomita Blvd



Violations of WCO [Q] Conditions

Ace High Truck Parts / Argo Logistics

As of 6/12/15 Ace High Truck Parts on Sandison at Watson Ave is operating as ACE HIGH TRUCK & AUTO DISMANTLING SETABRO, INC. Overview says 1 truck & 1 driver. Name on trucks using the facility is Argo Logistics. The facility is in violation of WCO 'Q' conditions.

The entrance is in a residential area and residents complain that Argo trucks are using any residential streets.

Argo Logistics truck heading east on residential Sandison

Argo Logistics truck west on residential Sandison

Estes Express
1531 Blinn Ave

Operations include truck parking, loading/unloading of containers and deliveries consistent with WCO. However, facility is in violation of 'Q' conditions that requires a solid fence and landscaped setback adjacent to residential areas.

Estes trucks primarily take Blinn to/from PCH. Blinn is a truck-restricted residential street from Sandison to PCH.

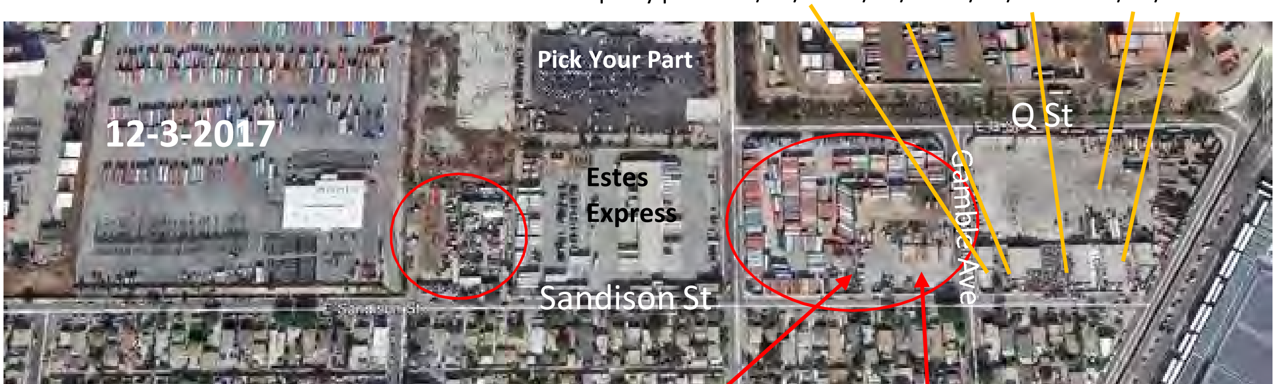
Estes entrance on Blinn Ave at Q St

Estes facility along Sandison Street

Violations of WCO [Q] Conditions

Property purch 10/7/05 9/4/09 11/7/01 3/24/03 4/3/15 9/15/14

Property purch 2/18/16 7/11/17 5/11/1990 12/15/11



Junior's Dismantling, West Coast Auto Parts & Tex Auto Wrecking - change in business operations

Should be solid fencing 8-12 ft high. Sheet metal & barbed wire prohibited. Equipment cannot exceed height of fencing. 15-ft landscaped setback required directly across from any residential zone.

ZONE CHANGE ORDINANCE

WILMINGTON OPEN STORAGE REGULATIONS
ORDINANCE TABLE II - CONDITIONS AND LIMITATIONS

SUBAREA NO.	NEW ZONE	CONDITIONS AND LIMITATIONS
10	[T][Q] MR2-1VL	The property shall be subject to the following [Q] conditions: 1. Any open storage uses on the property shall be subject to the following limitations: a. The open storage area shall be enclosed by a solid fence or wall at least 10 feet in height, not to exceed 12 feet. No material or equipment shall be stored to a height exceeding that of the enclosing fence or wall, except for cargo container storage yards. b. All driveways and parking spaces shall be paved. 2. Wall: A solid decorative masonry block wall, a minimum of 10 feet high, not to exceed 12 feet high, shall be constructed at the rear of the required landscaped setback along Eubank Avenue property line unless it can be shown that a landfill existed, then an opaque fence material may be substituted. There shall be no openings, except for a lockable gate provided for emergency access as may be required by the Fire Department, for vehicles servicing or maintaining the oil wells on site or as may be required by the Municipal Code. Such fencing shall be maintained in good condition and appearance. All walls, fences and other structures shall be maintained free of graffiti. Sheet metal and barbed wire shall be prohibited as fencing material along a Class I or II Major Highway, or adjacent to or directly across from any residential zone. 3. Hours of Operation: The hours of operation, including pick-up and delivery of containers, shall not exceed 7:00 am to 6:30 p.m., Monday through Friday. 4. Landscape buffer: A minimum 15-foot landscaped buffer shall be provided along Eubank Avenue. Walkways and driveways shall be permitted to cross any setback. However, no buildings or structures may be permitted within the setbacks with the exception of retaining walls or fences. a. Walkways or driveways may not be substituted for the landscaped buffer. b. The landscaped buffer shall be open to the sky with no balconies or projections into the landscaped buffer. c. The landscaped buffer shall include mature trees, shrubs, or netting covered by planted growth, of sufficient height to visually screen the view of any structures or stored materials from neighboring residential properties.

Note: This subarea pertains to International Cargo Equipment (ICE)

ZONE CHANGE ORDINANCE

5. No cargo containers shall be stacked more than "two-high" at any time within 100 feet of Eubank Avenue or the Wilmington Cemetery.
6. The existing [T] conditions on the property shall be retained.

(background) container stacks at International Cargo Equipment (ICE) on Eubank Ave

Memorial Day
May 29, 2017

Containers stacked 4 & 5-high along Eubank Ave and adjacent to Wilmington Cemetery

Although ICE is in violation of the stacking restrictions, it has complied with all other requirements of the WCO, and is the only local facility that repairs and leases refrigerated containers.

Memorial Day
May 29, 2017

Containers stacked 5-7 high between Lomita Blvd and Sandison St (subarea 20) – west of Wilmington Cemetery & adjacent to NE Wilmington residential area

APPENDIX E: RESIDENT FOCUS GROUP

Focus Group 2: Residents (Six questions)

1. ON WHAT STREETS IS TRAFFIC MOST INTIMIDATING FOR PEDESTRIANS?

- ***Anaheim St***
- ***Sanford Ave***
- ***McFarland Ave***
- ***Eubank Ave***
- ***Watson Ave.***
- ***Opp St***

"So many trucks on these streets. There are signs that trucks can't park there but they still come through. There are old trees on the sidewalks that are huge, and when the trucks pass by they tremble. The level of big trucks traffic and the speed of the vehicles is very intimidating. Watson Ave is becoming another PCH and Anaheim St. Opp St is mostly car speeding."

"There are many stops signs but a lot of the vehicles are not abiding by them. Speed bumps would help on some of the residential streets to slow the speed of the vehicles. Perhaps more stop signs are needed too."

"In regards to the big semi-trucks with containers, we feel we need big signs stating, "trucks are no allowed in these areas." An incident happened about a month ago where a truck entered to our small street close to Sanford Ave, and it took 2 hours of going back and forth to get out of our street. He almost hit other cars several times. We timed it. Cars had to be moved so that he could get out. A lot of people were in danger there."

"There are signs on different streets "not to park" but they don't say "don't come through here." Truck drivers don't want to go around PCH or Alameda St. It's easier for them to cut through the smaller streets to get to Anaheim St for example, or the freeways. It is dangerous".

"It is important that the route for trucks is put in place clearly marked where they can be driving and where they are not supposed to go in. Routes need to be clearly defined using the bigger streets e.g., Anaheim St, Alameda St, PCH."

2. ON WHAT STREETS DO YOU FEEL UNSAFE WHEN YOU ARE WALKING, DRIVING OR BIKE RIDING?

- **Mahar Ave and Blinn Ave**
- **L St**

"The ones mentioned before but would add **Mahar Ave** and **Blinn Ave.** These two other ones are closer to the school. Children are biking with parents going back home after school and trucks are passing as well. Also on L St."

3. WHICH STREETS DO YOU AVOID BECAUSE THEY DON'T FEEL SAFE TO WALK OR DRIVE?

- **Mahar Ave and Anaheim St**
- **PCH from Sanford Ave and McFarland Ave**
- **Anaheim St and Wilmington Bl**
- **Watson Ave and Sanford Ave towards Anaheim St**

"Mahar Ave and **Anaheim St.** It takes forever to cross and sometimes trucks don't even see you. The streets are small. I avoid getting to PCH from **Sanford Ave**; same thing from **McFarland Ave**. I have to go all the way around to avoid them. Trucks are long when pulling out, and they take up the whole street. They stop the traffic trying to maneuver, and you see cars going around to get in front of them. It is scary."

"Anaheim St and **Wilmington Bl**."

"From **Watson Ave** and **Sanford Ave** towards **Anaheim St** is impossible to make a left or a right. There is no light, only a stop sign. It is very dangerous for pedestrians crossing Anaheim St between Watson Ave and Sanford Ave. Recently, the City put a crosswalk which makes it much more dangerous because there is no light and <u>cars are coming fast and don't stop</u>. There are no lights (traffic signal) on Anaheim. The closest one is on Eubank, and the next one is in Alameda. A lot of families live on that side of Anaheim. Lots of children come to the school that is on Mahar Ave and Blinn Ave and have to cross Anaheim. It's <u>scary when families have to cross</u>."

4. WHAT MAKES YOU FEEL THREATEN WHEN WALKING?

- Big rigs in residential streets
- Speeding of both big trucks and personal vehicles
- Trucks not following approved routes

"Seeing <u>big rigs going through our streets</u> where anything can happened, like a flat tire or if they lose control. These are big trucks and there is people everywhere. A lot of people are on the streets walking or taking the DASH. Also the <u>speed</u>."

"There are a few parks on Watson Ave between L St and Denni St; there are a couple of stop signs but vehicles and trucks pass so fast. They <u>don't respect the stop sign</u>. There are a couple of pedestrian crosswalks on Young St and Watson Ave; there have been accidents there especially when kids are going to school in the morning because <u>the trucks and vehicles do not stop</u>. The trucks go so fast and are so high that they make the trees tremble. On McFarland Ave and Denni St, you can hear <u>cars racing</u>. A stop sign was added, but they don't respect it. "

"At the corner of Opp St and McFarland Ave, one of the trucks turned unto Opp St and the container turned over. It took effort to get it out. A day later, the truck was there again. The <u>streets are very narrow, and the trucks get stuck</u>. We need more signs letting drivers know where they are allowed and where there are areas they can't turn easily. We have a lot of dead end streets; drivers get on these streets and end up turning over the containers."

"On Blinn Ave and Coil Ave between L St and PCH, the streets are so narrow. There are trucks and cars parked on both sides. There is a lot of truck activity on those two streets."

5. WHAT IMPROVEMENTS WOULD YOU LIKE TO SEE DONE TO IMPROVE THE WALKABILITY OF YOUR NEIGHBORHOOD?

- Speedbumps would be incredible helpful on Watson Ave where the school crossing is but also in other areas.
- Clear signs where the truck route can be
- Traffic signals on Sanford Ave and Anaheim St
- "No big rig" signs on the small streets (e.g., coming from Watson Ave, McFarland Ave, and Sanford)
- Companies need to educate their drivers. Make it a requirement when hiring them to know where they can go in the City and hold them liable (a lot of times drivers do it on purpose because it saves them time to get to the Port. The speedbumps will make them think twice).
- Residents need clarity as to where the trucks are permitted to go through

6. WHAT AND WHEN DO YOU OBSERVE ARE THE MOST COMMON VIOLATIONS (OR UNSAFE CONDITIONS OR TRUCK DRIVER BEHAVIOR) AT KEY LOCATIONS? THIS COULD BE THE STUDY INTERSECTIONS OR WITHIN YOUR NEIGHBORHOODS OR DESTINATIONS SUCH AS THE SCHOOL, CHURCH, PARK.

8am-9pm:

- ***Sanford Ave*** *from Anaheim St to PCH (emphasis on Sanford Ave and L St which is where the trucks turn)*
- ***Watson Ave*** *from Anaheim St to PCH (emphasis on Watson Ave and Young St because of the park and the school; a lot of movement there)*
- ***McFarland Ave*** *from L to Anaheim St*
- ***Blinn Ave*** *from Anaheim St to PCH; L to PCH (blind streets)*
- ***Coil Ave*** *from L St to PCH*
- ***Eubank Ave*** *all the way to Anaheim St (especially intersection of L St)*

Near Parks, church and school
Safety - Speed is a problem
Noise pollution
Lack of enforcement both for parking and freight routes

"Trucks allowed on residential areas. We can hear them all the time."

"On Watson Ave there are 100-year old trees on both sides (they meet/latch on in the middle) and the trucks go by and they tremble because of the height of the trucks."

"Holy Family Catholic Church has 13,000 members. It's at the corner of Sanford Ave and L St. They have masses every hour on Sunday and some on Saturday. People are coming in and out of the church all the time. Trucks come through the street during Sat/Sun and it's dangerous with so many people around from the churchy. Trucks don't have time to wait for the people. It is a very serious problem for them to drive on Sanford. It's a short cut for them to PCH or Anaheim."

"The noise pollution from the big trucks and the speeding while you're trying to hear the mass."

"Wilmington Park School – to get to the school, kids have to cross McFarland Ave, Eubank Ave, Watson Ave, Young St."

"Trucks come from PCH down Eubank Ave, which is a very narrow street, and try to make a left unto L St and they end up on McFarland Ave (not now because they are doing construction between L St and Cary Ave and Sanford)."

"Motor homes and trailers (all over the city) – don't feel safe where these are parked. Getting rid of those would change a lot our fears of walking and bike riding. Even if you're driving, it takes away from the visibility. Many are falling apart and when they are trying to move them it's dangerous. They are parked close to parks, homes and schools. It's scary."

APPENDIX F: ONE-ON-ONE INTERVIEWS

WILMINGTON FREIGHT MITIGATION STUDY
ONE-ON-ONE BUSINESS INTERVIEWS SUMMARY

BACKGROUND AND PURPOSE

The Wilmington Freight Mitigation Study held a second round of one-on-one phone interviews with businesses in proximity to the project area. (See attached project area map, Appendix F1.)

The purpose of the interviews was to present and review preliminary mitigation options to capture their insights or additional opinions about mitigation options to reduce truck traffic into surrounding residential neighborhoods without affecting the safe and efficient operations of businesses.

Katherine Padilla & Associates (KPA) conducted the interviews. KPA in collaboration with IBI developed an interview guide to focus the discussions and a guide listing four problem areas of Wilmington and illustrating the preliminary mitigation options for each area.

PARTICIPANTS

Five (5) businesses were interviewed via phone calls on July 14, 15, and 22, 2021. KPA sent information describing and illustrating the preliminary mitigations options in advance of the interviews so that business representatives could review in preparation.

SUMMARY OF FINDINGS

Participants' responses are presented below using their own words as much as possible. Comments are listed by four problem areas and proposed solutions.

AREA #1: INTERSECTION OF DRUMM AVENUE AND PACIFIC COAST HIGHWAY

Concern: Trucks are currently driving over the curb on the east side of the intersection while making a westbound right turn from PCH onto Drumm Ave. Trucks also make wide turns into the opposing lane, which is dangerous for cars parked nearby and cars travelling south on Drumm Ave.

A1: Solution #1

Increase curb turning radius from 30' to 40'.

BENEFITS

- Somewhat improved maneuverability
- Removes some conflict with cars parked on west side of street
- Fairly quick to implement
- Lower cost than solution #2

DISADVANTAGES/CONSTRAINTS

- Keeps overall roadway width on Drumm Avenue unchanged

- Does not remove conflict between opposing lanes

A1: Solution #2

Increase roadway width of Drumm Ave from 32’ to 40’ and increase curb radii from 30’ to 35’

BENEFITS

- Even greater maneuverability for trucks than solution #1
- Removes most conflict with cars parked on street

DISADVANTAGES/CONSTRAINTS

- Lose two parking spots along Drumm
- More expensive than solution #1
- Does not fully remove the conflict between opposing lanes

Full mitigation at this area requires significant row acquisition from adjacent commercial property.

Summary – A1: Solutions 1 and 2

BUSINESS #1

> Feels solution one is absolutely the best option

> Reducing the corner and allowing the improved better turn radius for the drivers coming off of PCH onto Drumm will have a huge positive impact

> Consider restricting cars on Drumm altogether. Was it ever considered as a solution?

> Concerns about changing the parking restrictions for the neighbors on the west side of Drum

> Feels neighbors will be angry

> Parking is a premium

> Lots of vehicles in that area because of multifamily dwellings

> Tries its best to stay on the right side of the residents

> The disadvantage of losing any kind of goodwill from the neighborhood is not worth it. Need to choose battles wisely

> Taking right of way from the neighbor, takes it from one area but then it reduces in another creates more of a hazard than if there is parking there

> Taking right of way from one area but then it produces it in another creates more of a hazard than if there is parking there

> Is it possible to restrict parking along Drumm only from Sandison up to Q? I just want to make sure it is done as part of this study.

> More visibility on Blinn with the law enforcement (consistently) would make a difference

> More truck and trailer parking is starting back on Q and it tightens that lane for the commercial vehicles going east and west.

BUSINESS #2

> Feels solution one is the best option between the two considering what makes solution two more expensive.
> Both solutions don’t fully take care of the conflict with cars parked on the street
> Consider installing a traffic light at the intersection; it would be helpful in the long run
> Put stop signs along Drumm
> Consider speed bumps to slow traffic down. Trucks are turning west towards cars to Drumm as cars are going east to PCH. Sees potential for accidents.

BUSINESS #3

> Will there be more red curbs so that more cars do not park there? Increasing red curb would be my recommendation.
> Want to make sure to give trucks and vehicles that are traveling southbound Drumm to PCH enough and ample space.

BUSINESS #4

> I noticed that the focus is on Drumm, and you do talk a little bit about Blinn; but, you don't address anything on Lomita Bl and don't talk about Blinn between Q and Lomita
> In the list of people that you are talking to, are you talking to any of the railroad representatives that have railroads in the area like BNSF and Union Pacific Railroad?
> The other group that I suggest talking to is the California Public Utilities Commission
> There has been an ongoing effort to work with the California Public Utilities Commission, along with BNSF, UPRR, CD-15 office and others about the safety of the existing roadways, BNSF, the train traffic and the conflicts with the truck traffic
> Potentially it could impact Lomita. Lomita is an arterial roadway for the City. The City of LA and the City of Carson are involved because there is some joint ownership on that road. It has not been improved to an arterial status.
> Your benefits and your disadvantages are well stated.
> From the safety perspective and the logistics perspective, solution two would be a better solution.
> I was hoping that you might look at the addition of a traffic light on A1 to help with that left turn move out of Drumm onto eastbound Pacific Coast Highway. Has that been a topic of discussion at all?

BUSINESS #5

> I would say that solution two would be the most advantageous one to do because you will have about the same amount of work to change that corner, so why not go wider.
> Making Drumm wider is a big advantage for everybody. Presently, there is no way two trucks can get down that street safely.
> I suggest you <u>eliminate the parking on Drumm</u>, widen it so that there are two lanes, and continue to widen it to where Drumm and Q meet.

> With modifications to Drumm, will there be a traffic light put on that corner—Drumm and PCH?
> A1 solution #2 correlates with Area 4 - both of those corners need to be redone completely (PCH to Drumm/Drumm to Q).
> Consider building a sound wall along Drumm with limited access or no access (to Drumm) to protect the neighborhood from the noise of trucks going up and down. There is already one on the east side.
> Parking on Drumm is dangerous. Trucks can barely go by each other trying not to hit cars
> Best scenario: make Drumm a corridor with a sound wall, no parking, and trucks only with a traffic light at PCH and Drumm. Change the corner of Drumm and Q.
> The light on Blinn but not on Drumm-that light should be on Drumm to keep trucks off of Blinn.

AREA #2: INTERSECTIONS OF DRUMM AVE WITH E COLON ST, E O ST, E CRUCES ST

Concern: Trucks driving through residential neighborhoods to bypass Drumm Avenue result in safety concerns as well as damage to curbs and sidewalks.

A2: Solution #1
Install curb extensions to discourage truck traffic. Increase from 8' to 15' curb radius. Curb extensions essentially narrow the openings of those streets.

BENEFITS
- Trucks will be unable to turn into residential neighborhoods

DISADVANTAGES/CONSTRAINTS
- Property owners immediately adjacent to curb extension will be required to maintain their own gutters because street sweepers will be unable to access the location
- Short-term construction impacts while curbs are extended
- Safety vehicles will need to enter from Blinn, Watson or Sanford Ave.

A2: Solution #2
Install swing barrier gates with padlock at the east end of streets.

BENEFITS
- Trucks will be unable to turn into residential neighborhoods
- Low-cost solution that is easy to implement
- Safety vehicles (police and fire departments) can still access neighborhoods with their gate key

DISADVANTAGES/CONSTRAINTS
- Slows down emergency vehicles slightly as they need to stop to unlock gates

- Residents will need to use Blinn, Watson or Sanford Ave. to access neighborhoods
- Aesthetic concerns; some do not like the look of the swing barrier gates

A2: Solution #3

Install flexible delineators as barriers at the east end of streets.

BENEFITS

- Trucks will be unable to turn into residential neighborhoods but emergency vehicles can drive over flexible delineators
- Low-cost solution that is easy to implement

DISADVANTAGES/CONSTRAINTS

- Residents will need to use Blinn, Watson or Sanford Ave. to access neighborhoods
- Aesthetic concerns; some do not like the look of the flexible delineators.

A2: Solution #4

Full closure of Colon, O and Cruces at east end near Drumm with cul de sac.

BENEFITS

- Trucks will be unable to turn into residential neighborhoods.
- Residents can continue to park on Drumm Avenue and walk over cul de sac to their neighborhoods.

DISADVANTAGES/CONSTRAINTS

- Limited accommodations for emergency vehicles because turnaround is restricted; cul de sac additions for Drumm Ave and E Cruces St. would require approval from the Fire Department.
- More costly and time consuming to implement.
- Construction impacts.

Summary of responses – A2: Solutions 1-4

BUSINESS 1:

> Our trucks are almost never on any of those streets turns are too hard for commercial vehicles
> Light up the posted sign on PCH and Blinn for larger visibility
> Posted sign facing south on Blinn behind the Mexican restaurant needs to be more visible
> Prior to the signage being modified to be flashing, put up one warning of upcoming changes
> Follow up with heavy enforcement
> Look at signage in general; placement and visibility
> Curb extension - Feels it is not a good solution/should not even be reviewed. Not a deterrent
> Swing Barriers - Not a good solution. Limits neighbors’ access. Basically turns it into a cul de sac

- > Delineators -Not a good solution either. Trucks will run over it. They are an eyesore. They are constantly knocked down
- > Cul de sac - Not a good solution either. If truck turns, it would shut down the whole road. If accompanied with signage, it will not be aesthetically pleasing

BUSINESS 2:

- > Feels trucks get in these neighborhoods streets because of the problem in A4
- > If A4 was made easier to navigate, they would not enter the neighborhood streets
- > Traffics gets backed up on Drumm towards PCH so they turn on Colon, O, or Cruces
- > Thinks the problem in A2 and A3 correlates with the problem over at A4
- > Implement solution on A4 and it will reduce need for mitigation on A2 and A3.
- > Ideas for A2 are not necessarily wrong. Goal is to keep trucks off neighborhood streets. Might as well do something for A2 regardless of A4 to protect the neighborhood
- > If had to choose, curb extensions is better than swing barriers (one of the participants)
- > Will there be signage to make sure trucks understand that they will not fit? Signage with lights
- > The barriers is probably the best because they cannot drive through it nor over it (second participant). Probably safest solution. They essentially create a cul de sac
- > From the neighborhood perspective the aesthetically pleasing solution will be number one

BUSINESS 3:

- > Will there be signage to make sure trucks understand that they will not fit? Signage with lights
- > Truck should not be going through there and these are just more deterrents
- > Feel that solution four would definitely would deter, as you cannot turn into the streets.
- > I feel as a resident, I would not be happy with the gates but that is the community's concern
- > Delineators a full load container can go over them but it is a deterrent
- > Cul de sac will prevent residents' access to Drumm. They will have to be the ones advocating against it if they do not want it.

BUSINESS 4:

- > I think extension curbs is the better solution in my perspective
- > I have only seen trucks go through the neighborhoods if is there is something going on with Drumm.
- > If Drumm is widen, then you will relieve the pressure on Colon, O, and Cruces
- > Most of these truckers still use CBs and they know where there's traffic
- > If there is congestion on Drumm and Q, they will just instead of turning on Drumm go to Blinn and go straight up Blinn
- > Gates are not a good solution.
- > Flexible delineators, after about a week and a half, they will be laying flat on the ground.
- > I don't think that the residents would be too excited about full closure of Colon, O, and Cruces with the cul de sac
- > If you implement widening in solution two of A1 that may alleviate some of the needs or some of the more drastic needs solutions for A2.
- > Look how to implement these in stages then maybe you don't have to do all of them

> I would widen Drumm—that is A1 solution two. Then, I would do A3 solution one. I do think that the turn between Drumm and Q is a problem (A4); they keep running over that curve there. Therefore, I would pick solution two to bring that curb radius in to allow them to turn; make it a little bit wider on the outside. I think that is going to go together with the A1 solution regardless. If you widen Drumm, then you will change that outside curve, anyway, because you are widening Drumm. Then the inside curve needs to be tightened up so that the trucks make that turn more easily, which is shown as solution one but it is also incorporated in solution two. So solution two goes along with solution two on A1.

> On A3 with all the FedEx trucks and UPS trucks and everything else that is running around through neighborhoods, I think that that would generally have a calming effect on the traffic and make it safer overall for the community (solution one for A3)

> Signage helps

> I would address the corner of Drumm and Pacific Coast Highway. If you are on Pacific Coast Highway and you are westbound coming towards Drumm, there is an incline there. If you are at the corner of Drumm and you are trying to make that left hand turn to go east, the traffic coming up over the hill is coming pretty fast. For a 40-foot truck and trailer to go from a stop to get to make that left-hand turn move, it can get a little bit interesting. Therefore, it seems from a safety perspective that would improve the safety of that left-hand turn move. It seems like it would be a lot safer with a traffic light there.

BUSINESS 5:

> It is an improvement over what is there but will not stop trucks that do not have trailers behind it from going down that street.

> Trucks will drive over those curves.

> Swing barrier gates: It will not work. There are barriers gates at the railroad tracks over by Alameda. They take the locks off, break the gates down. Gates will be open.

> Do not believe neighbors will like them; they are ugly.

> Delineators will not last; they will be gone in three months.

> Number four (cul de sac) is the best solution for the neighborhood. If you could add the sound wall for extra protection would be better.

AREA #3: NORTH/SOUTH OPTIONS FOR SANFORD AVE., N. WATSON AVE. AND N. BLINN AVE AT E. O ST

A3: Solution #1

Mini roundabouts with mountable curbs will discourage truck traffic. Will include new pedestrian crosswalks. 40’ and increase curb radii from 30’ to 35’

BENEFITS

- Discourage truck traffic through neighborhoods

- Increase safety in the neighborhood by slowing down cars as well
- Create new, well-marked crosswalks
- Flexible option prior to install; can implement one, two or three roundabouts and still discourage trucks
- Safety vehicles able to use due to mountable curb

DISADVANTAGES/CONSTRAINTS

- Requires three to four months of construction
- Loss of 19-20 parking spots
- More costly to implement than other options (barrier gates, flexible delineators, cul de sac)

Summary of Responses A3: Solution 1

BUSINESS 1:

> Not a fan of this option
> Feel negative about the loss of parking and shaving down curb and gutter on residents at the corners
> Trucks will drive over it
> Feels the solution is inappropriate for this area; works more for mix-used areas of residential and retails which is not the case
> Thinks it will be turned out and create additional problem
> Many pop-up yards spots for other commercial drivers from a ship at the Port
> Pop-up yard drivers use Blinn regularly knowing they are not supposed to
> Lack of enforcement encourages behavior
> Signage should be on both north end of Sandison and south end of PCH to warn them
> There is need for collaboration between businesses in terms of communication, notification
> Needs to be some sort of public information campaign reminding drivers to stay off residential areas
> Drivers will pay their own tickets if penalized

BUSINESS 2:

> Semi-truck would just drive over that mountable circle in the middle
> A truck might just do the same as a safety vehicle
> If the effort is to completely stop a truck, it would probably not work
> Probably be best left to the community to decide. It would have the most effect on them
> Perhaps reorder some of the solutions and see if the rest are necessary. For example, if A1 is implemented along with A2 and A4, see how that changes things over there before (implementing) A3
> A2 and A3 are just incidental to A4 and A1.

BUSINESS 3:

> Trucks are not supposed to go down the street. So once again, I don't have any comments
> It is more of a residential thing than a business comment perspective
> I don't live there but certainly would be a benefit to improve safety

BUSINESS 4:

> Recommend to look on how to implement solutions in stages as stated on page 6, then maybe you don't have to do all of them

BUSINESS 5:

> Feels solution one for A3 is a good solution. Did not realize they get in the southern neighborhood at all.
> Thinks trucks probably go there to avoid the intersection of Drumm and PCH.

AREA #4: INTERSECTION OF EAST Q ST. AND DRUMM AVE.

Concern: Current width makes it challenging for trucks turning onto Drumm Ave. which potentially discourages truck use of Drumm. Safety is also a concern as trucks struggle to stay in their lane when turning. Two trucks or vehicles are unable to turn left/right at the same time due to small turning radius.

A4: Solution #1

Increase inside radius from 25' to 35'.

BENEFITS

- Increases safety somewhat by slightly reducing overlap for turning vehicles.

DISADVANTAGES/CONSTRAINTS

- Does not fully remove the conflict between opposing trucks

Summary – A4: Solution 1 and 2

BUSINESS 1:

> Both are positive solutions; however #2 is the best
> Will help avoid homeless encampments out there

BUSINESS 2:

> Definitely, solution two is the best. It gives the truck a wider turning radius
> So continuation of Drumm actually gets narrower there; are we talking about widening Drumm by eight feet along the entire length?
> I think we would say, the wider the better.

BUSINESS 3:

- > Definitely prefer solution two over one because of the safety factor in being able to turn right onto Drumm or left onto Q.
- > Will you be taking land from KPAC to widen the street all the way to PCH?
- > The driver turning onto Drumm is still making a wide turn, so the truck heading northbound turning left onto Q still has to stop. This makes it safe for turning but it still has to stop to let the truck clear
- > Understand the benefit is that it reduces the overlap but it does not eliminate the overlap. However, it is much safer.
- > It is an improvement because at least it widens the street
- > A mirror at the apex would help. If you are traveling north, you could see a truck that is coming at you. If you are traveling east on Q St., you can see if there is somebody coming on Drumm. Look for ways to improve visibility there because it is essentially a blind turn
- > The options provided certainly heightened safety for the residents, their personal vehicles and trucks
- > Glad that you identified those areas and potential solutions to help the community and also the businesses that do business in the area

BUSINESS 4:

- > Recommend to look on how to implement solutions in stages as stated on page 6, then maybe you don't have to do all of them

BUSINESS 5:

- > Solution two is the best one again, correlate it with solution #1 A1

Anything you want the team to know or what would you like to see addressed to help improve the safe and efficient operation of your business?

BUSINESS 1:

- > <u>The visibility of law enforcement</u>, even two, possibly three days out of the week. The word gets out if monitored. It would definitely help reduce some of the significant amount of truck traffic coming down Blinn as well.
- > <u>Help with the illegal dumping</u> on Drumm at Q and the backside of Q itself. People are dumping whatever they want and it impacts the traffic lane as well.
- > Have <u>better signage,</u> updated signage, to help control the area. Lighted signs.
- > Take <u>care of turning radiuses</u>. Keeping an area clear and claiming to be able to traverse it safely. For both cars and tractors, trailers.

BUSINESS 2:

- Is anything being looked at with respect to mitigating traffic on Lomita going towards Wilmington? Like the streets over there is that part of this study? If the traffic could flow better over there, it would help this area.
- Many issues at Lomita. The road is full of potholes. If trucks could flow better on that main route, it would probably help alleviate them going through this other route.
- Solutions for improving Lomita and making it better equipped for the traffic that is on it would help with this situation too.
- Closing the other end of Lomita going east created a problem. We only have one exit going onto PCH
- Starting with resurfacing Lomita would be helpful. Businesses would be very appreciative

BUSINESS 3:

- On PCH, traveling east and westbound trucks tend to slow down to make a right-hand turn onto Drumm. Traffic is backed up going on the bridge coming over the overpass down westbound. <u>A stoplight there would be very good</u> or a four way stop traffic. That would be my recommendation.
- Signs that have blinking lights

BUSINESS 4:

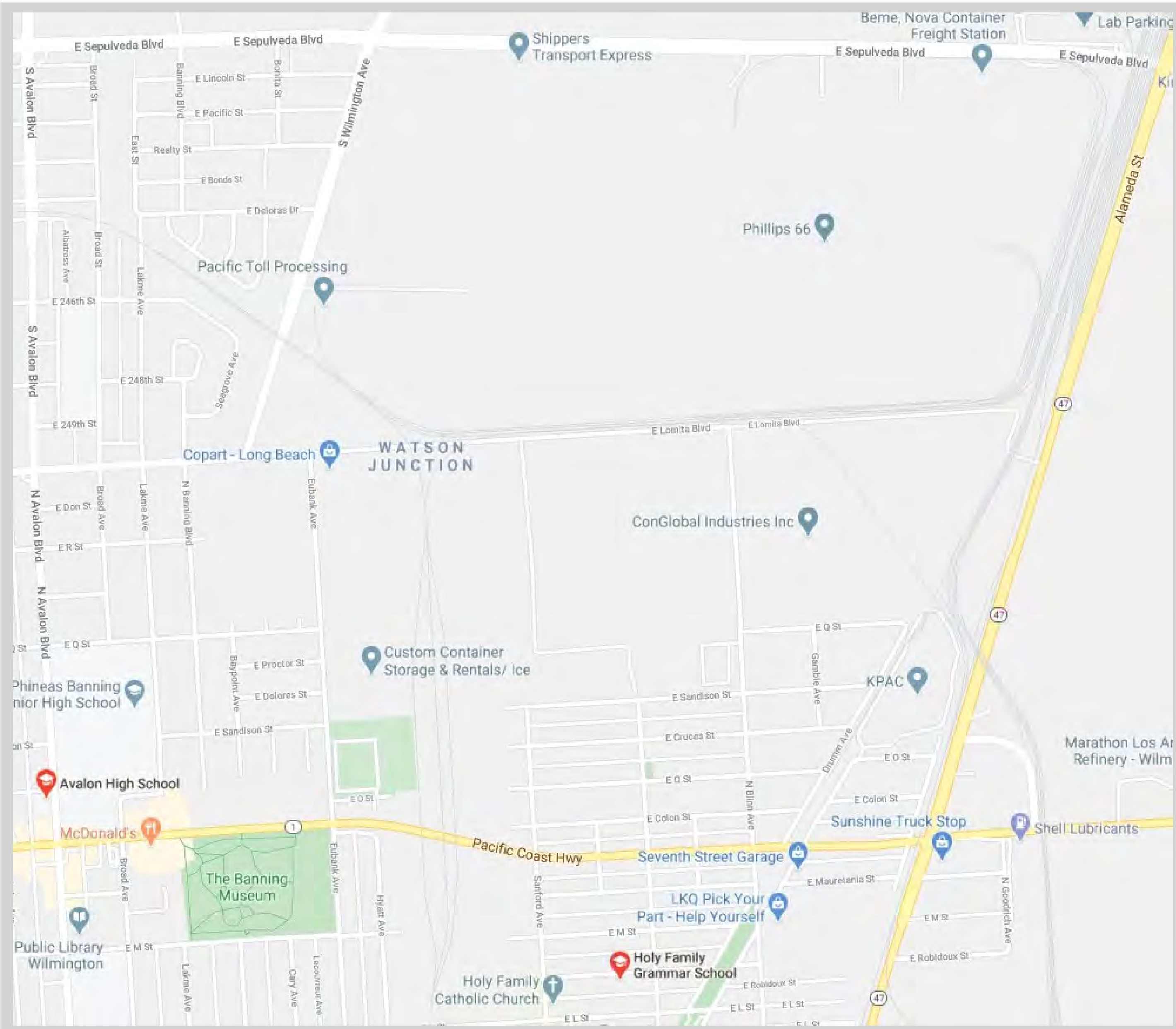
- What we have been talking about in terms of the improvement of the intersection of Drumm and Pacific Coast Highway; improvement in the intersection of Drumm and Q. In addition, the intersection of Blinn and Q Street going north down to Lomita, and all of Lomita would help.
- I would encourage you to go out and look at the condition of Lomita Boulevard. Because in the wintertime, there are potholes that you could just about lose a little Volkswagen in. Those are supposed to be maintained by the City. We have a small group of the businesses in that area, and we go together once or twice a year. We spend $15- $20,000 just to fill potholes. From my perspective, it is the city's responsibility but the City does not do anything.
- If the condition of Lomita, from Wilmington all the way to the end was improved, you would end up with a little bit more truck traffic on Lomita and not as much traffic in Drumm and Q.
- If you are looking at the overall freight movement in the area, that is certainly something that I would encourage you to take a look at.

BUSINESS 5:

- We used to have an outlet on Alameda, which was closed by the railroad (I do not think there is any way that you would have it reopened). I am just saying that that was part of what led to the increased traffic on Drum, Q and Blinn Streets.
- Repaving Lomita Boulevard would be very good.

> Making Lomita three lanes instead of two between Blinn and Eubank. It would be a big bonus to keep the flow of traffic going through. I do not know if there is room to squeeze another lane or not.

APPENDIX F1: STUDY AREA


E Sepulveda Blvd
E Sepulveda Blvd
Shippers
Transport Express
Beme, Nova Container
Freight Station
E Sepulveda Blvd
E Sepulveda Blvd
Lab Parking
S Avalon Blvd
S Wilmington Ave
Alameda St
Phillips 66
Pacific Toll Processing
WATSON
JUNCTION
Copart - Long Beach
E Lomita Blvd
ConGlobal Industries Inc
Custom Container
Storage & Rentals/ Ice
KPAC
Avalon High School
McDonald's
Pacific Coast Hwy
Seventh Street Garage
Sunshine Truck Stop
Shell Lubricants
The Banning
Museum
LKQ Pick Your
Part - Help Yourself
Public Library
Wilmington
Holy Family
Grammar School
Holy Family
Catholic Church

APPENDIX G: VIRTUAL MEETING SUMMARY

KATHERINE PADILLA & ASSOCIATES, INC.

STAKEHOLDER ENGAGEMENT
COLLABORATIVE PLANNING
CREATIVE DESIGN

DRAFT

MEETING SUMMARY

Wilmington Freight Mitigation Study
Virtual Community Meeting
Saturday, July 31, 6-7:30 pm

Team Attendance: Mike Arizabal, IBI; Katherine Padilla, Jomel Rosel, and Thelma Herrera, Katherine Padilla & Associates (KPA)

---

1. The purpose of the virtual community meeting for the Wilmington Freight Mitigation Study was to present to the community within the study area (see Study Area, Appendix A) preliminary mitigation options to reduce truck traffic into the surrounding residential neighborhoods. The meeting started on time at 6:00 p.m.
    a. KPA led coordination and production efforts for the live virtual meeting, which was available to stakeholders through the Zoom platform. Members of the community were able to watch and participate in the meeting through their computer/laptop, tablet, or smartphone. A Spanish interpreter allowed participants to attend in their language of choice—English or Spanish.
    b. As part of the outreach strategy, a bilingual meeting invitation flyer was prepared. Fifteen hundred (1,500) were distributed door-to-door to the residents and businesses within the project area. Five hundred (500) flyers were distributed through Holy Family Catholic Church. An electronic meeting invitation was sent to the Chamber of Commerce, Wilmington Neighborhood Council, SBCC, Providence Wellness Center, and LA Walks "Calles Seguras," for distribution to their members.
2. The virtual meeting began with a welcome, instructions on how to participate, and a review of the agenda for the night by Katherine Padilla Otanez. Following her opening of the meeting, Mike Arizabal, IBI Project Manager for the Study, thanked stakeholders for their participation, provided a background and primary project objectives followed by the project phases, key tasks, timeline and the boundaries of the Study Area. He proceeded to present the preliminary mitigation measures focused on five (5) key problem areas. He described the current conditions and challenges and the proposed solutions for each area. Throughout the presentation, stakeholders sent their questions, which he proceeded to respond. Once the technical part of the presentation ended, he again encouraged the community to keep sending their questions, which he continue to address. Once Q&A ended, Mike described the next steps. He also provided information on where and to whom

DRAFT

send more questions or comments. The meeting ended with an invitation to stakeholders to visit the project's booth at the Wilmington CICLAVIA on August 15, from 9am-4pm to review boards and speak to the project's team. Mike thanked stakeholders for their participation and closed the meeting.

3. Eleven (11) stakeholders attended the meeting. Forty-five (45) questions and comments were received.
4. The video of the meeting was provided to the project team.
5. Attachments:
    - List of virtual community meeting attendees
    - List of questions and comments received
    - Meeting Flyer
    - PowerPoint Presentation

Wilmington Freight Mitigation Study Community Meeting LIST OF ATTENDEES July 31, 2021 - 6-7:30pm				
Attended	**User Name (Original Name)**	**Email**		
Yes	Thelma Herrera (KPA Team Member)	technology@katherinepadilla.com		
Panelist Details				
Attended	**User Name (Original Name)**	**Email**		
Yes	Interpreter (melba@novoacommunications.com)	melba@novoacommunications.com		
Yes	Katherine Padilla	kpadilla@katherinepadilla.com		
Yes	KPA Team Member (Jo Rosel)	jrosel@katherinepadilla.com		
Yes	Mike Arizabal	mike.arizabal@ibigroup.com		
Yes	James Shankel	james.shankel@dot.ca.gov		
Attendee Details				
Attended	**User Name (Original Name)**	**First Name**	**Last Name**	**Email**
Yes	Jim St.Martin	Jim	St.Martin	stmartin.jim@gmail.com
Yes	Kevin	Kevin		ripsurf71@yahoo.com
Yes	Prithvi Deore			deore@scag.ca.gov
Yes	Rosanna	Rosanna		perez_rosanna@ymail.com
Yes	valcontreras@att.net contreras	valcontreras@att.net	contreras	valcontreras@att.net
Yes	valcontreras@att.net contreras	valcontreras@att.net	contreras	valcontreras@att.net
Yes	gabriela medina	gabriela	medina	gabriela.medina@lacity.org
Yes	Stephen Yoon (SCAG)	Stephen	Yoon (SCAG)	yoon@scag.ca.gov
Yes	Deborah Gordon	Deborah	Gordon	dag950@yahoo.com
Yes	Deborah Gordon	Deborah	Gordon	dag950@yahoo.com
Yes	Ian MacMillan	Ian	MacMillan- SCAQMD	imacmillan@aqmd.gov
Yes	Ian MacMillan- SCAQMD	Ian	MacMillan- SCAQMD	imacmillan@aqmd.gov
Yes	Barvette Alexander	Barvette	Alexander	alexanderbarvette@yahoo.com
Yes	Daniel Kopulsky	Daniel	Kopulsky	dan.kopulsky@dot.ca.gov

Wilmington Freight Mitigation Study Community Meeting QUESTIONS SUBMITTED July 31, 2021 - 6-7:30pm			
#	**Question**	**Asker Name**	**Asker Email**
1	If all apply?	valcontreras@att.net contreras	valcontreras@att.net
2	It closed before I submitted	valcontreras@att.net contreras	valcontreras@att.net
3	Why do esthetic solution assume that drumm has to be a truck route? Why isn't one potential solution considered that have no trucks that pass by homes?Come in from Lomina instead	Ian MacMillan- SCAQMD	imacmillan@aqmd.gov
4	I have input	valcontreras@att.net contreras	valcontreras@att.net
5	*each. not esthetic. (auto correct)	Ian MacMillan- SCAQMD	imacmillan@aqmd.gov
6	I would like to see a Ramp built from Alameda onto Lomita blvd. or do a land swap for these businesses that are not legal	valcontreras@att.net contreras	valcontreras@att.net
7	my name is Valerie	valcontreras@att.net contreras	valcontreras@att.net
8	Rezone please	Barvette Alexander	alexanderbarvette@yahoo.com
9	Trucks should not be routed through our residential areas and the Ports of Los Angeles and Long beach can help pay for it as well as the facilities. Get a grant. The properties are in violation of zone requirements and licensing.	valcontreras@att.net contreras	valcontreras@att.net
10	The container storage facilities are in violation	valcontreras@att.net contreras	valcontreras@att.net
11	ALL-	valcontreras@att.net contreras	valcontreras@att.net
12	Why was the Wilm. Neighborhood Council not included in your initial meetings with local groups in May?	valcontreras@att.net contreras	valcontreras@att.net
13	Oh no!	valcontreras@att.net contreras	valcontreras@att.net
14	Lomita runs all the way to Alameda not Watson	valcontreras@att.net contreras	valcontreras@att.net
15	It's a public road so how can the Velero close it off?	valcontreras@att.net contreras	valcontreras@att.net

Wilmington Freight Mitigation Study Community Meeting QUESTIONS SUBMITTED July 31, 2021 - 6-7:30pm			
#	**Question**	**Asker Name**	**Asker Email**
16	There are 2 container truck company’s on E Sandison. traffic is out of control and unsafe. How are they allowed to continue especially with signs posted no trucks over 6K lbs	Kevin	ripsurf71@yahoo.com
17	The Port truck route needs to be addressed. It is old	valcontreras@att.net contreras	valcontreras@att.net
18	why is the connection closed?	Ian MacMillan- SCAQMD	imacmillan@aqmd.gov
19	What about the pollution from the trucks and the loud noise	Barvette Alexander	alexanderbarvette@yahoo.com
20	Watson runs through our community as its a public road	valcontreras@att.net contreras	valcontreras@att.net
21	None of these options keep truck out of our residential streets so they are not sufficient.	valcontreras@att.net contreras	valcontreras@att.net
22	From the President of the WNC, Has Katherine Padilla and associates tourned the area?	valcontreras@att.net contreras	valcontreras@att.net
23	One more question from the WNC President Gina, Why can't we take that Watson road by eminet domain?	valcontreras@att.net contreras	valcontreras@att.net
24	LAPD has been defunded	valcontreras@att.net contreras	valcontreras@att.net
25	How many people are present?	valcontreras@att.net contreras	valcontreras@att.net
26	wouldn’t closing the 2 companies on E Sandison eliminate a magority of this traffic? Without overthinking the problem… fine them?	Kevin	ripsurf71@yahoo.com
27	Thank you for this meeting and for being here and thank you for this meeting.	valcontreras@att.net contreras	valcontreras@att.net
28	even if they arer operating on streets posted no trucks?	Kevin	ripsurf71@yahoo.com
29	This area is being used for Heavy Industrial and theses container storage yards need to be within our industrial area South of Anaheim street. A land swap is needed.	valcontreras@att.net contreras	valcontreras@att.net
30	A truck driving down drum ran into the light pol on the corner of Cruces st And knock the pol into are yard	Barvette Alexander	alexanderbarvette@yahoo.com

Wilmington Freight Mitigation Study Community Meeting QUESTIONS SUBMITTED July 31, 2021 - 6-7:30pm			
#	**Question**	**Asker Name**	**Asker Email**
31	So you had meetings begining in May and you are just now including us?	valcontreras@att.net contreras	valcontreras@att.net
32	trucks don't seem compatible on drumm	Ian MacMillan- SCAQMD	imacmillan@aqmd.gov
33	Thank you	valcontreras@att.net contreras	valcontreras@att.net
34	Have you considered the future Port expansion? They are breaking record numbers and the Port truck traffic will continute to grow.	valcontreras@att.net contreras	valcontreras@att.net
35	That explains your proposals because they favor the Port businesses and not the residents.	valcontreras@att.net contreras	valcontreras@att.net
36	Who selected Katherine Padella & Associates?	valcontreras@att.net contreras	valcontreras@att.net
37	The Port numbers are posted on their website. This is a city public works and transportation issue no the Port	valcontreras@att.net contreras	valcontreras@att.net
38	I look forward to meeting your team	valcontreras@att.net contreras	valcontreras@att.net
39	Where? at Banning Park or the Waterfront park?	valcontreras@att.net contreras	valcontreras@att.net
40	what will be your ceqa process?	Ian MacMillan- SCAQMD	imacmillan@aqmd.gov
41	Most neighbors did not get a flyer mailed to their home regarding this meeting today. That I know of.	valcontreras@att.net contreras	valcontreras@att.net
42	Yes the WNC posted it on their social media sites	valcontreras@att.net contreras	valcontreras@att.net
43	When is your next meeting?	valcontreras@att.net contreras	valcontreras@att.net
44	thx for including us. have a good afternoon.	Ian MacMillan- SCAQMD	imacmillan@aqmd.gov
45	Thank you for the information. Nice to know someone actually cares about the people here	Kevin	ripsurf71@yahoo.com

APPENDIX H: CICLAVIA EVENT SUMMARY

KATHERINE PADILLA & ASSOCIATES, INC.

- STAKEHOLDER ENGAGEMENT
- COLLABORATIVE PLANNING
- CREATIVE DESIGN

DRAFT

SUMMARY REPORT

Wilmington Freight Mitigation Study
Ciclavia Wilmington Pop-up Event
Sunday, August 15, 2021, 9 am – 4:00 pm (approx).

Team Attendance: Katherine Padilla Otanez, Thelma Herrera, Katherine Padilla & Associates (KPA), INC., and Eric Tunnell, IBI Group

---

1. Team members set up and staffed a booth with eight 24"x36" interactive display boards at Ciclavia Wilmington to interact with the community to provide information about the Wilmington Freight Mitigation Study and to collect opinions from Wilmington residents. Displays presented information in both English and Spanish.
    a. As part of the outreach strategy, KPA also emailed invitations and event information to community members, business representatives, and community-based organizations to "Visit us at Ciclvia Wilmington" to learn about the study and provide their opinions.
2. The team interacted with approximately 50 persons, in English and Spanish, providing information, and collecting input from approximately 30 persons who provided comments on sticky notes applied to the displays and submitted comment cards. Interested persons were also asked to provide their contact information on a sign-in sheet to be kept informed.
3. Observations: Many expressed their support for the project overall stating that they "were glad SCAG and the City was doing this to help the community!" Their opinions about the mitigation options were varied and focused on the neighborhood mitigation options. The barrier gates and the cul-de-sac received the highest level of support.
4. Attachments:
    - Comments and questions received
    - Sign-in sheet
    - Photos
    - Displays

DRAFT

Received (sorted by areas of interest):

Problem Area #1: Intersection of Drumm Ave and Pacific Coast Highway

- On Drumm trucks idling all hours is a problem! Noise & honking.
- like it, I'm for widening any routes where trucks go.

Problem Area #2: Intersection of East Q St and Drumm Ave

- like it, I'm for widening any routes where trucks go.
- Too much idle causes pollution.

Problem Area #3: Intersections of Drumm Ave with E Colon St, E O St, E Cruces St

- OPTION #1:
    - Try solution #1 and see if that is enough. If it doesn't then I would do a cul de sac.
- OPTION #2:
    - don't want full closure, prefer gate
    - not appealing, not inviting
    - trucks break pavement on our streets, they need to have their own route.
- OPTION #3:
    -
- OPTION #4:
    - Prefer cul de sac - feels more safe for the community. All the others don't fully deter trucks. Please add signage at the cul de sac; bright yellow or flashing visible at night.
    - Something needs to be done! Like cul de sac.
    - Cul de sac is the safest for the community.
    - Safest solution for community
    - Prefer this option
    - Cul de sac would allow kids to play avoiding truckers to go into neighborhood families.

Problem Area #4: North/South Neighborhood Streets (Sanford/Watson/Blinn)

- Like it; looks neat and organized and it does the job
- Like that option but please make them nice like in Long Beach. All our islands should be nice. We are fed up with getting less than we deserve.
- Like the option and functionality. Anything that widens routes is a plus!
- Any solution is fine.
- A solution that allows people to access on Drumm by foot and car
- Traffic circles can add beauty to the area with plants
- Good for residential areas to slow down traffic
- Good for reducing traffic
- Helps reduce pollution

DRAFT

Other General Comments:

- Opinion from a trucker: we need route options. We do what we do sometimes because of the lack of routes. Also, the City has to take responsibility in fixing the street we drive on. Sometimes we have to divert because of lack of good streets. Also, take Blinn for example, part of it is residential and part of it has warehouses, so we have to go through that street! Fix Alameda! City has to take responsibility!
- Remove Drumm Ave as a truck route. Use Watson Road as entry truck route to travel to Q St. My child smells all the fumes when trucks turn, plus brake asbestos. No street sweeping, plus Lomita Bl is closing soon. Trucks will divert into residential area.
- Wilmington Blvd/D Street: traffic circle is a must on this street. I've seen a cross guard holding STOP sign and close to being hit. Cars at any given time of day, running stop signs. It would be nice to get it done before someone actually loses a life. Thank you. I am willing to work with my neighbors and get this project done.
- Comments for CD15 - comment about inability to park on C St at Wilmington Waterfront Park - it's blocked from residents. I work as a union carpenter and work late nights early morning. Most of the time I have to park five blocks away. I have to walk through the late night streets (at dangerous times). We didn't have this problem before the construction of the Wilmington Waterfront Park. (Proposed Solution:) Parking availability for C St residents. Thank you.
- Lomita Bl is closing on Eubank Ave & Alameda by state land commission. Trucking?
- Create an EIR report!
- What about entry study from this yard? Study? (pointing at: bound by N Blinn Ave to Alameda St, & Lomita Bl to E Q St)
- Use this road to enter "Watson Rd". Big yards will need entry when Lomita Bl closes on Alameda & Eubank. Please. (pointing at: Lomita Bl & Alameda St)
- What about entry study from this yard? Create Watson Rd entry. (pointing at: RCS Group yard between Lomita & Blinn)
- Close entry from Sandison St. (pointing at: E Sandison St between Sanford Ave & N Watson Ave)
- Need better signage at/on PCH & Blinn to let freight drivers know they can't turn north there

DRAFT

Wilmington Freight Mitigation Study

Estudio de Mitigación del Transporte de Carga de Wilmington

If you would like to be informed about future community meetings, please provide your contact information below.

Si desea recibir información sobre futuras reuniones comunitarias, proporcione su información de contacto a continuación.

Name / Nombre	Email / Correo electrónico
Natalie Hernandez	Hernandez.Natalie.Marie@gmail.com
Jesse Gayer	jagisland@msn.com
Laura Espinoza	madresdeWilmington@gmail.com
Steve Salas	letsgetrich1@yahoo.co
Erica Bustamante	ericaxenios@hotmail.com
Andrew Chacon	Chacona007@Yahoo.com
Wendy Garcia	wvgarcia0A@gmail

IBI GROUP

SCAG

APPENDIX I: ADDITIONAL COMMENTS RECEIVED

Wilmington Neighborhood Council
544 N. Avalon Blvd., Suite 103, Wilmington, CA 90744
(310) 720-4046 wilmingtonnc@empowerla.org
wilmingtonneighborhoodcouncil.com

Gina Martinez, Chair
Gayle Fleury, Vice Chair
Samantha Martinez, Treasurer
Mayra Zamora, Secretary
Valerie Contreras, Parliamentarian

October 6, 2021

IBI Group, SCAG, KPA

Reference: Official Input on the Wilmington Freight Mitigation Study

The Wilmington Neighborhood Council is giving Board approved official input on the Wilmington Freight Mitigation Study. We thank SCAG, the City of Los Angeles, Caltrans, LADOT, the Public Utilities Commission and CD 15 for acknowledging that our community is overburdened with Port related environmental and traffic issues due to goods movement and Freight forwarders. We also thank you for coming together to try and remove the port truck traffic in our residential neighborhood and surface streets. It is great to see that this is finally being addressed. Please consider added a representative from the Port of Long Beach.

On behalf of our community, we have the following to concerns.

We would like to start with the notification the WNC community advocates received. The meeting was to be heldon Saturday, July 1, 2021, and we received the flyer approximately two to three days prior. This is not sufficient time to alert our stakeholders, but we tried to get the word out.

What we have found over time with the stakeholders and local businesses, is that when residents are faced with surmounting issues of various types, that affect their quality of life, they will accept any possible solution to address even one part of problem. The root cause needs to be addressed to prevent future issues.

As leader in our community, we need to be sure that we don't just offer a short-term solution that only addresses only one aspect of the total big problem. Going forward, we must consider a few things.

The traffic issue is not the only problem. City Planning, proper business permits, zoning, infrastructure, and a possible land swap is needed to fully address the issues of these freight forwarder companies inthis residential area.

The proper stacking of containers in this area is legally limited due to CUGU and other ordinances and Q conditions.

There is no enforcement to stop the Port truck traffic through out residential neighborhoods throughout all of Wilmington. Better enforcement is desperately needed.

Our residents are faced with environmental air quality in this area, noise pollution, sleep deprivation due to the constant traffic going to and from the freight companies.

Our residents have complained of improper water drainage coming from these companies and flooding our streets.

There is truck idling and only enough room for trucks to flow in one direction on the local roads.

These residential streets were not built to accommodate this amount of truck traffic from oversized trucks who's fully loaded truck and cargo weight could be 80,000 lbs. **each.**

We have concerns about containers that could be filled with hazardous cargo. These are residential street where our children play, where people walk, where our businesses and residents park their cars.

We know from talking with our constituents that many cars get hit by these oversized vehicles going to and from the freight forwarder business.
We know from the city planning websites that many of these freight forwarder facilities operate illegally in violation of the zoning codes and CUGU ordinances as well as operating outside of normal business hours, during the middle of the night and during early morning hours.

The traffic jams our residential streets as trucks wait for the facilities to open even honking their horns Idling and causing pollution.

Until this study addresses the real problems with viable solutions, we must stop the trucks from entering the residential areas. We cannot support any of the proposed solution to further accommodate trucks to flow unsafely through our residential streets and community and ignore the environmental air pollution. Not all truck are "Clean trucks" and besides the emissions problem, there are particles that go into the air as the steel container hits the steel chassis. These particles go into the blood stream when we breath them and cause all kinds of health issues including cancers. The same damage one experiences from being next to a scrap yard. The truck volume operating 24/7 has the same affect.

None of the solutions presented in the presentation from July 1, 2021, are acceptable solutions because they still allow the flow of port truck traffic through our residential neighborhoods and do not address the problem of air quality, safety, and quality of life for residents.

The issue is not fixing the roads to further accommodate the constant flow of port truck traffic through our residential streets but to offer a real truck route from the Port to freight forwarder business.

You conducted an outreach during the CycLAvia but unfortunately, most of the attendees were not residents. Most came from other cities who follow the CycLAvia around LA.

<u>Our possible solutions</u>:

1) A Land Swap that takes these container stacking facilities into the fully industrial park where it is designated for heavy industrial businesses. These facilities are zoned for commercial and manufacturing. Because they have violated these ordinances and city guidelines over the years and because the city has not offered proper enforcement therefore causing this scale of operation.
2) We would like to see the trucks routed down Alameda Street to Watson and take Watson by eminent domain.
3) Construct a bridge that routs port trucks from Alameda over to the railroad tracks onto Lomita Blvd. which is in the City of Los Angeles.

Create City Transportation Ordinances with extreme enforcement by Port Police, City agencies, LAPD & DOT who can all enforce and prevent the Port truck traffic in our residential neighborhood.

Require that the private Freight business hire their own security guards to assist with enforcement and work with our local agencies. To maintain that their line of truckers is always enforced. The regulations from city, county, state and local government ordinances and parking/noise/signage and regulations.

Provide a third party that will regulate the proper stacking in accordance with standards for off dock facilities that are privately owned and not considered an off-dock port facility who have different regulations for stacking. Privately owned business has much different regulations.
Require and regulate that any containers must be covered with trees and proper fencing landscaping to cover unsightly heavy industrial and enforce those who don't follow proper protocol. Landscaping regardless of the height of the storage.

City Planning and Code Enforcement to hire their own person who can check on these facilities without a complaint filed. The City needs to take more responsibility for what they have allowed over time and the Port for not discouraging the companies to follow the proper regulations.

At this time the city and the Port have failed the community by not updating the truck route and ensuring proper enforcement. This problem did not just arise, it has been ongoing for decades.

In the community meeting and presentation on July 1 2021;

1) There was not really engagement for the community other than you could ask questions in the Q&A function. Which means that you must know how to type pretty good. More time was needed. The survey only covered feedback on what this team chose to share with the community. Stakeholders need to have an opportunity to talk about what they are experiencing and the problems they face on a day-to-day basis. Which is true feedback.

Overview:

- Southern California Association of Government (SCAG) and the City of Los Angeles identified environmental and traffic burdens related to the Port of LA and goods movement in the Wilmington Community. This should also include the Port of Long Beach as they are twin and goods movement from LB also flow into Wilmington.
- Caltrans Sustainable Transportation Planning Grant is available- Has someone from this group applied for it? Who?
- Cooperative effort between the City of Los Angeles, the Port, California Public Utilities Commission (CPUC) LADOT and CD 15. Is the main objective to protect the community?
- Implications of vacating Watson Road, which serves as a critical link in the local freight network.

According to the presenter, there were approximately 12 participants. We were told that one- two people from each of the above-mentioned groups were present then someone from AQMD came at the invitation of the WNC invited. This means only 2-3 people were there to ask questions.

There is no way to truly understand the community needs and challenges if you don't allow them to speak about what they are experiencing. It appears the true problem the community is having is not clear to the IBI Team. One must know what the realissue is before making proposals or solutions to resolve it.

There were several proposed TRAFFIC solutions. Maps and diagrams were shared.

Problem area 1 consist of the intersection of Drumm Ave. and Pacific Coast Highway where trucks are driving over the curb on the side of the intersection while making right turn onto Drumm Ave.

Proposed solution- To increase roadway width of Drumm Ave from 32' to 40' and increase curb radii from30' to 35'.
This accommodates INCREASED flow of Port container movement through the residential neighborhood

and therefore increasing the environmental hazards for all who live and work here. Eventually, with the increased volume of container goods movement over the years this is not a solution that benefits the community.

This movement of good via trucks in our residential community, operates 24/7 as does the movement of good through our ports. This is NOT a long- term solution for any of the involved parties.

Problem area 2 Intersection of East Q Street and Drumm Ave. Conflict Turning Paths. Trucks driving through these east/west neighborhood streets to bypass Drumm Ave, broken curbs and sidewalks. Proposed Solution -Once again they propose to widen the road so the trucks can be accommodated. Problem area, three Intersection of East Q St and Drumm Avenue- ConflictingTurning Paths

Proposed Solution is to widen the turning radii to accommodate port truck container movement in bothdirections.

Problem area 3 Intersections of Drumm Ave with E Colon St., E O street E Cruces Street.

Proposed Solution: Swing Barrier Gates. This did not work on a nearby street. The trucks just broke through them.

This will prevent access to all vehicular traffic and residents will have to park on Drumm and walk to their homes. How inconvenient is this for residents whose safety is being second to local freight business and Port truck traffic.

Another possible solution for problem 3 was to add flexible delineators.

Another possible solution for problem 2 was to add full closure of each residential street making it a cul-de-sac. How would emergency vehicles and other city trucks go in and out of here? Eliminating and bringing more inconvenience to our residents. More burdens to accommodate increased port truck traffic in our residential neighborhood communities that have been well before the 1920s.

Problem area 4 North/South Neighborhood Streets (Sanford/Wats/Blinn) – Proper signage is noted inthis area, but trucks still access these roads.

Proposed Solution- A traffic circle – This will eliminate street parking which is needed in the area.

Problem area 5 Intersections of Drumm and Coil with PCH. Issue: closely spaced intersections, no signals, short turning pocket lengths, queues block eastbound and westbound PCH through traffic.

Proposed Solution-Potential raised median/delineators for right-turn in and out only at Drumm and Coiland longer WBL turn pocket Blinn/PCH. This will cause a potential prohibition of left turns out.

We thank you for the opportunity to give this input on behalf of our community of Wilmington.

Best,

Gina Martinez, Chair
On behalf of the Wilmington Neighborhood Council, approved by a vote of 08 yes,00 no, 00, 00 abstain 00 absent.

Wilmington Neighborhood Council
544 N. Avalon Blvd., Suite 103, Wilmington, CA 90744
(310) 720-4046 wilmingtonnc@empowerla.org
wilmingtonneighborhoodcouncil.com

Gina Martinez, Chair
Gayle Fleury, Vice Chair
Samantha Martinez, Treasurer
Mayra Zamora, Secretary
Valerie Contreras, Parliamentarian

August 24, 2021

Katherine Padilla and Associates

Ms. Padilla,

The Wilmington Neighborhood Council wishes to thank Katherine Padilla and Associates for its recent meeting regarding Freight Traffic Mitigation in Northeast Wilmington as the truck traffic in this area has been a source of great concern in our area for many years. Our understanding from the information garnered at the meeting is that the Freight Traffic Mitigation team has been meeting since May of this year. The meetings included among others, various city agencies including port staff as well as the owners and operators of various trucking companies. We are concerned that neither the stakeholders who reside in the area nor the Wilmington Neighborhood Council have been asked to participate on this team and with all due respect the Freight Traffic Mitigation Team appears to be a bit lopsided leaning in favor of the trucking companies and not the people who ultimately have to live with the decisions that will be made.

We request that moving forward that the Wilmington Neighborhood Council be included and have a member of our board added to the team in addition to at least 3 stakeholders who live in close proximity to the area free from any conflict of interest. We further request that someone from AQMD also be included on the team as air pollution and contamination are a great concern and Wilmington is a community that falls under AB 617. This law seeks to, “reduce emissions and exposure within communities that are disproportionally impacted by air pollution” and states that, “Each community has unique air quality challenges, and local community members have first-hand knowledge of necessary information, including emission sources and sensitive receptor locations.”[1]

As the elected body to represent the stakeholders of Wilmington, we work to advocate at all levels of government to improve the quality of life for all in Wilmington. Unlike the trucking companies we have

[1] http://www.aqmd.gov/docs/default-source/ab-617-ab-134/camps/wcwlb_camp.pdf?sfvrsn=6

no financial stake in the outcome of this matter. It would not benefit our stakeholders if only those who can profit off our community would have a say in this matter and not those who have to live with the consequences.

It is for these reasons that we respectfully request that a member from our Council, 3 stake holders who live near the area free from conflict of interest and the AQMD be included on this team.

Respectfully Submitted,

Gina Martinez, Chair
On Behalf of the Wilmington Neighborhood Council

CC:
IBI Group Team
Caltrans
Port Of Los Angeles
LADOT
AQMD
SCAG
Councilmember Joe Buscaino

Mike Arizabal

From: Mike Arizabal
Sent: Friday, October 15, 2021 6:55 PM
To: Kevin Haegele
Subject: Re: Truck Traffic - Wilmington

This is great feedback, our team has been working to come up with new design options that don't allow trucks to even get on the streets I previously mentioned. Preventing access to those north south streets through our design will therefore prevent trucks from even getting to Sandison. Our goal is to remove all large trucks from all residential streets. Increased enforcement of illegal truck parking and using residential streets are also a part of our mitigation plan.

As a resident of nearby Carson, I definitely understand the frustration with trucks, air quality, noise, and overall quality of life. We hope you are available to join the next round of community engagement in the coming weeks to see the new options and to provide additional feedback.

Thanks,
Mike Arizabal

On Oct 15, 2021, at 4:42 PM, Kevin Haegele <ripsurf71@yahoo.com> wrote:

Thanks Mike, but this situation on E Sandison St. has gotten out of hand. I just saw my neighbor who has a wheelchair bound disabled child who rides the school bus have to be let out down the street instead of in front of his house because the trucks have completely (and I mean absolutely blocking) taken over our street. To the point that drivers get out of their trucks and let them sit there. The noise is unbearable, the dust and dirt that we have to breath in is ridiculous. I can't for the life of me understand why we have to endure this. Today as I got home I had to argue with a driver who was parked a foot away from my truck (not the first altercation with drivers). This is day and night and my frustration level is through the roof. I can't understand why the city doesn't just send an officer to ticket or cite in some way these drivers until a more permanent solution is taken. Forgive me if I am overthinking this but that seems like a pretty simple temporary solution. (and also a constant revenue source for the city). I don't want to come off as one of those harping residents who does nothing but complain. It's just that this situation as getting worse, daily (and nightly).

Kevin Haegele

On Monday, October 11, 2021, 10:48:57 AM PDT, Mike Arizabal <mike.arizabal@ibigroup.com> wrote:

Hi Kevin –

Thank you for your patience on my response. First of all, thank you for reaching out to the IBI Team, this type of information is vital to us as we continue to develop and refine measures to mitigate truck traffic within your neighborhood. Our outreach team will include your comments with the all the community comments we've received to date. A second community meeting will be held in 2-3 weeks to share how we refined the preliminary mitigations presented at the last Zoom meeting and we will also be introducing some of our new concepts. The new concepts specifically address truck traffic on Sandison, Watson, Sanford, and Blinn.

Once we finalize a date for the second meeting, you and other members of the community will have the opportunity to provide additional comments. Let me know if you have any other questions.

Thanks,

Mike Arizabal

IBI GROUP

18401 Von Karman Avenue, Suite 300

Irvine CA 92612 United States

tel +1 949 833 5588 ext 56416 fax +1 949 833 5511

From: Kevin Haegele <ripsurf71@yahoo.com>
Sent: Tuesday, September 28, 2021 8:56 PM
To: Mike Arizabal <mike.arizabal@ibigroup.com>; yoon@scag.ca.gov; Thelma Herrera - Katherine Padilla & Associates <therrera@katherinepadilla.com>
Subject: Re: Truck Traffic - Wilmington

Just a quick update... they finally hit a car on our street. One of their trailers looks like it detached from the truck and slammed into a car a few houses down. How long do we have to put up with this? This is not fair to the residents that live here. Knowing that the city knows this is happening, I would assume the trucking company AND the city would be liable (for not enforcing the no trucks over 6K lbs)? Sorry but I've reached my wits end dealing with this on a daily and nightly (all night long) basis.

Kevin Haegele

On Tuesday, September 28, 2021, 04:00:50 PM PDT, Kevin Haegele <ripsurf71@yahoo.com> wrote:

Hello, my name is Kevin Haegele. I was on the last Zoom meeting you all had regarding the semi truck traffic in our neighborhood. I live on E Sandison Street, and am one of the residents currently being forced to endure the high volume of traffic from the 2 trucking companies (Container Freight Logistics & Bali Freight Services). I am writing today to see if there is an update on any action being taken, or if there is another Zoom meeting being held. I know there was talk of another at the end of the last meeting. The traffic has only gotten worse since then and I am desperate to find out any information I can to bring this to a stop. Thank you for your time.

PS. In the time it has taken me to write this email, I have counted no less than 13 semi trucks pass by. Sorry, make that 14 now...

Kevin Haegele

Mike Arizabal

From: Steve Salas <letsgetrich1@yahoo.com>
Sent: Thursday, December 30, 2021 11:39 AM
To: yoon@scag.ca.gov; Thelma Herrera - Katherine Padilla & Associates; Gabriela Medina; Fernando Navarrete; Mike Arizabal
Cc: Victor Ibarra; Jesse Marquez; gina martinez; Valerie Contreras; Robert A. Trani Jr.; Cecilia Moreno; Sylvia Arredondo; Alicia Rivera
Subject: Mitigation fund project for trucks, TRA-7

Hello Team,

I request the zone changes to the areas south of Lomita Blvd to E Sandison St from Eubank Ave to Alameda East to West from "Industrial" to single-family, apartments or Hybrid zone for safety as part of mitigation measures. The area which is known as Ghost Town in the community. Presentation given by staff did not present a true traffic analysis study because nights, weekends and possibly holidays for the data were not taken. Especially now that both Ports are operating 24/7. Therefore I request a (EIR) Environmental Impact Report if truck routes increase on Pacific Coast Highway. Presentation given by staff showed how the major focus was to increase business profits and truck movement. Mitigation was not the main focus on the community safety and reduction of pollution.

(Google) Mitigation - Noun, The action of reducing the severity seriousness or painfulness of something "the emphasis is on the identification and mitigation of pollution".

(Wikipedia) Mitigation is the reduction of something harmful or the reduction of its harmful effects......

If I am forced to choose a mitigation idea I would: First choose TRA-7. Second Choice TRA-8 only because its the least likely to pollute and most importantly safer for the community. Third choice but not part of the presentation, negotiate with current business to use and improve road on E Q St and Drumm Ave to head North to connect to Lomita Blvd.

APPENDIX J: COMMUNITY BRIEFING SUMMARY

Attendee Report					
Wilmington FMS Virtual Briefing. Nov. 30, 2021, 6-8pm					
Attended	User Name (Original Name)	Email	Join Time	Leave Time	Time in Session (minutes)
Yes	Thelma Herrera (KPA Team Member	technology@katherinepadilla.com	11/30/2021 17:13	11/30/2021 20:04	172
Panelist Details					
Attended	User Name (Original Name)	Email	Join Time	Leave Time	Time in Session (minutes)
Yes	Katherine Padilla	kpadilla@katherinepadilla.com	11/30/2021 17:30	11/30/2021 20:04	154
Yes	Jomel Rosel	jrosel@katherinepadilla.com	11/30/2021 17:42	11/30/2021 20:04	142
Yes	Interpreter (Melba Novoa)	melba@novoacommunications.com	11/30/2021 17:33	11/30/2021 20:04	151
Yes	Mike Arizabal	mike.arizabal@ibigroup.com	11/30/2021 17:54	11/30/2021 19:58	125
Attendee Details					
Attended	User Name (Original Name)	Email	Join Time	Leave Time	Time in Session (minutes)
Yes	James Shankel	james.shankel@dot.ca.gov	11/30/2021 18:00	11/30/2021 20:04	124
Yes	Miss Trishie	usc1trishsalas@aol.com	11/30/2021 19:11	11/30/2021 20:04	53
Yes	Gina	wnc.gina@gmail.com	11/30/2021 18:06	11/30/2021 18:44	38
Yes	Gina2	wnc.gina@gmail.com	11/30/2021 18:43	11/30/2021 20:04	81
Yes	Nicole Silva	nsilva@aqmd.gov	11/30/2021 18:00	11/30/2021 20:04	124
Yes	Steve Salas	letsgetrich1@yahoo.com	11/30/2021 18:04	11/30/2021 20:04	120
Yes	Olivia	ocferna2@gmail.com	11/30/2021 18:00	11/30/2021 19:35	95
Yes	Jim St.Martin	jstmartin@chandlerscorp.com	11/30/2021 18:00	11/30/2021 19:49	109
Yes	valcontreras@att.net contreras	valcontreras@att.net	11/30/2021 18:03	11/30/2021 18:58	56
Yes	Valerie Contreras	valcontreras@att.net	11/30/2021 19:06	11/30/2021 20:04	58
Yes	Daniel Kopulsky	dan.kopulsky@dot.ca.gov	11/30/2021 18:02	11/30/2021 20:04	122

Question Report					
Wilmington FMS Virtual Briefing, Nov. 30, 2021, 6-8pm					
Question Details					
#	**Question**	**Asker Name**	**Asker Email**	**Answer(s)**	
1	why are we denied the ability to chat or see who is in the meeting	Gina2	Wnc.gina@gmail.com	live answered	thank you for your comment Gina; we disabled chatting to allow our panelist to focus but you will be able to speak at different points betwen the mitigation descriptions
2	Is a traffic light at Drumm and PCH a possibility?	Jim St.Martin	jstmartin@chandlerscorp.com	live answered	
3	What changes have you seen in the traffic since	Jim St.Martin	jstmartin@chandlerscorp.com	live answered	
4	I was trying to speak	Gina2	Wnc.gina@gmail.com	live answered	thank you Gina
5	(1) This study looks at a specific area, but trucks greatly impact west of the study, including Lomita Blvd and PCH. (2) Why isn't the Wilmington Neighborhood Council included in all meetings?	Olivia	ocferna2@gmail.com	Hi Olivia, regarding Q. (1) We will address your question during Q & A, after we go through the mitigation measures. (2)	
6	The WNC received very short notice for the last meeting. As for the Ciclavia we had to maintain our own booth. We did send a letter asking to be	Gina2	Wnc.gina@gmail.com		
7	will you be addressing the noise, air pollution, and including landscapting with maintainance on	Olivia	ocferna2@gmail.com	live answered	
8	The WNC also sent a letter that included our suggestions so there was no misunderstanding as	Gina2	Wnc.gina@gmail.com	live answered	
9	will Lomita blvd be prohibited for trucks west from wilmington avenue? Trucks line up double	Olivia	ocferna2@gmail.com	live answered	
10	caar traffic	Olivia	ocferna2@gmail.com		
11	How many containeers can be stacked up? Note	Olivia	ocferna2@gmail.com	live answered	
12	im trying to speak	Gina2	Wnc.gina@gmail.com	live answered	
13	it wont let me	Gina2	Wnc.gina@gmail.com	live answered	
14	it wont let me	Gina2	Wnc.gina@gmail.com	live answered	
15	The trucks pull down the utility wires and trees	Valerie Contreras	Valcontreras@att.net	live answered	
16	The current truck route has not been updated	Valerie Contreras	Valcontreras@att.net		
17	The Port is breaking record numbers and this is not sufficient for futre growth. The port is backed up and a stronger solution is needed to finally	Valerie Contreras	Valcontreras@att.net		
18	agreed why not remove it from our communities?	Miss Trishie	usc1trishsalas@aol.com		
19	These facilities are already full and will soon need more room. A land swap is needed. This is not	Valerie Contreras	Valcontreras@att.net		
20	Maybe they have grown to capacity and should look to another city for maximum growth.	Valerie Contreras	Valcontreras@att.net		
21	Where will you be posting this recording or presentation? Do you have contact information you could share so that I may follow up with	Nicole Silva	nsilva@aqmd.gov	live answered	
22	Could you please repeat what changes you have seen in traffic due to the backup/change at the	Nicole Silva	nsilva@aqmd.gov	live answered	
23	Is it possible for you to conduct another meeting before the deadling? Can you please consider that	Valerie Contreras	Valcontreras@att.net		
24	deadline	Valerie Contreras	Valcontreras@att.net		
25	agree we need another meeting	Anonymous Attendee			
26	Please include all proper signage in surrounding	Valerie Contreras	Valcontreras@att.net		
27	Strong enforcement cannot be overlooked.	Valerie Contreras	Valcontreras@att.net		
28	Both Port of LA and Long Beach	Valerie Contreras	Valcontreras@att.net		
29	Thank u	Steve Salas	Letsgetrich1@yahoo.com		

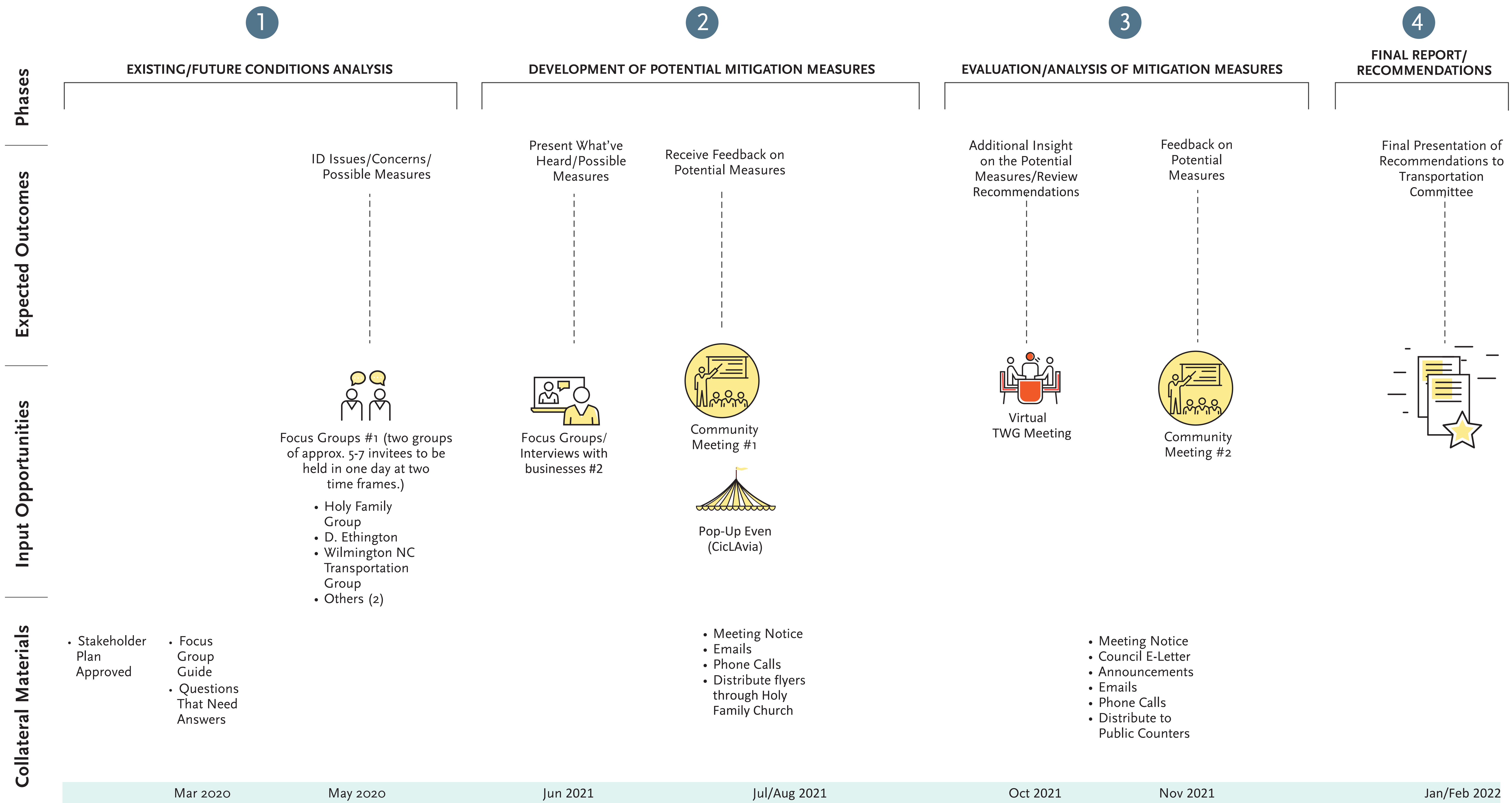
APPENDIX K: PUBLIC PROCESS DIAGRAM AND SUMMARY

SCAG Wilmington Freight Mitigation Study
Public Process Diagram

SCAG INNOVATING FOR A BETTER TOMORROW

DRAFT
Feb. 24, 2020

KATHERINE PADILLA & ASSOCIATES



Summary of Outreach Activities Conducted by KPA, Inc.
For the SCAG Wilmington Freight Mitigation Project
May 2020 – November 2021

In-depth stakeholder interviews (Purpose: To obtain insight on Existing Conditions and Challenges)

- May 13, 2020: In Spanish, three (3) members of Wilmington Neighborhood Watch, long- time residents of the area, interviewed for one hour each.
- May 13- May 14, 2020: Six (6) businesses interviewed individually for at least one hour each.

Community Meeting #1, held virtually due to COVID-19 safety precautions (To obtain insight on Existing Conditions and Challenges)

- Saturday, July 31, 2021- eleven (11 participants)
- As part of the outreach strategy, a bilingual meeting invitation flyer was prepared. Fifteen hundred (1,500) were distributed door-to-door to the residents and businesses within the project area. Five hundred (500) flyers were distributed through Holy Family Catholic Church. An electronic meeting invitation was sent to the Chamber of Commerce, Wilmington Neighborhood Council (WNC), SBCC, Providence Wellness Center, and LA Walks "Calles Seguras," for distribution to their members, 2 times.

Pop-up Event (Purpose: To obtain input on Preliminary Draft Mitigation Options)

- August 15, 2021: Cicalvia Wilmington – Interacted with approximately 50 Wilmington residents, collected comments on Draft Mitigation Options
- August 8, 2021: "Come visit us at Ciclavia! View Displays, tell us what you think" flyer developed and sent electronically to Wilmington stakeholders, including WNC

In-depth Interviews (To obtain input on Preliminary Draft Mitigation Options)

- August 3 – August 6, 2021: Five (5) businesses interviewed one-to-one for at least one hour each

Community Briefing (Purpose: To obtain feedback on Mitigation Measures)

- November 30, 2021: Thirteen participants
- November 23, 2021: Eblast/emails briefing invitation sent to stakeholders, 3 times

Communications with Wilmington Neighborhood Council

- July 23, 2021: KPA staff sent email to Gina Martinez with the Community Meeting #1 flyer with a request "May I please ask your help in getting the word out? Please feel free to post this flyer on your bulletin board(s) and social media, and/or make as many copies as you see fit to pass out to your neighbors, friends, and colleagues. Please don't hesitate to contact me if you have any questions."
- July 24, 2021: KPA received a response from Ms. Martinez with the comments. An excerpt follows: "Thank you for the invitation albeit it's short notice and I will be in attendance. I am curious as to what role your company has with regard to this mitigation study. Who created this

team? Who are its members? What was the vetting process for these members? If you could kindly answer these questions, I would appreciate it."

- July 26, 2021: K. Padilla Otanez responded to Ms. Martinez after preparing a response in collaboration with Mike Arizabal.
- September 12, 2021: Letter from WNC received by K Padilla Otanez, which was sent to Mike Arizabal, IBI Group, Project Manager. The letter is dated August 24, 2021. KPA acknowledged receipt and stated we would share the letter with the team. We send the letter directly to IBI Group. (See attached).
- October 6, 2021: Letter from WNC received by Thelma Herrera, KPA Project Manager. KPA acknowledged receipt, stated we would share the letter with the team. We sent the letter directly to IBI Group. (See attached)

APPENDIX L: SIGNAL WARRANT ANALYSIS

Chapter 4C.01 of the California MUTCD 2014 Edition Revision 6, "Studies and Factors for Justifying Traffic Control Signals," was used to conduct a full signal warrant analysis for the intersections of Drumm Avenue/PCH and Coil Avenue/PCH. An engineering study of traffic conditions, pedestrian characteristics, and physical characteristics of the location shall be performed to determine whether installation of a traffic control signal is justified at a particular location.

The investigation of the need for a traffic control signal shall include an analysis of factors related to the existing operation and safety at the study location and the potential to improve these conditions, and the applicable factors contained in the following traffic signal warrants:

Warrant 1, Eight-Hour Vehicular Volume
Warrant 2, Four-Hour Vehicular Volume
Warrant 3, Peak Hour
Warrant 4, Pedestrian Volume (not applicable)
Warrant 5, School Crossing (not applicable)
Warrant 6, Coordinated Signal System (not applicable)
Warrant 7, Crash Experience (not applicable)
Warrant 8, Roadway Network (not applicable)
Warrant 9, Intersection Near a Grade Crossing (not applicable)

WARRANT 1, Eight-Hour Vehicular Volume

The need for a traffic control signal shall be considered if an engineering study finds that one of the following conditions exist for each of any 8 hours of an average day:

A. The vehicles per hour given in both of the 100 percent columns of Condition A in **Table 4C-1** exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; or

B. The vehicles per hour given in both of the 100 percent columns of Condition B in **Table 4C-1** exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

In applying each condition, the major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of these 8 hours.

Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume

Condition A—Minimum Vehicular Volume									
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Condition B—Interruption of Continuous Traffic									
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

[a] Basic minimum hourly volume
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures
[c] May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000
[d] May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Major Street Volume (both approaches) Standard: Condition A = 600; Condition B = 900

Higher Volume Minor Street (one direction) Standard: Condition A =150; Condition B = 75

 # Hours where volume exceeds 600 and 900 standards

PCH: 18 hours and 16 hours

 # Hours where volume exceeds 150 and 75 standards

Drumm: 21 hours and 23 hours

SIGNAL WARRANTED FOR DRUMM/PCH PER WARRANT 1, EIGHT-HOUR VOLUME CONDITIONS A & B

 # Hours where volume exceeds 600 and 900 standards

PCH: 19 hours and 18 hours

 # Hours where volume exceeds 150 and 75 standards

Coil: 1 hours and 12 hours

SIGNAL WARRANTED FOR DRUMM/PCH PER WARRANT 1, EIGHT-HOUR VOLUME CONDITION B

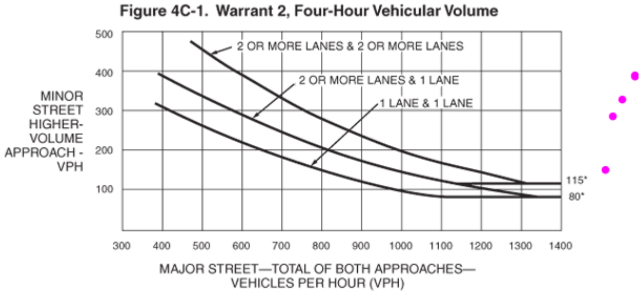
WARRANT 2, Four-Hour Vehicular Volume

The need for a traffic control signal shall be considered if an engineering study finds that, for each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) all fall above the applicable curve in Figure 4C-1 for the existing combination of approach lanes. On the minor street, the higher volume shall not be required to be on the same approach during each of these 4 hours.

4 Hour Volume Samples at Both Intersections

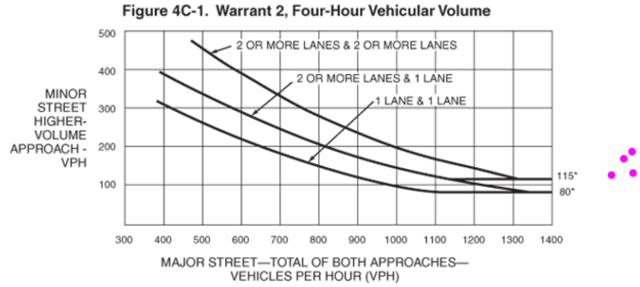
Total Major Approach PCH		High Minor Approach Drumm	
3PM	2,073	3PM	223
4PM	2,349	4PM	230
5PM	2,337	5PM	176
6PM	1,736	6PM	227
Total Major Approach PCH		**High Minor Approach Coil**	
2PM	2,331	2PM	116
3PM	2,540	3PM	144
4PM	2,817	4PM	153
5PM	2,734	5PM	194

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

SIGNAL WARRANTED FOR DRUMM/PCH AND COIL/PCH USING WARRANT 2, FOUR-HOUR VOLUMES

WARRANT 3, Peak Hour

This signal warrant shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time.

The need for a traffic control signal shall be considered if an engineering study finds that the criteria in either of the following two categories are met:

A. If all three of the following conditions exist for the same 1 hour (any four consecutive 15-minute periods) of an average day:
   1. The total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach; and
   2. The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes; and
   3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles per hour for intersections with four or more approaches.

B. The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

AS SHOWN IN SECTION 7.6, TRAFFIC SIGNALS ARE WARRANTED AT BOTH DRUMM/PCH AND COIL/PCH USING WARRANT 3, PEAK HOUR

24 Hours Traffic Volume

City of Los Angeles

Department of Transportation

Counter	A. Sanchez
Date	08/18/21
Start Time	12 AM

Location	PACIFIC COAST HWY AT DRUMM AV	**Day of Week**	WED	**Prepared**	08/23/21
Direction	E/W STREET	**DOT District**	SOUTHERN	**By**	A. Sanchez
Serial Number	17874	**Weather**	CLEAR		

Time	NORTHBOUND or WESTBOUND 1ST QTR	2ND QTR	3RD QTR	4TH QTR	HOUR TOTAL	SOUTHBOUND or EASTBOUND 1ST QTR	2ND QTR	3RD QTR	4TH QTR	HOUR TOTAL	**TOTAL**
12 AM	69	85	74	71	299	37	33	39	32	141	440
1 AM	69	56	48	60	233	18	43	33	28	122	355
2 AM	59	61	44	66	230	21	27	31	31	110	340
3 AM	56	34	30	46	166	21	24	24	35	104	270
4 AM	53	54	80	87	274	41	57	69	90	257	531
5 AM	61	82	108	148	399	83	101	161	186	531	930
6 AM	150	181	228	234	793	142	182	233	184	741	1534
7 AM	278	275	321	282	1156	187	199	235	272	893	2049
8 AM	260	253	299	286	1098	203	223	202	190	818	1916
9 AM	218	256	231	209	914	220	192	176	169	757	1671
10 AM	233	218	243	227	921	157	172	224	200	753	1674
11 AM	266	231	247	258	1002	191	204	236	208	839	1841
12 NN	247	242	221	183	893	216	214	240	200	870	1763
1 PM	203	188	221	234	846	205	210	197	207	819	1665
2 PM	228	228	204	253	913	196	249	277	252	974	1887
3 PM	243	234	237	268	982	239	261	300	291	1091	2073
4 PM	237	264	253	250	1004	367	277	334	367	1345	2349
5 PM	237	237	236	211	921	361	357	373	325	1416	2337
6 PM	192	175	204	192	763	285	296	199	193	973	1736
7 PM	189	134	148	143	614	159	187	162	144	652	1266
8 PM	142	114	102	92	450	155	127	125	140	547	997
9 PM	112	131	76	88	407	97	96	124	106	423	830
10 PM	95	86	73	71	325	111	95	84	71	361	686
11 PM	74	59	50	79	262	59	62	41	53	215	477

FIRST 12-HOURS PEAK QUARTER COUNT	**321**	7 AM	3RD	**272**	7 AM	4TH
LAST 12-HOURS PEAK QUARTER COUNT	**268**	3 PM	4TH	**373**	5 PM	3RD
24 HOUR VEHICLES TOTAL		15,865			15,752	**31,617**
TOTAL VEHICLES STANDARD DEVIATION (STD)	[+,-]	322.64		[+,-]	372.71	674.70

PEAK HOURS VOLUME

	NORTH or WEST BOUND PEAK HOUR	VEHICLE VOLUME	SOUTH or EAST BOUND PEAK HOUR	VEHICLE VOLUME	BOTH DIRECTIONS PEAK HOUR	VEHICLE VOLUME
First 12H Peak	7 AM	1,156	7 AM	893	7 AM	**2,049**
Last 12H Peak	4 PM	1,004	5 PM	1,416	4 PM	**2,349**
First 12H Peak STD		[+,-] 370.59		[+,-] 316.09		[+,-] 680.62
Last 12H Peak STD		[+,-] 260.91		[+,-] 363.89		[+,-] 613.53

24 Hours Traffic Volume

City of Los Angeles

Department of Transportation

Counter	A. Sanchez
Date	08/18/21
Start Time	12 AM

Location	**PACIFIC COAST HWY AT COIL AV**	**Day of Week**	WED	**Prepared**	08/23/21
Direction	E/W STREET	**DOT District**	SOUTHERN	**By**	A. Sanchez
Serial Number	17875	**Weather**	CLEAR		

Time	NORTHBOUND or WESTBOUND 1ST QTR	2ND QTR	3RD QTR	4TH QTR	HOUR TOTAL	SOUTHBOUND or EASTBOUND 1ST QTR	2ND QTR	3RD QTR	4TH QTR	HOUR TOTAL	**TOTAL**
12 AM	77	84	76	78	315	79	65	60	74	278	593
1 AM	72	55	53	67	247	69	72	67	85	293	540
2 AM	66	66	44	70	246	42	53	68	59	222	468
3 AM	53	33	34	53	173	55	50	46	37	188	361
4 AM	56	60	88	102	306	49	62	78	104	293	599
5 AM	74	88	111	159	432	95	130	168	202	595	1027
6 AM	175	194	252	255	876	155	222	248	231	856	1732
7 AM	279	174	199	336	988	221	245	285	335	1086	2074
8 AM	296	292	315	301	1204	285	300	266	253	1104	2308
9 AM	242	286	258	242	1028	270	276	202	188	936	1964
10 AM	260	235	270	246	1011	230	225	244	290	989	2000
11 AM	287	272	264	306	1129	258	259	272	265	1054	2183
12 NN	273	268	247	220	1008	259	255	268	263	1045	2053
1 PM	245	240	265	276	1026	256	256	272	238	1022	2048
2 PM	307	297	282	333	1219	237	275	303	297	1112	2331
3 PM	340	307	311	364	1322	288	287	330	313	1218	2540
4 PM	309	356	351	304	1320	410	338	349	400	1497	2817
5 PM	315	315	300	278	1208	375	396	392	363	1526	2734
6 PM	255	235	246	258	994	326	306	267	244	1143	2137
7 PM	232	183	183	187	785	219	215	219	199	852	1637
8 PM	171	147	151	149	618	195	174	178	183	730	1348
9 PM	164	178	117	128	587	139	127	148	161	575	1162
10 PM	121	111	112	99	443	146	136	131	103	516	959
11 PM	90	87	71	108	356	76	88	70	99	333	689

FIRST 12-HOURS PEAK QUARTER COUNT	**336**	7 AM	4TH	**335**	7 AM	4TH	
LAST 12-HOURS PEAK QUARTER COUNT	**364**	3 PM	4TH	**410**	4 PM	1ST	
24 HOUR VEHICLES TOTAL		18,841			19,463	**38,304**	
TOTAL VEHICLES STANDARD DEVIATION (STD)	[+,-]	378.84		[+,-]	392.60	764.76	

PEAK HOURS VOLUME

	NORTH or WEST BOUND PEAK HOUR	VEHICLE VOLUME	SOUTH or EAST BOUND PEAK HOUR	VEHICLE VOLUME	BOTH DIRECTIONS PEAK HOUR	VEHICLE VOLUME
First 12H Peak	8 AM	1,204	8 AM	1,104	8 AM	**2,308**
Last 12H Peak	3 PM	1,322	5 PM	1,526	4 PM	**2,817**
First 12H Peak STD		[+,-] 387.74		[+,-] 364.09		[+,-] 748.58
Last 12H Peak STD		[+,-] 326.90		[+,-] 358.91		[+,-] 676.63

PACIFICCOASTHWY.COIL.210818-AUTO

City Of Los Angeles
Department Of Transportation
MANUAL TRAFFIC COUNT SUMMARY

STREET:
North/South Drumm Avenue

East/West Pacific Coast Hwy

Day: Wednesday **Date:** August 18, 2021 **Weather:** SUNNY

Hours: 7-10 AM & 3-6 PM **Staff:** AMS

School Day: YES **District:** Southern **I/S CODE** 3252

	N/B	S/B	E/B	W/B
TRUCKS	0	150	411	455
BIKES	0	0	6	5
BUSES	0	0	15	15

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	0	7.00	32	9.00	247	7.45	336	7.30
PM PK 15 MIN	0	3.00	32	4.45	378	5.00	324	4.30
AM PK HOUR	0	7.00	113	7.45	886	7.30	1156	7.15
PM PK HOUR	0	3.00	95	4.00	1467	4.45	1217	4.15

NORTHBOUND Approach / **SOUTHBOUND Approach** / **TOTAL** / **XING S/L** / **XING N/L**

Hours	Lt	Th	Rt	Total	Hours	Lt	Th	Rt	Total	N-S	Ped	Sch	Ped	Sch
7-8	0	0	0	0	*7-8*	78	0	12	90	90	0	0	3	0
8-9	0	0	0	0	*8-9*	96	0	12	108	108	0	0	0	0
9-10	0	0	0	0	*9-10*	72	0	27	99	99	0	0	1	0
3-4	0	0	0	0	*3-4*	72	0	12	84	84	0	0	2	0
4-5	0	0	0	0	*4-5*	80	0	15	95	95	0	0	1	0
5-6	0	0	0	0	*5-6*	59	0	9	68	68	0	0	1	0
TOTAL	0	0	0	0	**TOTAL**	457	0	87	544	544	0	0	8	0

EASTBOUND Approach / **WESTBOUND Approach** / **TOTAL** / **XING W/L** / **XING E/L**

Hours	Lt	Th	Rt	Total	Hours	Lt	Th	Rt	Total	E-W	Ped	Sch	Ped	Sch
7-8	15	846	0	861	*7-8*	0	1000	129	1129	1990	1	0	0	0
8-9	13	750	0	763	*8-9*	0	902	127	1029	1792	0	0	0	0
9-10	12	630	0	642	*9-10*	0	706	107	813	1455	0	0	0	0
3-4	11	1027	0	1038	*3-4*	0	958	113	1071	2109	0	0	0	0
4-5	10	1308	0	1318	*4-5*	0	1113	79	1192	2510	0	0	0	0
5-6	11	1396	0	1407	*5-6*	0	1071	70	1141	2548	0	0	0	0
TOTAL	72	5957	0	6029	**TOTAL**	0	5750	625	6375	12404	1	0	0	0

(Rev Oct 06)

24 Hours Traffic Volume

City of Los Angeles

Department of Transportation

Counter	A. Sanchez
Date	08/18/21
Start Time	12 AM

Location	**DRUMM AV NO PACIFIC COAST HWY**	**Day of Week**	WED	**Prepared**	08/23/21
Direction	N/S STREET	**DOT District**	SOUTHERN	**By**	A. Sanchez
Serial Number	17881	**Weather**	CLEAR		

Time	NORTHBOUND or WESTBOUND 1ST QTR	2ND QTR	3RD QTR	4TH QTR	HOUR TOTAL	SOUTHBOUND or EASTBOUND 1ST QTR	2ND QTR	3RD QTR	4TH QTR	HOUR TOTAL	**TOTAL**
12 AM	0	0	0	0	0	48	40	53	56	197	197
1 AM	0	0	0	0	0	55	50	40	48	193	193
2 AM	0	0	0	0	0	39	47	44	27	157	157
3 AM	0	0	0	0	0	46	18	14	4	82	82
4 AM	0	0	0	0	0	15	19	15	17	66	66
5 AM	0	0	0	0	0	23	25	25	26	99	99
6 AM	0	0	0	0	0	35	50	54	38	177	177
7 AM	0	0	0	0	0	63	88	76	83	310	310
8 AM	0	0	0	0	0	101	108	84	67	360	360
9 AM	0	0	0	0	0	114	76	89	72	351	351
10 AM	0	0	0	0	0	91	109	82	80	362	362
11 AM	0	0	0	0	0	76	81	90	76	323	323
12 NN	0	0	0	0	0	72	51	62	71	256	256
1 PM	0	0	0	0	0	82	48	87	67	284	284
2 PM	0	0	0	0	0	60	52	53	80	245	245
3 PM	0	0	0	0	0	56	51	68	48	223	223
4 PM	0	0	0	0	0	65	60	38	67	230	230
5 PM	0	0	0	0	0	38	55	34	49	176	176
6 PM	0	0	0	0	0	41	44	74	68	227	227
7 PM	0	0	0	0	0	70	56	66	60	252	252
8 PM	0	0	0	0	0	66	77	78	55	276	276
9 PM	0	0	0	0	0	48	61	39	60	208	208
10 PM	0	0	0	0	0	49	31	57	40	177	177
11 PM	0	0	0	0	0	42	26	52	61	181	181

	NORTHBOUND or WESTBOUND		SOUTHBOUND or EASTBOUND		
FIRST 12-HOURS PEAK QUARTER COUNT	**0**		**114**	9 AM	1ST
LAST 12-HOURS PEAK QUARTER COUNT	**0**		**87**	1 PM	3RD
24 HOUR VEHICLES TOTAL		0		5,412	**5,412**
TOTAL VEHICLES STANDARD DEVIATION (STD)	[+,-]	0.00	[+,-]	80.41	80.41

PEAK HOURS VOLUME

	NORTH or WEST BOUND PEAK HOUR	NORTH or WEST BOUND VEHICLE VOLUME	SOUTH or EAST BOUND PEAK HOUR	SOUTH or EAST BOUND VEHICLE VOLUME	BOTH DIRECTIONS PEAK HOUR	BOTH DIRECTIONS VEHICLE VOLUME
First 12H Peak		-	10 AM	362	10 AM	**362**
Last 12H Peak		-	1 PM	284	1 PM	**284**
First 12H Peak STD		[+,-] 0.00		[+,-] 108.01		[+,-] 108.01
Last 12H Peak STD		[+,-] 0.00		[+,-] 35.39		[+,-] 35.39

DRUMM.PACIFICCOASTHWY.210818.N_AUTO

City Of Los Angeles
Department Of Transportation
MANUAL TRAFFIC COUNT SUMMARY

STREET:
North/South Coil Ave

East/West Pacific Coast Highway

Day: Wednesday **Date:** August 18, 2021 **Weather:** SUNNY

Hours: 7-10 AM & 3-6 PM **Staff:** DL

School Day: YES **District:** Southern **I/S CODE** 3251

	N/B	S/B	E/B	W/B
TRUCKS	41	86	872	983
BIKES	4	11	2	4
BUSES	0	0	15	16

	N/B TIME		S/B TIME		E/B TIME		W/B TIME	
AM PK 15 MIN	21	7.45	12	7.00	281	7.45	326	7.30
PM PK 15 MIN	39	3.00	12	3.15	379	5.30	325	3.45
AM PK HOUR	72	7.00	33	8.15	961	7.30	1239	7.15
PM PK HOUR	139	3.00	39	3.00	1484	4.45	1257	4.30

NORTHBOUND Approach / **SOUTHBOUND Approach** / **TOTAL** / **XING S/L** / **XING N/L**

Hours	Lt	Th	Rt	Total	Hours	Lt	Th	Rt	Total	N-S	Ped	Sch	Ped	Sch
7-8	0	0	72	72	*7-8*	16	0	15	31	103	0	0	2	0
8-9	1	1	55	57	*8-9*	15	1	14	30	87	1	0	0	0
9-10	1	0	59	60	*9-10*	19	0	8	27	87	0	0	1	0
3-4	7	0	132	139	*3-4*	16	0	23	39	178	0	0	3	0
4-5	7	0	129	136	*4-5*	11	0	24	35	171	1	0	0	0
5-6	4	0	98	102	*5-6*	15	0	16	31	133	1	0	2	0
TOTAL	20	1	545	566	**TOTAL**	92	1	100	193	759	3	0	8	0

EASTBOUND Approach / **WESTBOUND Approach** / **TOTAL** / **XING W/L** / **XING E/L**

Hours	Lt	Th	Rt	Total	Hours	Lt	Th	Rt	Total	E-W	Ped	Sch	Ped	Sch
7-8	23	892	6	921	*7-8*	27	1119	43	1189	2110	0	0	0	0
8-9	20	820	5	845	*8-9*	33	1012	33	1078	1923	0	0	0	0
9-10	11	660	10	681	*9-10*	58	813	18	889	1570	0	0	0	0
3-4	15	1042	9	1066	*3-4*	81	1039	26	1146	2212	0	0	1	0
4-5	10	1323	9	1342	*4-5*	54	1143	22	1219	2561	1	0	0	0
5-6	7	1418	10	1435	*5-6*	50	1104	21	1175	2610	0	0	0	0
TOTAL	86	6155	49	6290	**TOTAL**	303	6230	163	6696	12986	1	0	1	0

(Rev Oct 06)

24 Hours Traffic Volume

City of Los Angeles

Department of Transportation

Counter	A. Sanchez
Date	08/18/21
Start Time	12 AM

Location	**COIL AV AT PACIFIC COAST HWY**	**Day of Week**	WED	**Prepared**	08/23/21
Direction	N/S STREET	**DOT District**	SOUTHERN	**By**	A. Sanchez
Serial Number	17879	**Weather**	CLEAR		

Time	NORTHBOUND or WESTBOUND 1ST QTR	2ND QTR	3RD QTR	4TH QTR	HOUR TOTAL	SOUTHBOUND or EASTBOUND 1ST QTR	2ND QTR	3RD QTR	4TH QTR	HOUR TOTAL	**TOTAL**
12 AM	0	4	3	2	9	14	8	2	11	35	44
1 AM	2	8	1	0	11	5	0	6	5	16	27
2 AM	0	1	1	2	4	3	2	4	0	9	13
3 AM	4	1	2	0	7	11	3	0	2	16	23
4 AM	5	2	7	6	20	0	0	3	1	4	24
5 AM	8	11	12	17	48	0	3	20	6	29	77
6 AM	13	14	16	16	59	10	13	12	23	58	117
7 AM	16	18	21	20	75	50	29	20	17	116	191
8 AM	16	16	28	9	69	27	22	29	28	106	175
9 AM	10	22	11	18	61	23	13	27	33	96	157
10 AM	19	19	27	19	84	23	39	15	24	101	185
11 AM	21	23	22	26	92	29	30	28	35	122	214
12 NN	24	24	32	27	107	32	51	24	23	130	237
1 PM	15	25	26	24	90	27	11	43	18	99	189
2 PM	26	24	41	25	116	17	26	21	18	82	198
3 PM	45	31	39	29	144	31	36	27	16	110	254
4 PM	39	31	49	34	153	19	28	17	24	88	241
5 PM	34	27	27	22	110	13	12	32	27	84	194
6 PM	22	25	20	14	81	12	14	8	13	47	128
7 PM	11	14	3	6	34	23	18	22	2	65	99
8 PM	6	11	3	7	27	2	8	8	18	36	63
9 PM	8	10	7	8	33	6	5	2	10	23	56
10 PM	4	5	7	3	19	4	21	9	3	37	56
11 PM	3	2	2	0	7	22	11	8	4	45	52

FIRST 12-HOURS PEAK QUARTER COUNT	**28**	8 AM	3RD	**50**	7 AM	1ST
LAST 12-HOURS PEAK QUARTER COUNT	**49**	4 PM	3RD	**51**	12 NN	2ND
24 HOUR VEHICLES TOTAL		1,460			1,554	**3,014**
TOTAL VEHICLES STANDARD DEVIATION (STD)	[+,-]	44.00		[+,-]	38.94	78.34

PEAK HOURS VOLUME

	NORTH or WEST BOUND PEAK HOUR	VEHICLE VOLUME	SOUTH or EAST BOUND PEAK HOUR	VEHICLE VOLUME	BOTH DIRECTIONS PEAK HOUR	VEHICLE VOLUME
First 12H Peak	11 AM	92	11 AM	122	11 AM	**214**
Last 12H Peak	4 PM	153	12 NN	130	3 PM	**254**
First 12H Peak STD	[+,-]	31.45	[+,-]	44.03	[+,-]	74.02
Last 12H Peak STD	[+,-]	48.74	[+,-]	32.06	[+,-]	76.52

COIL.PACIFICCOASTHWY.210818-AUTO

APPENDIX M: WITH IMPROVEMENTS LOS WORKSHEETS

SYNCHRO QUEUES WORKSHEETS – EXISTING & YEAR 2045 WITH IMPROVEMENTS

Lane Group	EBL	EBT	WBT	SBL
Lane Group Flow (vph)	47	840	1340	456
v/c Ratio	0.39	0.44	0.65	0.67
Control Delay	54.1	25.9	4.3	29.2
Queue Delay	0.0	0.0	0.0	55.5
Total Delay	54.1	25.9	4.3	84.7
Queue Length 50th (ft)	29	152	19	226
Queue Length 95th (ft)	67	197	25	342
Internal Link Dist (ft)		140	85	393
Turn Bay Length (ft)				
Base Capacity (vph)	128	1903	2056	676
Starvation Cap Reductn	0	0	44	0
Spillback Cap Reductn	0	129	0	289
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.37	0.47	0.67	1.18

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	36	1143	100	1323	167	61
v/c Ratio	0.30	0.60	0.54	0.64	0.27	0.11
Control Delay	63.3	18.8	52.9	26.3	7.9	0.7
Queue Delay	0.8	0.2	0.0	0.0	0.0	0.0
Total Delay	64.1	18.9	52.9	26.3	7.9	0.7
Queue Length 50th (ft)	25	100	61	252	20	0
Queue Length 95th (ft)	m50	116	112	304	63	3
Internal Link Dist (ft)		85		960	76	123
Turn Bay Length (ft)	50		150			
Base Capacity (vph)	128	1898	225	2068	624	571
Starvation Cap Reductn	19	155	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.66	0.44	0.64	0.27	0.11

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	SBL
Lane Group Flow (vph)	110	894	1382	412
v/c Ratio	0.57	0.42	0.71	0.67
Control Delay	53.6	23.0	4.9	31.7
Queue Delay	0.0	0.0	0.1	48.6
Total Delay	53.6	23.0	5.0	80.3
Queue Length 50th (ft)	67	154	20	211
Queue Length 95th (ft)	122	197	28	321
Internal Link Dist (ft)		140	85	393
Turn Bay Length (ft)				
Base Capacity (vph)	232	2113	1949	615
Starvation Cap Reductn	0	0	38	0
Spillback Cap Reductn	0	129	0	234
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.47	0.45	0.72	1.08

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	36	1223	96	1335	215	73
v/c Ratio	0.19	0.58	0.53	0.68	0.38	0.14
Control Delay	59.8	16.3	52.9	28.4	15.0	7.1
Queue Delay	1.3	0.1	0.0	0.0	0.0	0.0
Total Delay	61.1	16.4	52.9	28.4	15.0	7.1
Queue Length 50th (ft)	25	96	59	258	54	3
Queue Length 95th (ft)	m53	111	110	319	115	32
Internal Link Dist (ft)		85		960	76	123
Turn Bay Length (ft)	50		150			
Base Capacity (vph)	232	2107	218	1951	566	514
Starvation Cap Reductn	106	174	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.63	0.44	0.68	0.38	0.14

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	SBL
Lane Group Flow (vph)	70	1169	1447	319
v/c Ratio	0.46	0.53	0.59	0.60
Control Delay	53.2	22.5	6.0	33.4
Queue Delay	0.0	0.1	0.0	0.6
Total Delay	53.2	22.5	6.0	34.0
Queue Length 50th (ft)	43	198	44	165
Queue Length 95th (ft)	87	249	54	258
Internal Link Dist (ft)		140	85	393
Turn Bay Length (ft)				
Base Capacity (vph)	175	2225	2436	528
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	119	0	46
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.40	0.56	0.59	0.66

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	19	1399	114	1282	230	51
v/c Ratio	0.12	0.63	0.57	0.52	0.50	0.11
Control Delay	59.9	12.0	53.1	19.8	23.6	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.9	12.0	53.1	19.8	23.6	13.3
Queue Length 50th (ft)	13	78	70	212	83	9
Queue Length 95th (ft)	m24	89	124	259	158	36
Internal Link Dist (ft)		85		960	76	123
Turn Bay Length (ft)	50		150			
Base Capacity (vph)	175	2219	243	2462	460	463
Starvation Cap Reductn	0	61	0	0	0	0
Spillback Cap Reductn	0	0	0	13	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.65	0.47	0.52	0.50	0.11

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	SBL
Lane Group Flow (vph)	49	982	1512	461
v/c Ratio	0.49	0.48	0.68	0.72
Control Delay	62.0	24.7	4.1	32.8
Queue Delay	0.0	0.1	0.2	56.5
Total Delay	62.0	24.8	4.3	89.3
Queue Length 50th (ft)	31	179	22	240
Queue Length 95th (ft)	#73	223	27	363
Internal Link Dist (ft)		140	85	393
Turn Bay Length (ft)				
Base Capacity (vph)	102	2033	2221	640
Starvation Cap Reductn	0	0	146	0
Spillback Cap Reductn	0	129	0	306
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.48	0.52	0.73	1.38

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	37	1400	105	1598	177	61
v/c Ratio	0.37	0.69	0.58	0.71	0.30	0.11
Control Delay	65.7	18.7	55.7	25.9	9.3	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.7	18.8	55.7	25.9	9.3	0.8
Queue Length 50th (ft)	25	116	64	308	25	0
Queue Length 95th (ft)	m47	186	118	367	71	3
Internal Link Dist (ft)		85		960	76	123
Turn Bay Length (ft)	50		150			
Base Capacity (vph)	102	2027	207	2237	596	542
Starvation Cap Reductn	0	31	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.70	0.51	0.71	0.30	0.11

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	SBL
Lane Group Flow (vph)	114	1057	1530	416
v/c Ratio	0.62	0.46	0.72	0.74
Control Delay	57.3	21.3	4.3	37.7
Queue Delay	0.0	0.0	0.4	56.8
Total Delay	57.3	21.3	4.6	94.4
Queue Length 50th (ft)	70	178	16	226
Queue Length 95th (ft)	127	222	30	344
Internal Link Dist (ft)		140	85	393
Turn Bay Length (ft)				
Base Capacity (vph)	207	2292	2139	561
Starvation Cap Reductn	0	0	196	0
Spillback Cap Reductn	0	129	0	250
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.55	0.49	0.79	1.34

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	37	1506	101	1664	228	75
v/c Ratio	0.20	0.66	0.56	0.77	0.44	0.16
Control Delay	57.9	16.2	54.6	28.2	18.7	8.2
Queue Delay	2.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.9	16.2	54.6	28.2	18.7	8.2
Queue Length 50th (ft)	25	117	62	332	68	4
Queue Length 95th (ft)	m50	198	114	394	137	35
Internal Link Dist (ft)		85		960	76	123
Turn Bay Length (ft)	50		150			
Base Capacity (vph)	207	2285	211	2151	516	471
Starvation Cap Reductn	99	14	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.66	0.48	0.77	0.44	0.16

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	SBL
Lane Group Flow (vph)	72	1320	1580	326
v/c Ratio	0.47	0.58	0.64	0.64
Control Delay	53.6	22.9	5.4	35.3
Queue Delay	0.0	0.1	0.0	4.6
Total Delay	53.6	23.0	5.4	39.8
Queue Length 50th (ft)	44	229	42	173
Queue Length 95th (ft)	89	284	50	269
Internal Link Dist (ft)		140	85	393
Turn Bay Length (ft)				
Base Capacity (vph)	175	2266	2484	512
Starvation Cap Reductn	0	0	64	0
Spillback Cap Reductn	0	129	0	121
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.41	0.62	0.65	0.83

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	20	1632	122	1503	243	53
v/c Ratio	0.13	0.72	0.60	0.60	0.54	0.12
Control Delay	58.6	12.9	54.3	20.6	25.6	13.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.6	12.9	54.3	20.6	25.6	13.5
Queue Length 50th (ft)	14	89	75	259	92	9
Queue Length 95th (ft)	m23	101	131	312	172	37
Internal Link Dist (ft)		85		960	76	123
Turn Bay Length (ft)	50		150			
Base Capacity (vph)	175	2259	243	2511	448	450
Starvation Cap Reductn	0	8	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.73	0.50	0.60	0.54	0.12

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.