

# **Appendix C**

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## Traffic Impact Analysis

# Whittier Aquatic Facility - Traffic Impact Analysis

## County of Los Angeles

June 2019

Prepared for:

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## 1.0 Introduction

Hernandez, Kroone & Associates (HKA) has prepared this report to present the results of the traffic impact analysis (TIA) for the proposed Whittier Aquatic Facility (proposed project). The proposed site is located at Pioneer High School, 10800 Ben Avon Street, Whittier, in the unincorporated community of West Whittier-Los Nietos. It is bordered on the north by Washington Boulevard, on the west by Pioneer Boulevard and commercial businesses, on the east by Danby Avenue and residential housing, and on the south by an existing parking lot used by Pioneer High School. The interstate 605 freeway is located approximately 250 feet west of the proposed project site.

### 1.1 Purpose of the Traffic Analysis and Study Objectives

The purpose of this TIA is to evaluate the potential circulation system deficiencies that may result from the development of the proposed project, and to recommend improvements, if needed, to achieve acceptable circulation system operations.

The California Environmental Quality Act (CEQA) lead agency is the County of Los Angeles, Public Works Department (LACPW). The CEQA was enacted in 1970 for the purpose of providing decision-makers and the public with information regarding environmental effects of proposed projects; identifying means of avoiding environmental damage; and disclosing to the public the reasons behind a project's approval, even if it leads to environmental damage. LACPW, as the lead agency under CEQA, has determined the project is subject to CEQA and no exemptions apply. Therefore, this TIA has been prepared to identify any potential traffic impacts the proposed project may create and methods to mitigate these impacts.

### 1.2 Study Guidelines

This TIA has been prepared in accordance with the following guidelines:

1. County of Los Angeles, Department of Public Works - Traffic Impact Analysis Report Guidelines Draft, last revised December 2013 (LACPW Guidelines)
2. Los Angeles County Metropolitan Transportation Authority - 2010 Congestion Management Program (LACMTA CMP)
3. Disclosure of potential impacts and mitigation per the California Environmental Quality Act (CEQA)

The LACPW guidelines require a "before" and "after" Level of Service (LOS) analysis when the proposed project's generated traffic alone, or together with other projects in the area, could worsen the LOS of an intersection or roadway.

The LACPW guidelines require an Intersection Capacity Utilization (ICU) analysis to assess existing and future LOS at intersections. The ICU analysis bases LOS on a vehicle volume to capacity (v/c) ratio.

The LACPW guidelines define significant impact threshold as follows:

*Table 1: Significant Impact Threshold*

Intersections		
Pre-Project		With Project v/c Increase
LOS	v/c	
C	0.71 to 0.80	0.04 or more
D	0.81 to 0.90	0.02 or more
E/F	0.91 or more	0.01 or more

(LACPW, Traffic Impact Analysis Report Guidelines, December 2013)

If the LOS analysis determines a significant impact per the v/c increase as outlined in the LACPW guidelines, an analysis will be ran with mitigation measures to improve LOS to acceptable level.

### 1.3 Study Scope

During the development of this TIA, HKA submitted a Memorandum of Understanding (MOU) (Appendix A - Memorandum of Understanding) to the LACPW to coordinate and obtain approval on the scope of the study and identify which intersections would be analyzed.

#### 1.3.1 Study Intersections

The intersections included for analysis as part of this study include the following:

*Table 2: Study Intersections*

Intersections
1. Seragosa St. / I-605 NB On-Ramp / N. Pioneer Blvd.
2. I-605 NB Off-Ramp / N. Pioneer Blvd.
3. N. Pioneer Blvd. / Washington Blvd.
4. Millergrove Dr. / Washington Blvd.
5. Norwalk Blvd. / Washington Blvd.
6. Millergrove Dr. / Washington Blvd. (Frontage Road)
7. Danby Ave. / Project Driveway 1
8. N. Pioneer Blvd. / Project Driveway 2
9. N. Pioneer Blvd. / I-605 NB Off-Ramp

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### 1.3.1 Study Scenarios

This TIA will analyze the following scenarios:

*Table 3: Study Scenarios*

Scenario	Time Frames Analyzed
Existing Year	AM / PM Weekday Peak Hour Saturday Morning Peak Hour
Existing Year + Construction Traffic	AM / PM Weekday Peak Hour
Existing Year + Construction Traffic <b>with Mitigation Measures*</b>	AM / PM Weekday Peak Hour
Existing Year + Project Trips	AM / PM Weekday Peak Hour Saturday Morning Peak Hour
Existing Year + Project Trips <b>with Mitigation Measures*</b>	AM / PM Weekday Peak Hour Saturday Morning Peak Hour
Existing Year + Project Trips + Cumulative Traffic	AM / PM Weekday Peak Hour Saturday Morning Peak Hour
Existing Year + Project Trips + Cumulative Traffic <b>with Mitigation Measures*</b>	AM / PM Weekday Peak Hour Saturday Morning Peak Hour

(Study scenarios based on LACPW, Traffic Impact Analysis Report Guidelines, December 2013 and MOU)

\*If mitigation is deemed necessary by LOS results

A Saturday morning peak hour is included in this analysis due to the proposed project's operation and an existing Saturday swap meet located at the proposed site's location. A further description on proposed site usage and existing site can be found in Section 2.0 - Project Description.

## 2.0 Project Description

The following subsections will describe the existing site and conditions as well as the proposed project.

### 2.1 Existing Site

The existing site of the proposed project is currently a parking lot for Pioneer High School located in the sphere of influence of Whittier, CA in the unincorporated County of Los Angeles. According to school officials during a site visit, the parking lot is rarely utilized during or outside of school hours. The parking lot is located in the northeast corner of the campus and is bordered by Pioneer Boulevard to the west, Washington Boulevard to the north, and Danby Avenue to the east, as shown in *Figure 2: Conceptual Site Plan*.

#### 2.1.1 Parking

On April 23, 2013, Whittier Union High School District submitted a Mitigated Negative Declaration (MND) for the Pioneer High School Stadium Expansion Project. The expansion of the stadium created a deficient supply of 474 parking spaces. As a mitigation measure, a joint use agreement (JUA) was established that provided additional off-site parking spaces at Nelson Elementary School, Los Nietos Middle School, and the First Fundamental Bible Church when needed.

At the time of this analysis, the proposed site plan is currently conceptual and there is no clear conclusion on how many parking spaces will be removed due to the proposed project's



development. Once the amount of parking spaces to be removed is defined, a conclusion on the parking sufficiency or an adjustment to the existing JUA may be determined.

### 2.1.2 Saturday Swap Meet

An existing swap meet takes place in the parking lot of the proposed site on the 2<sup>nd</sup> and 4<sup>th</sup> Saturday of each month. The swap meet operates from 7:00 am - 2:00 pm. According to school officials, the swap meet will be relocated or terminated upon development of proposed project. In order to ensure a conservative assessment of traffic impacts, no project trip credit was applied to this study for the Saturday Morning Peak Hour LOS analysis.

### 2.1.3 Pioneer High School

The proposed aquatic facility will be developed in the most northerly parking lot of Pioneer High School. According to Pioneer High School officials, the vast majority of students either take the bus to school or walk. The existing parking lot site is primarily unutilized by the high school.

#### **School Buses**

A school bus drop off zone exists just south of the northerly parking lot and proposed facility. The drive through for buses is accessible by a driveway along Danby Avenue, which is identified in this study as Intersection 7: Danby Avenue / Project Driveway 1. Buses will be able to access this driveway during construction and when the aquatic facility is developed. The project site is also accessible via a driveway on Pioneer Boulevard which is also identified in this study as Intersection 8: N. Pioneer Boulevard / Driveway 2. This driveway will further accommodate construction traffic as well as project trip traffic when the site is operating.

#### **Pedestrians**

Pioneer High School will remain accessible for pedestrian foot traffic during both the construction phase of the project as well as the operation and maintenance stage. There are various access points for students, staff, and parents along Pioneer Boulevard, Danby Avenue, Ben Avon Street, Miller Grove Drive, and Slauson Avenue. No impact on pedestrian accessibility via foot traffic is anticipated due to this project.

### 2.1.3 Roadway Network

Regional access to the study area is provided by the San Gabriel River Freeway (Interstate 605). The streets included in this study that provide access to the proposed project include Pioneer Boulevard, Miller Grove Drive, Washington Boulevard, Norwalk Boulevard, Danby Avenue, and Saragosa Street.

The following paragraphs provide a brief description of the characteristics of these roadways.

**The San Gabriel River Freeway (Interstate 605)** is located approximately 250 feet west of the proposed project. It runs north-south generally parallel to and west of Pioneer Boulevard and has on/off ramps on Washington Boulevard, Slauson Avenue, Saragosa Street and Pioneer Boulevard.

**Pioneer Boulevard** is a four-lane north-south street that abuts the west side of the school campus. It intersects with Washington Boulevard at the most northerly corner of the campus. Two existing school access driveways are located on Pioneer Boulevard, one of which will provide access to the proposed site and is included in this analysis. The I-605 has an off-ramp and an on-ramp that

intersect with Pioneer Boulevard across from the school site. The speed limit on Pioneer Boulevard is 35 miles per hour.

**Millergrove Drive** is a two-lane north-south street that abuts the east side of the school campus. It intersects with Slauson Avenue at the southeast corner of the campus adjacent to the stadium and an existing school access driveway is located on Millergrove that provides access to a parking lot at the northeast corner of the school campus. The speed limit on Millergrove Drive is 25 miles per hour.

**Washington Boulevard** is a four to six lane east-west street that abuts the north side of the school campus. It has six lanes near the school site and narrows to four lanes east of Norwalk Boulevard and west of the I-605 freeway. The speed limit on Washington Boulevard is 40 miles per hour.

**Norwalk Boulevard** is a four-lane north-south street located approximately one-half mile east of the school campus. The speed limit on Norwalk Boulevard is 45 miles per hour north of Washington Boulevard, 40 miles per hour between Washington Boulevard and Slauson Avenue, and 30 miles per hour south of Slauson Avenue.

**Danby Avenue / Washington Boulevard (Frontage Road)** is a two-lane north-south which also converts to an east-west street that provides a link between Washington Boulevard and the school campus. Vehicles can turn onto Danby Avenue from eastbound Washington Boulevard and access two driveways on Danby Avenue that provide access to the school's north parking lot. The most northerly driveway will provide access to the project site and is included in this analysis. The speed limit on Danby Avenue is 25 miles per hour.

**Saragosa Street** is a 4-lane east-west located between the intersection of Pioneer Boulevard, I-605 Southbound / Northbound On-Ramp and Norwalk Boulevard. It is located approximately a third of a mile from the project site. The speed limit on Saragosa Street is 25 miles per hour.

#### 2.1.4 Intersection Control Type and Lane Configurations

The following table is a summary of the existing traffic control features at each study intersection.

*Table 4: Existing Traffic Control at Study Intersections*

Intersection	Existing Traffic Control
1. Seragosa St. / I-605 NB On-Ramp / N. Pioneer Blvd.	All-Way Stop Control
2. I-605 NB Off-Ramp / N. Pioneer Blvd.	One-Way Stop Control (I-605 NB Off-Ramp)
3. N. Pioneer Blvd. / Washington Blvd.	Traffic Signal
4. Millergrove Dr. / Washington Blvd.	Traffic Signal
5. Norwalk Blvd. / Washington Blvd.	Traffic Signal
6. Millergrove Dr. / Washington Blvd. (Frontage Road)	All-Way Stop Control
7. Danby Ave. / Project Driveway 1	One-Way Stop Control (Project Driveway)
8. N. Pioneer Blvd. / Project Driveway 2	One-Way Stop Control (Project Driveway)
9. N. Pioneer Blvd. / I-605 NB Off-Ramp	One-Way Stop Control (I-605 NB Off-Ramp)

### 2.1.5 Public Bus Transit

Public bus transit service within the project study vicinity is currently provided by Los Angeles County Metropolitan Transit Authority (Metro), Norwalk Transit, and Montebello Bus Lines. The only transit line identified to have a route along the project study intersections is the **M50 - Montebello Line 50** which operates along Washington Boulevard between study intersections with Norwalk Boulevard and N. Pioneer Boulevard. Just outside of the project study area is the **NT001 - Norwalk Transit Line** which operates along Pioneer Boulevard just south of Slauson Avenue.

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# Existing Intersection Lane Configurations and Traffic Control

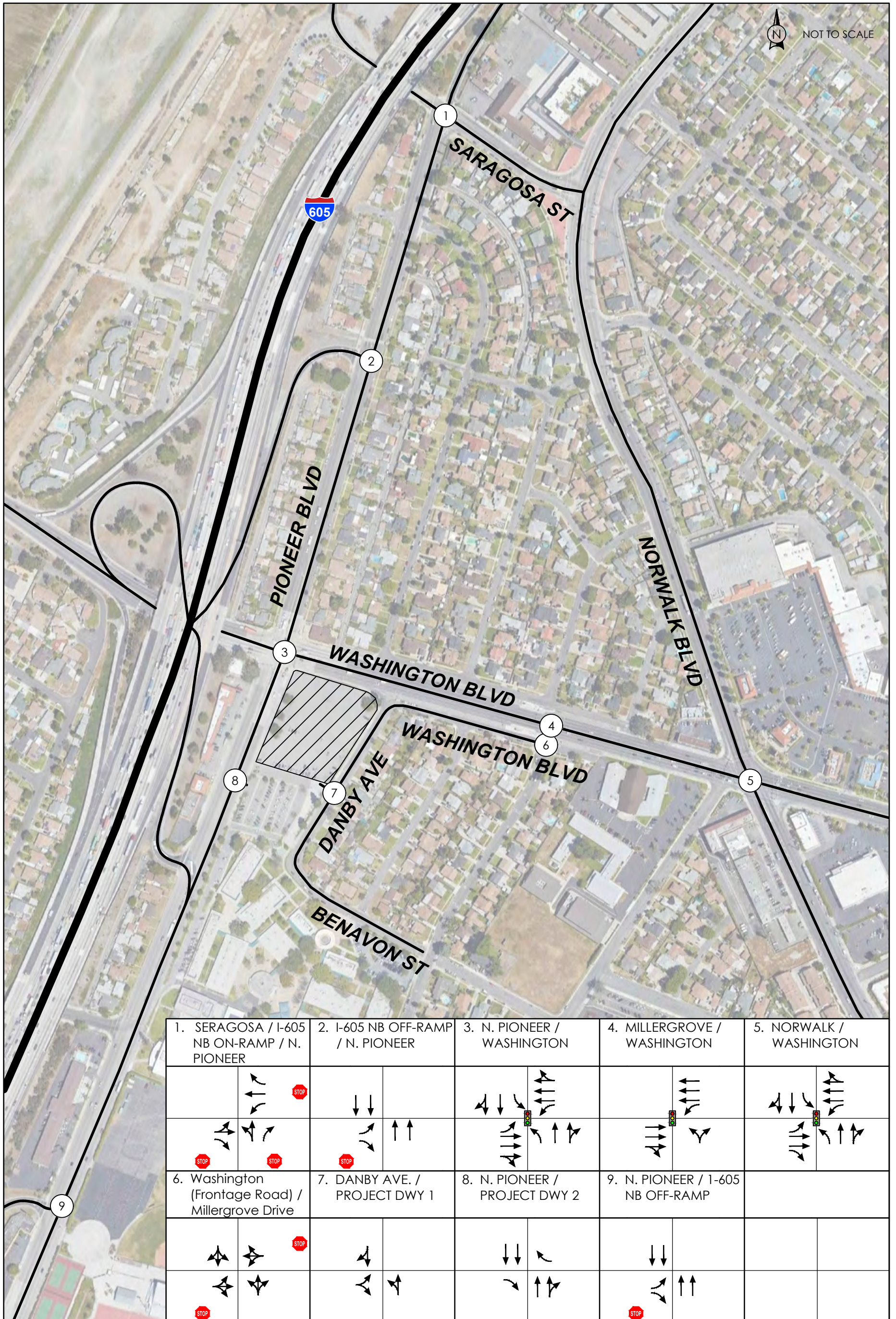


Figure 1

## 2.2 Proposed Project

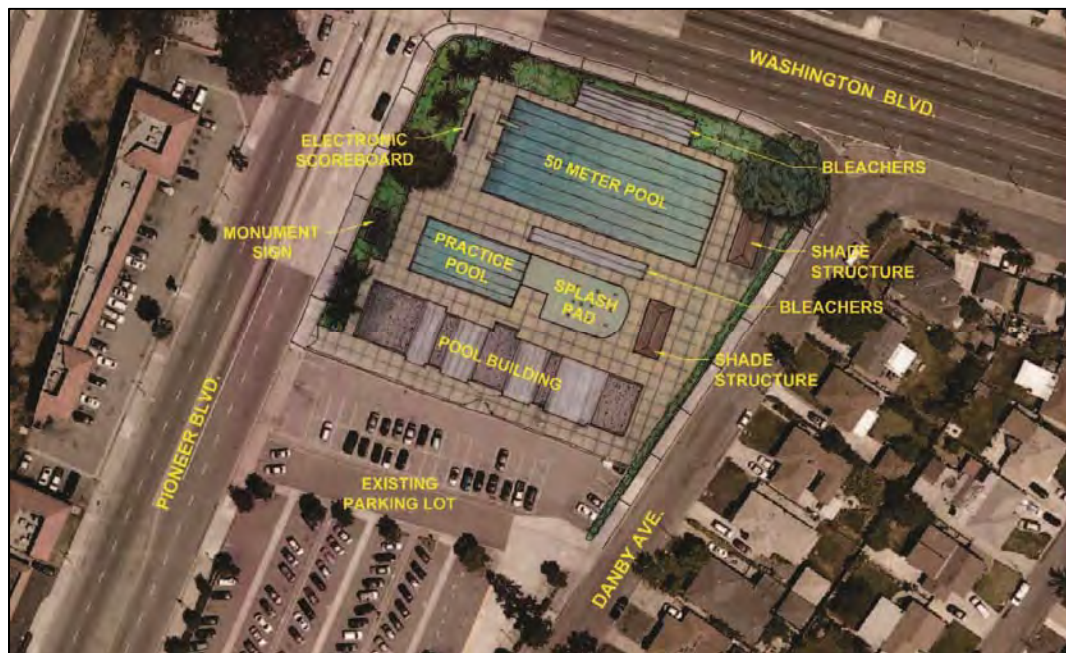
The proposed project consists of the construction of a new aquatics facility which would include the following:

- a pool building with offices, classrooms, restrooms and storage (approximately 10,000 SF)
- an Olympic-size 50-meter by 25-yard competitive swimming pool
- a 25-meter by 25-yard practice pool; and related improvements

The proposed programs would include various water exercises, recreational swimming, swim lessons, junior lifeguard training, synchronized swimming, water polo, and diving. The Olympic-size competition pool would also provide a venue for master swim teams and would be certified for hosting official swimming competitions and water polo events.

At the time of this study, the site plan is at a conceptual stage.

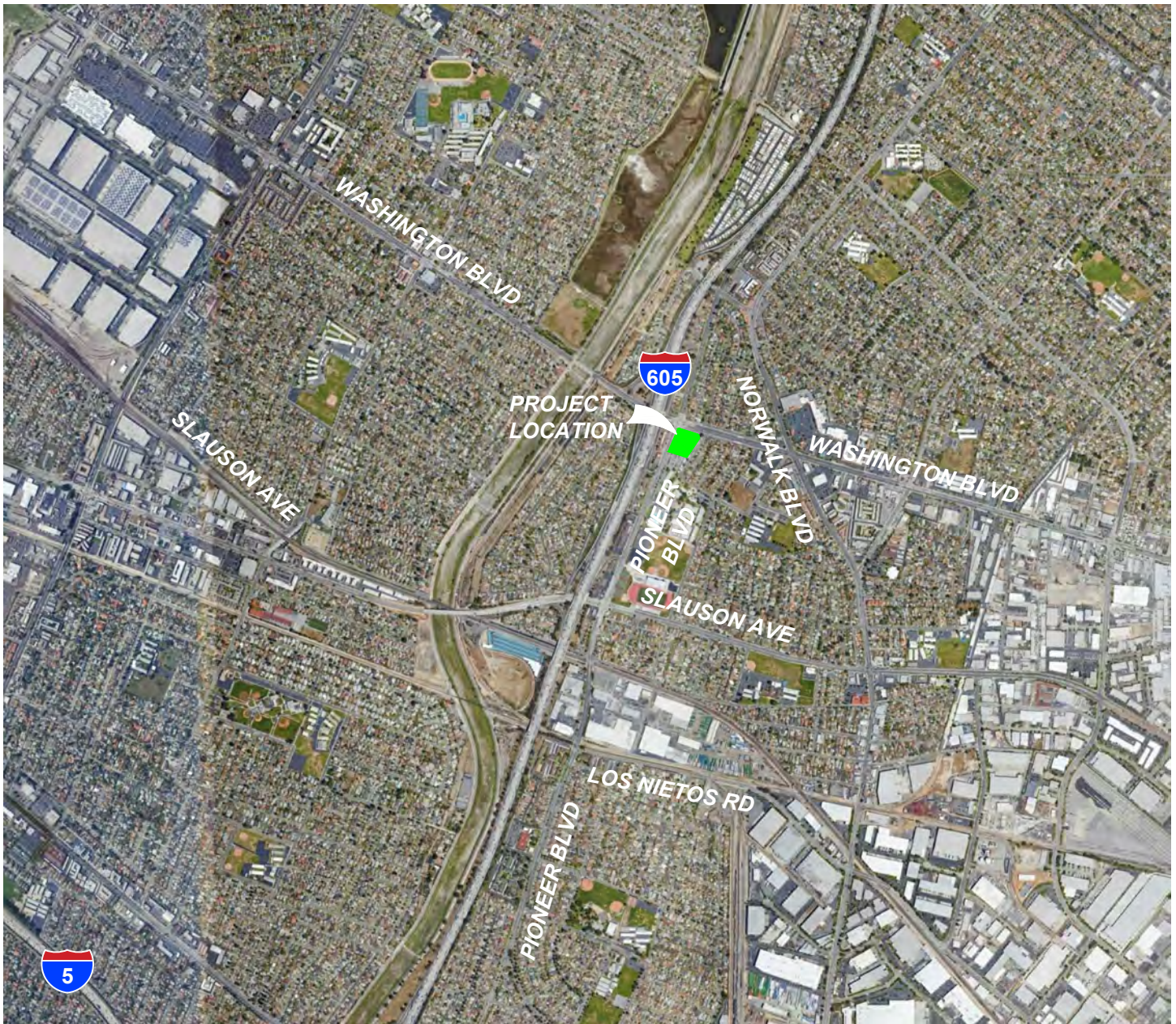
*Figure 2: Conceptual Site Plan*



(Appendix B - Whittier Aquatics Facility Program, June 2018)

A project vicinity map is included on the following page.

# VICINITY MAP



## LEGEND

 PROJECT BOUNDARY

Figure 3



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### 2.2.1 Construction Activity

Construction of the proposed site will include the following schedule and assigned construction laborers.

*Table 5: Construction Schedule and Work Load*

Construction Activity	Total Days	Worker	Vendor	Hauling
Demolition / Grading	33	10	2	124
Building Pad	33	8	2	50
Footings	55	5	1	8
Superstructure	66	8	1	25
Building Construction	220	8	2	25
Pool Excavation	44	8	1	1,000
Pool Construction	121	8	1	24
Paving	10	15	0	40
Architectural Coating	20	2	0	0
		<b>/day</b>	<b>/day</b>	<b>Total</b>

(Construction data obtained from Aspen Environmental Group and LACPW)

According to LACPW and Aspen Environmental Group, there will be construction overlap during the pool excavation phase and the building construction phase. This overlap period will represent the worst-case day for construction traffic impacts and be the scenario analyzed in this study. The following table includes the worst-case scenario for construction activities.

The proposed project site will also serve as the staging yard during the construction stage. Therefore there is no anticipated construction traffic due to equipment being transported from a staging yard to the construction site.

*Table 6: Worst-Case Construction Traffic*

Construction Activity	Worker	Vendor	Hauling*
Demolition / Grading	16 round trips	2 round trips	24 round trips
	<b>/day</b>	<b>/day</b>	<b>/day</b>

\*Hauling trips converted to passenger car equivalent (PCE) for analysis

This analysis will assume that worker and vendor trips to the construction site will occur during the AM and PM Peak Hour. Hauling trips will be distributed equally throughout a typical 8-hour work day. Hauling trips per hour will then be applied to both the AM and PM Peak Hour to ensure a conservative analysis.

### 2.2.2 Operation and Maintenance (O&M)

The proposed project is intended to be open for the public. Operation hours will be:

*Table 7: Proposed Project Hours of Operation*

	Hours of Operation
Monday - Friday	6 am - 10 pm
Saturday - Sunday	7 am - 9 pm

Facility is expected to operate year around and will be closed for major holidays.

The following table provides a breakdown of the number of staff on site throughout a typical workday.

*Table 8: Staff Schedule Typical Workday*

<b>Staff</b>	<b>Schedule</b>
4 Lifeguards 2 Locker Room Attendants 1 Cashier 1 Supervisor	5:30 am - 6:00 am
4 Lifeguards 2 Locker Room Attendants 1 Cashier 1 Supervisor	6:00 am - 8:00 am
7 Lifeguards 2 Locker Room Attendants 1 Cashier 1 Supervisor	8:00 am - 12:00 pm
10 Lifeguards 2 Locker Room Attendants 1 Cashier 1 Senior Pool Lifeguard 1 Supervisor	12:30 pm - 3:00 pm
7 Lifeguards 2 Locker Room Attendants 1 Cashier 1 Supervisor	3:00 pm - 6:00 pm
7 Lifeguards 2 Locker Room Attendants 1 Cashier 1 Supervisor	6:00 pm - 8:00 pm
Special Programming (ie. master teams, scuba diving, etc.)	8:00 pm - 10:00 pm

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### 3.0 Project Traffic and Trip Distribution

#### 3.1 Project Construction Trip Generation

To analyze the peak hour conditions during construction, this study considers the worst-case scenario of construction activity as described in “Section 2.2.1 Construction Activity”.

*Table 9: Project Construction Trip Generation*

	Daily Trips	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Worker Vehicles	32	16	0	16	0	16	16
Vendor Vehicles	4	1	1	2	1	1	2
Hauling Trucks	48	3	3	6	3	3	6
Total	84	20	4	24	4	20	24
<b>Total (Applying PCE factor of 2.0 for 3-axle Hauling Trucks)</b>	<b>132</b>	<b>23</b>	<b>7</b>	<b>30</b>	<b>7</b>	<b>23</b>	<b>30</b>

This analysis will apply a passenger car equivalent (PCE) to hauling trucks of 2.0 based on 3-axle trucks.

#### 3.2 Project O&M Trip Generation

Project trip generation represents the amount of traffic which is both attracted to and produced by a development. Determining traffic generation for a specific project is therefore based upon forecasting the amount of traffic is expected to be both attracted to and produced by the specific land uses being proposed for a given development.

The vehicle trip generation for the proposed project was developed using rates from the Institute of Transportation Engineers (ITE) Trip Generation (10th Edition) for the various land uses shown in the table on the following page.

The ITE does not include a usage specific to a water aquatic facility. The intended usage of the site and the description of the “Recreational Community Center - Code 495” in the ITE are the most compatible for the purposes of this study and were approved under the MOU. Under the description for “Recreational Community Center - Code 495” in the ITE, swimming pools are included.

*Table 10: Project O&M Trip Generation Weekday*

Land Use	Size	Units	ADT	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Recreational Community Center, ITE 495	28.5	TSF	821	33	17	50	31	35	66

(ITE Trip Generation, 10<sup>th</sup> Edition)

Table 11: Project O&M Trip Generation Saturday

Land Use	Size	Units	ADT	Saturday Peak Hour		
				In	Out	Total
Recreational Community Center, ITE 495	28.5	TSF	259	16	14	30

(ITE Trip Generation, 10<sup>th</sup> Edition)

### 3.3 Project Construction and O&M Trip Distribution

The directional trip distribution patterns for the project are presented in Figure 4. Project O&M and construction traffic volumes and construct, both entering and exiting the site, have been distributed and assigned to the adjacent street system based on the following considerations:

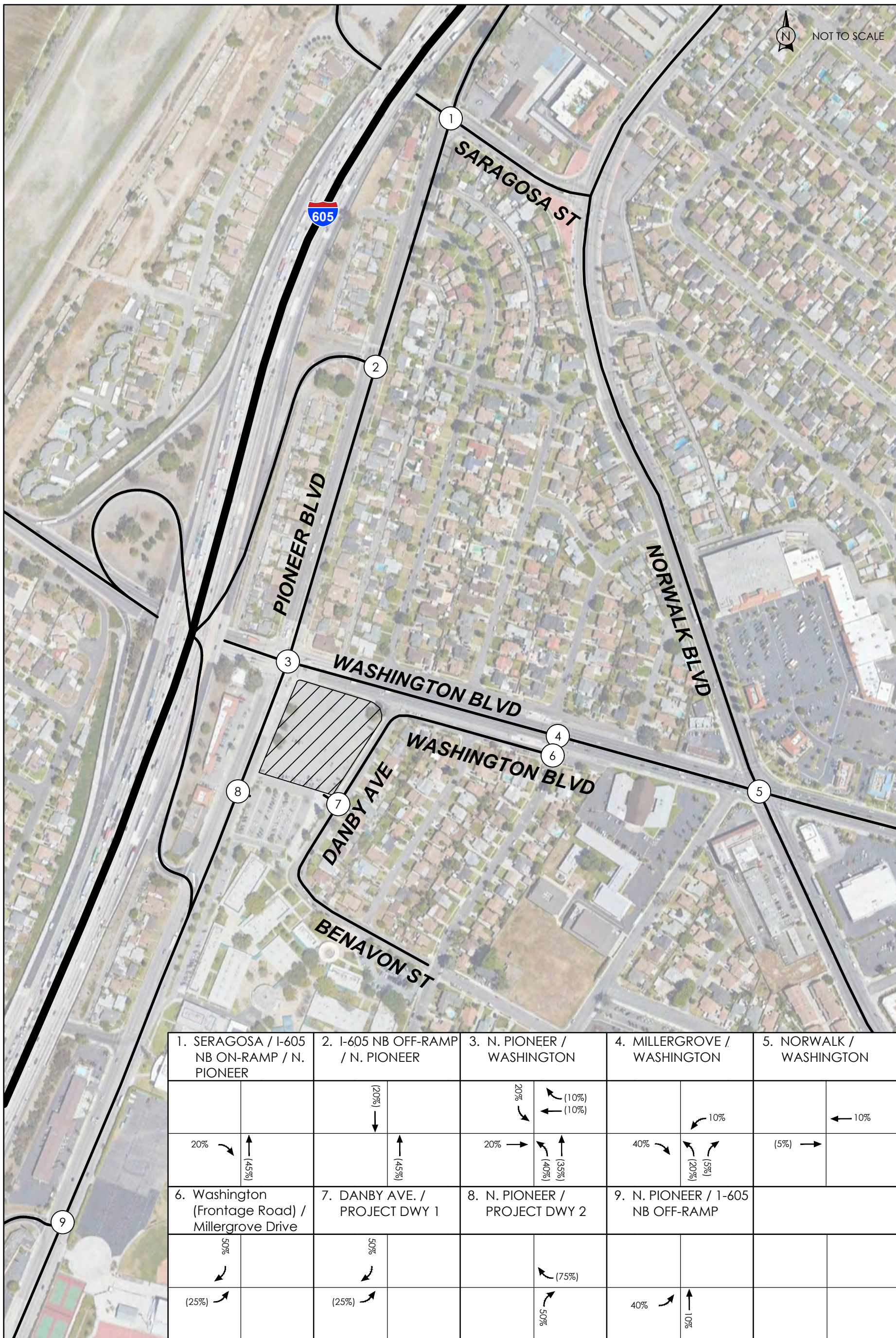
- the site’s proximity to the I-605
- expected localized traffic flow patterns based on adjacent street channelization and presence of traffic signals,
- traffic carrying capacity and travel speed available on roadways serving the project site,
- existing intersection traffic volumes, and
- ingress / egress availability at the project site.

During the development of this TIA, HKA submitted a Memorandum of Understanding (MOU) (Appendix A - Memorandum of Understanding) to the LACPW. In this MOU the trip distribution for both the construction and O&M project trips were identified to be the same. The majority of trips are distributed towards major intersections and primarily the I-605.

Trip distribution, construction trip assignment, and O&M trip assignment exhibits can be found on the following pages.

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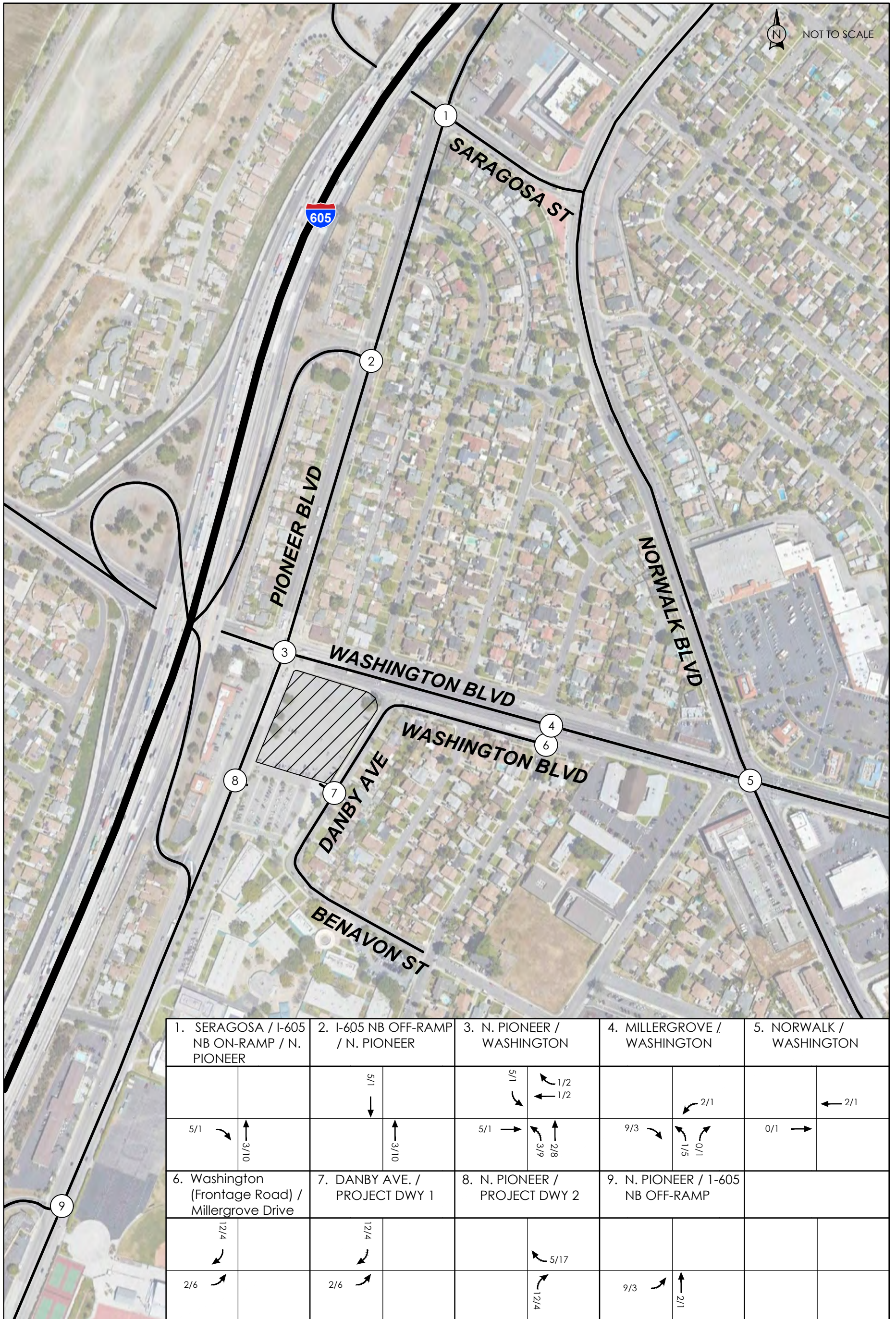
# Project Construction and O&M Trip Distribution



XX%(YY%) Inbound%(Outbound%) Distribution

Figure 4

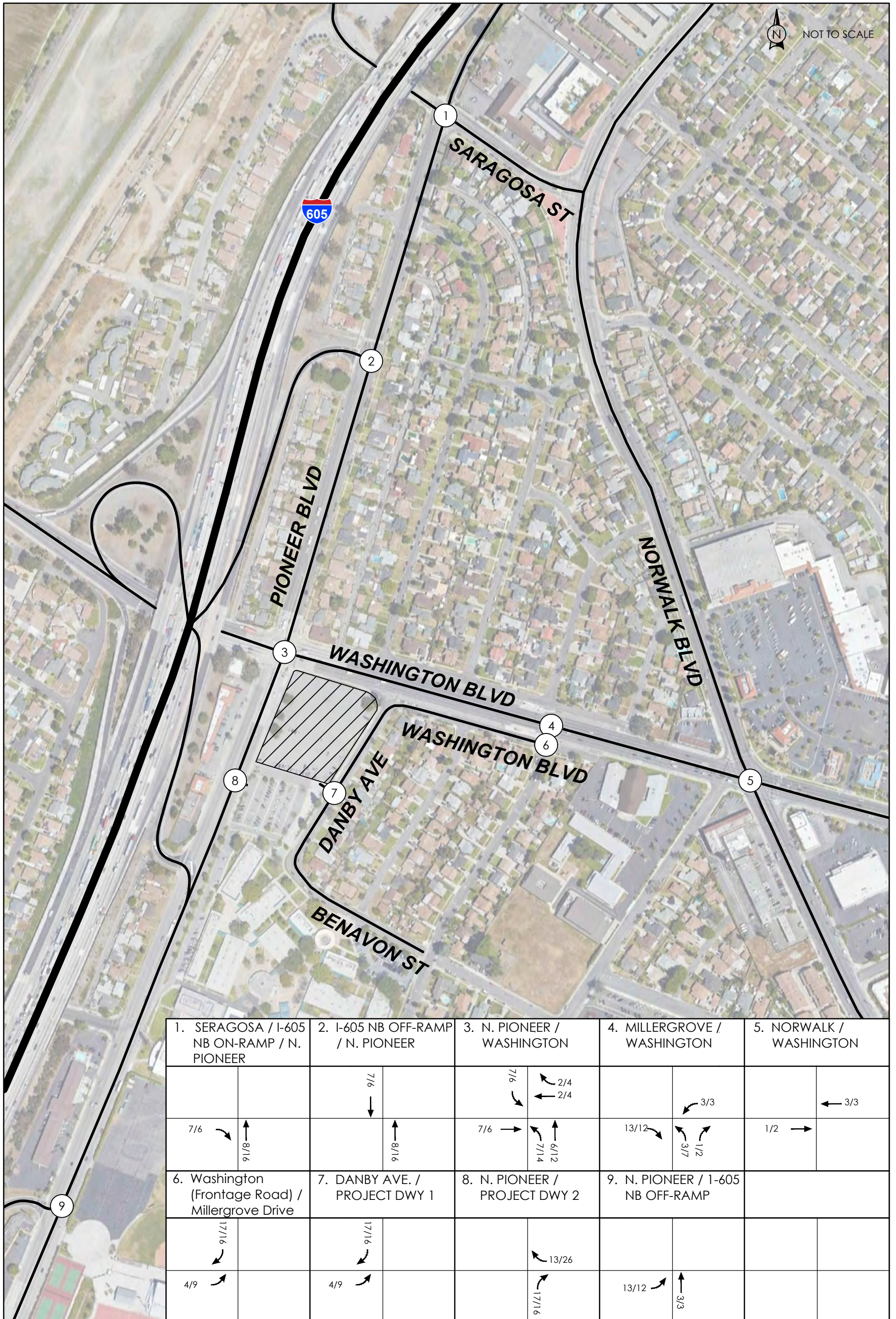
# Project Construction Trip Assignment



XX/YY (AM/PM)

Figure 5

# Project O&M Weekday AM/PM Peak Hour Trip Assignment



XX/YY (AM/PM)

Figure 6

# Project O&M Saturday AM Peak Hour Trip Assignment

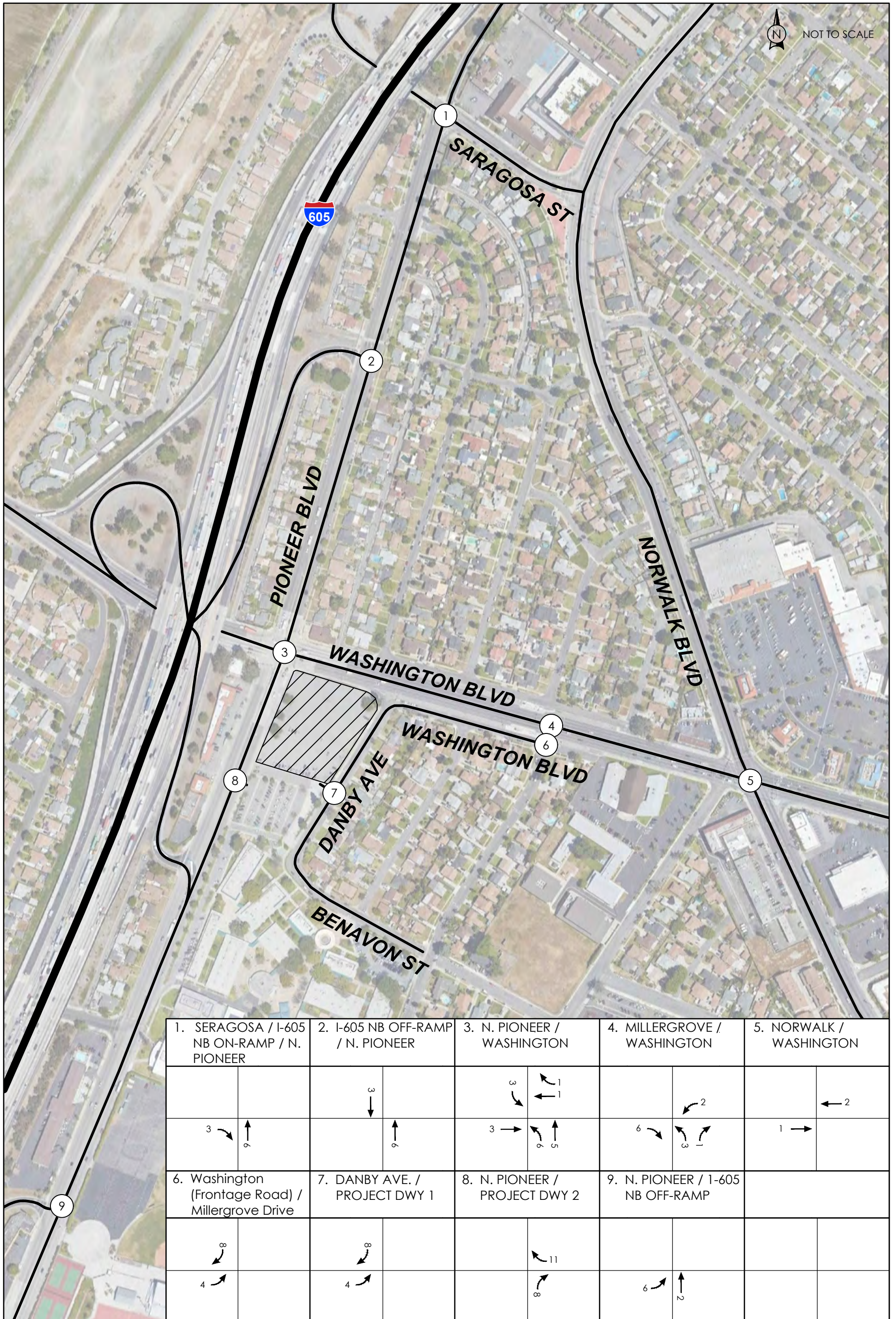


Figure 7

## 4.0 Cumulative Projects

While the project site is located in the unincorporated area of Los Angeles County, it is within the sphere of influence of other jurisdictions.

The following agencies were contacted to gather data on other projects in development or scheduled for development that would impact study intersections:

- County of Los Angeles
- City of Pico Rivera
- City of Whittier

The area surrounding the proposed aquatic center is densely developed and heavily populated with housing, retail centers, and various options for major arterial roadways in all directions including close proximity to both the I-605 and I-5 freeways. Therefore cumulative trips were distributed uniformly to account for the various points of interest and commuting options available to motorists in the area.

### 4.1 County of Los Angeles

On-going projects within the County's jurisdiction were found to not be significant enough to include in the cumulative analysis for this study. The majority of the projects included architectural improvements to existing businesses as well as private residential improvements to existing housing. New commercial developments were classified as completed in the project list obtained from the County. Therefore no County jurisdiction cumulative projects were included in this study.

### 4.2 City of Pico Rivera

The City of Pico Rivera provided the following six (6) projects within a 5 mile radius of the proposed aquatic facility. Three (3) of the developments are residential properties. However, these properties are in a different school zone than Pioneer High School. The remaining three (3) projects are for industrial buildings / warehouses.

Based on the usages of the cumulative projects provided by Pico Rivera, the trips to the study intersections are anticipated to be minimal. For the industrial developments, it is assumed that most trucking trips will commute to either the I-605 or I-5 freeway at on- and off-ramps outside of the scope of this study and therefore these developments were not considered for this study.

For the residential developments, this study will assume that 5 - 10% of the trips generated for each will commute to the proposed water recreational facility and / or surrounding commercial area along Washington and/or Pioneer Boulevard. Those trips have been distributed to the study intersections accordingly.

10% of the Burke Site, Single Family Homes have been assigned to the intersection of Slauson Avenue and Pioneer Boulevard where trips will then be distributed accordingly.

For both Townhome Developments I and II, based on the vicinity to the proposed aquatic center as well as the small size of the two developments, both did not impact study intersections when a 5% trip distribution was applied.

### 4.3 City of Whittier

The City of Whittier identified The Grove development as a project that would impact the study intersections of this analysis. The 75-acre mixed use development is anticipated to be fully constructed by 2020 according to the City's planning department. Construction is currently underway for all facets of the development.

The development is located at 11850 Whittier Boulevard Whittier, CA. The development includes the construction of 561 homes, 189 apartments units, and 150,000 square feet of retail and restaurant space.

This study assumes 10% of these cumulative trips will travel to the intersection of Washington Boulevard and Whittier Boulevard with one third of these trips distributed to travel west of the intersection along Washington Boulevard in the vicinity of the proposed aquatic facility.

### 4.4 Cumulative Project Trips

Tables 12 and 13 list the cumulative trips assigned per the assumptions above for both the weekday peak hours and Saturday peak hour, respectively, for each cumulative project. Figures 8a and 8b show the locations of the cumulative projects in relation to the proposed aquatic facility as well as the trip assignment at study intersections.

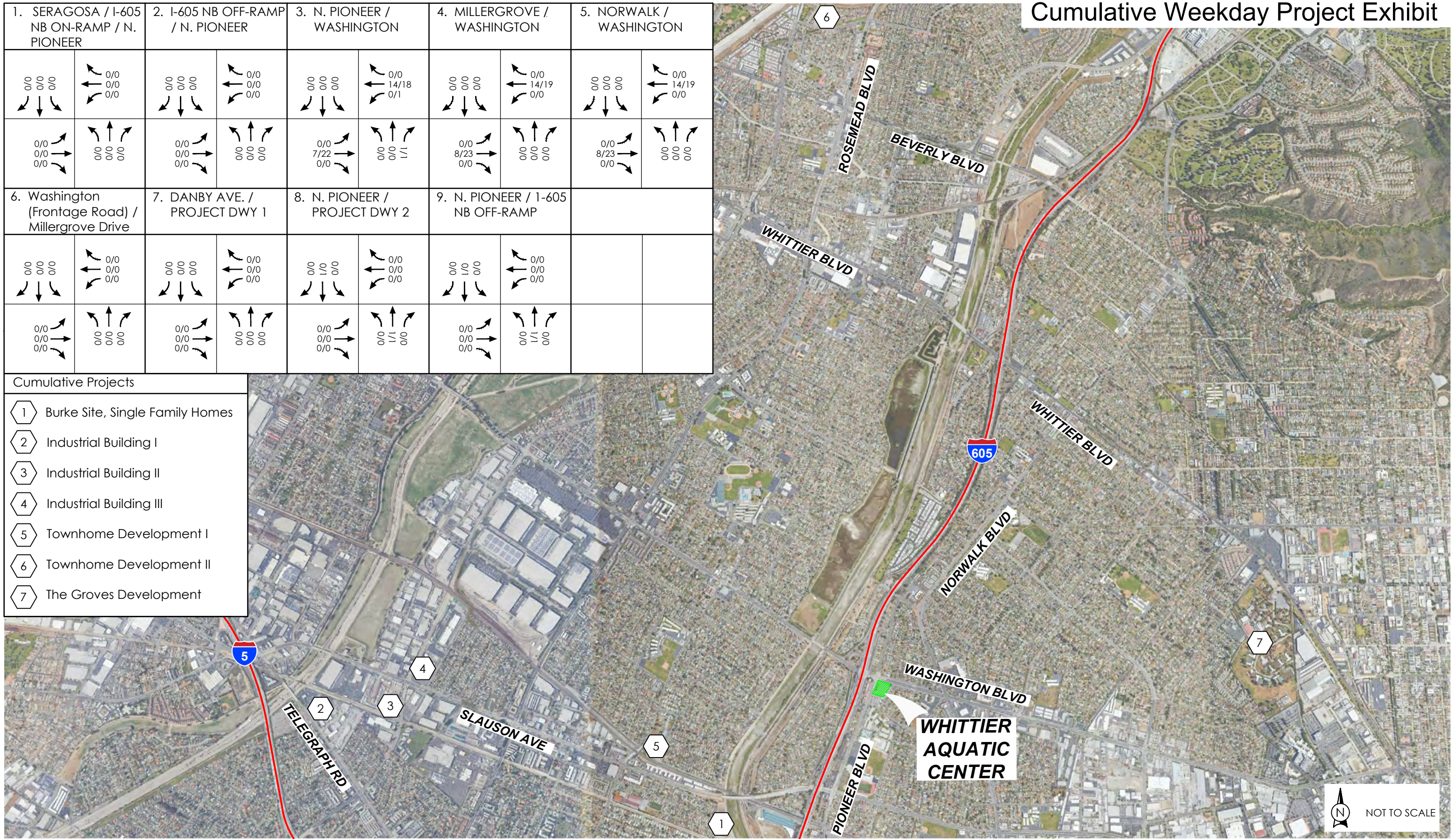
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# Cumulative Weekday Project Exhibit

1. SERAGOSA / I-605 NB ON-RAMP / N. PIONEER	2. I-605 NB OFF-RAMP / N. PIONEER	3. N. PIONEER / WASHINGTON	4. MILLERGROVE / WASHINGTON	5. NORWALK / WASHINGTON
6. Washington (Frontage Road) / Millergrove Drive	7. DANBY AVE. / PROJECT DWY 1	8. N. PIONEER / PROJECT DWY 2	9. N. PIONEER / I-605 NB OFF-RAMP	

- Cumulative Projects
- 1 Burke Site, Single Family Homes
  - 2 Industrial Building I
  - 3 Industrial Building II
  - 4 Industrial Building III
  - 5 Townhome Development I
  - 6 Townhome Development II
  - 7 The Groves Development



XX/YY (AM/PM)

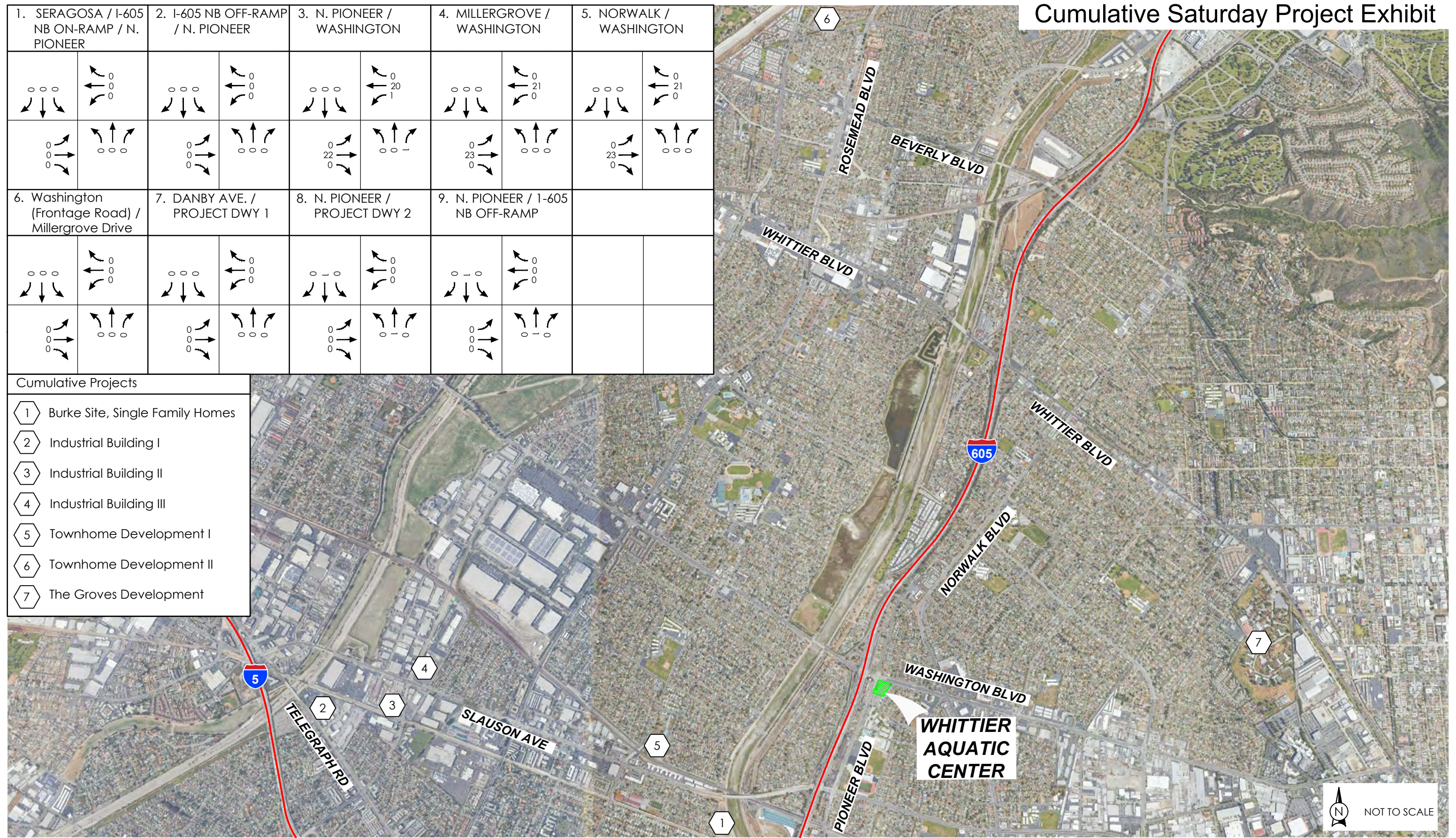
\* SEE CUMULATIVE PROJECT TRIP GENERATION TABLE FOR PROJECT DESCRIPTIONS

Figure 8a

# Cumulative Saturday Project Exhibit

1. SERAGOSA / I-605 NB ON-RAMP / N. PIONEER	2. I-605 NB OFF-RAMP / N. PIONEER	3. N. PIONEER / WASHINGTON	4. MILLERGROVE / WASHINGTON	5. NORWALK / WASHINGTON
6. Washington (Frontage Road) / Millergrove Drive	7. DANBY AVE. / PROJECT DWY 1	8. N. PIONEER / PROJECT DWY 2	9. N. PIONEER / I-605 NB OFF-RAMP	

- Cumulative Projects
- 1 Burke Site, Single Family Homes
  - 2 Industrial Building I
  - 3 Industrial Building II
  - 4 Industrial Building III
  - 5 Townhome Development I
  - 6 Townhome Development II
  - 7 The Groves Development



\* SEE CUMULATIVE PROJECT TRIP GENERATION TABLE FOR PROJECT DESCRIPTIONS

Figure 8b

Table 12: Cumulative Project Trip Generation Weekday

Land Use	Location	Size	Units	ADT	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
<b>City of Pico Rivera<sup>1</sup></b>										
1. Burke Site, Single Family Homes,	APN 6384-004-900 Pico Rivera, CA	18	DU	170	3	10	13	11	7	18
<b>10% factor</b>				<b>17</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>
2. Industrial Building I	7875 Telegraph Rd. Pico Rivera, CA									
<b>Not Included</b>										
3. Industrial Building II	7919 Paramount Blvd. and 8448 Slauson Ave. Pico Rivera, CA									
<b>Not Included</b>										
4. Industrial Building III	7860 Paramount Blvd. Pico Rivera, CA									
<b>Not Included</b>										
5. Townhome Development I	7650 Passons Blvd. Pico Rivera, CA	36	DU	196	3	10	13	10	6	16
<b>5% factor / Not Included</b>				<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
6. Townhome Development II	8813 Gallatin Rd. Pico Rivera, CA	9	DU	49	1	2	3	2	2	4
<b>5% factor / Not Included</b>				<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>City of Whittier<sup>1</sup></b>										
7. The Groves, Single Family Housing	11850 Whittier Blvd. Whittier, CA	561	DU	5,296	104	311	415	350	205	555
<b>10% factor</b>				<b>530</b>	<b>10</b>	<b>31</b>	<b>41</b>	<b>35</b>	<b>20</b>	<b>55</b>
Apartment Units		189	DU	1,028	18	50	68	51	32	83
<b>10% factor</b>				<b>103</b>	<b>2</b>	<b>5</b>	<b>7</b>	<b>5</b>	<b>3</b>	<b>8</b>
Mixed Commercial		150	GLA	1,866	37	23	60	29	34	63
<b>10% factor</b>				<b>566</b>	<b>9</b>	<b>5</b>	<b>14</b>	<b>27</b>	<b>30</b>	<b>57</b>

<sup>1</sup>Trip generation based on ITE Trip Generation Manual 10<sup>th</sup> Edition

Table 13: Cumulative Project Trip Generation Saturday Peak Hour

Land Use	Location	Size	Units	ADT	Saturday Peak Hour		
					In	Out	Total
<b>City of Pico Rivera<sup>1</sup></b>							
1. Burke Site, Single Family Homes, <b>10% factor</b>	APN 6384-004-900 Pico Rivera, CA	18	DU	172	9	8	17
				<b>17</b>	<b>1</b>	<b>1</b>	<b>2</b>
2. Industrial Building I <b>Not Included</b>	7875 Telegraph Rd. Pico Rivera, CA						
3. Industrial Building II <b>Not Included</b>	7919 Paramount Blvd. and 8448 Slauson Ave. Pico Rivera, CA						
4. Industrial Building III <b>Not Included</b>	7860 Paramount Blvd. Pico Rivera, CA						
5. Townhome Development I <b>5% factor / Not Included</b>	7650 Passons Blvd. Pico Rivera, CA	36	DU	177	8	8	16
				<b>9</b>	<b>0</b>	<b>0</b>	<b>0</b>
6. Townhome Development II <b>5% factor / Not Included</b>	8813 Gallatin Rd. Pico Rivera, CA	9	DU	44	2	2	4
				<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>City of Whittier<sup>1</sup></b>							
7. The Groves, Single Family Housing <b>10% factor</b>	11850 Whittier Blvd. Whittier, CA	561	DU	5,352	282	240	522
				<b>535</b>	<b>28</b>	<b>24</b>	<b>52</b>
Apartment Units <b>10% factor</b>		189	DU	928	41	42	83
				<b>93</b>	<b>4</b>	<b>4</b>	<b>8</b>
Mixed Commercial <sup>2</sup> <b>10% factor</b>		150	GLA	6,918	351	324	675
				<b>692</b>	<b>35</b>	<b>32</b>	<b>67</b>

<sup>1</sup>Trip generation based on ITE Trip Generation Manual 10<sup>th</sup> Edition

## 5.0 Level of Service Analysis

The following section will analyze the level of service (LOS) for the intersections identified in the study, as described in Table 2 of this study in *Section 1.3 Study Scope*.

These intersections include the following:

1. Seragosa St. / I-605 NB On-Ramp / N. Pioneer Blvd.
2. I-605 NB Off-Ramp / N. Pioneer Blvd.
3. N. Pioneer Blvd. / Washington Blvd.
4. Millergrove Dr. / Washington Blvd.
5. Norwalk Blvd. / Washington Blvd.
6. Millergrove Dr. / Washington Blvd. (Frontage Road)
7. Danby Ave. / Project Driveway 1
8. N. Pioneer Blvd. / Project Driveway 2
9. N. Pioneer Blvd. / I-605 NB Off-Ramp

LOS is based on the ICU Method as outlined in the County Guidelines to determine intersections' functionality to determine traffic flow. Significant impact thresholds are based on the parameters as listed in Table 1 and derived from the County Guidelines.

Study scenarios to be analyzed include the following:

*Table 14: Study Scenarios*

Scenario	Time Frames Analyzed
Existing Year	AM / PM Weekday Peak Hour Saturday AM Peak Hour
Existing Year + Construction Traffic	AM / PM Weekday Peak Hour
Existing Year + Project Trips	AM / PM Weekday Peak Hour Saturday AM Peak Hour
Existing Year + Project Trips + Cumulative Traffic	AM / PM Weekday Peak Hour Saturday AM Peak Hour

(Study scenarios based on LACPW, Traffic Impact Analysis Report Guidelines, December 2013 and MOU)

\*If mitigation is deemed necessary by LOS results

If mitigation is required, an appropriate mitigation measure will be assigned to the intersection and a new LOS Analysis will be run to determine an improved LOS. LOS is based on the ICU Method as outlined in the County Guidelines to determine intersections' functionality to determine traffic flow.

### 5.1 Existing Year

#### 5.1.1 Traffic Counts

Existing traffic counts were taken at each study intersection for both a typical weekday and a typical Saturday morning. Weekday AM / PM Peak Hour turning movement counts were taken on Thursday, May 9, 2019 while Saturday AM Peak Hour turning movement counts were taken on May 11, 2019. Weekday AM Peak Hour counts were conducted between 7:00 AM to 9:00 AM while Weekday PM Peak Hour counts were conducted between 4:00 PM to 6:00 PM. Saturday AM Peak Hour counts were taken between 8:00 AM to 12:00 PM. Traffic count data for each study intersection can be found in Appendix C.

### 5.1.2 Existing Year LOS

The existing year LOS and v/c for each corresponding intersection serves as the baseline for determining significant impacts for the subsequent study scenarios and determining which intersections will require mitigation. Existing Weekday Peak Hour and Saturday AM Peak Hour Turning Movements are shown in Figures 9 and 10, respectively. As indicated in Table 15, all study intersections operate at LOS D or better during weekday AM/PM Peak Hour and Saturday AM Peak Hours under existing conditions.

### 5.2 Existing + Construction Traffic

This scenario combines the existing peak hour traffic volume counts with the construction trip generation as described in *Figure 5* in *Section 3.1* of this study. Saturday analysis is not considered for this scenario as construction is assumed to not take place during weekends. Existing + Construction Weekday Peak Hour Turning Movements can be found in *Figure 11*. As indicated in Table 15, all study intersections operate at LOS D or better during weekday AM/PM Peak Hour under this scenario. The v/c ratio does not increase by more than 0.01 at any study intersection from the existing baseline conditions and therefore no significant impacts occur.

### 5.3 Existing + Project O&M Trips

This scenario combines the existing peak hour traffic volume counts with the project operation and maintenance trip generation as described in *Section 4* and *Figure 6* and *Figure 7* of this study. Existing + Project O&M Weekday Peak Hour and Existing + Project O&M Saturday AM Peak Hour Turning Movements are shown in Figures 12 and 13, respectively. As indicated in Table 15, all study intersections operate at LOS D or better during weekday AM/PM Peak Hour and Saturday AM Peak Hours under this scenario. The v/c ratio does not increase by more than 0.01 at any study intersection from the existing baseline conditions and therefore no significant impacts occur.

### 5.4 Existing + Project + Cumulative Trips

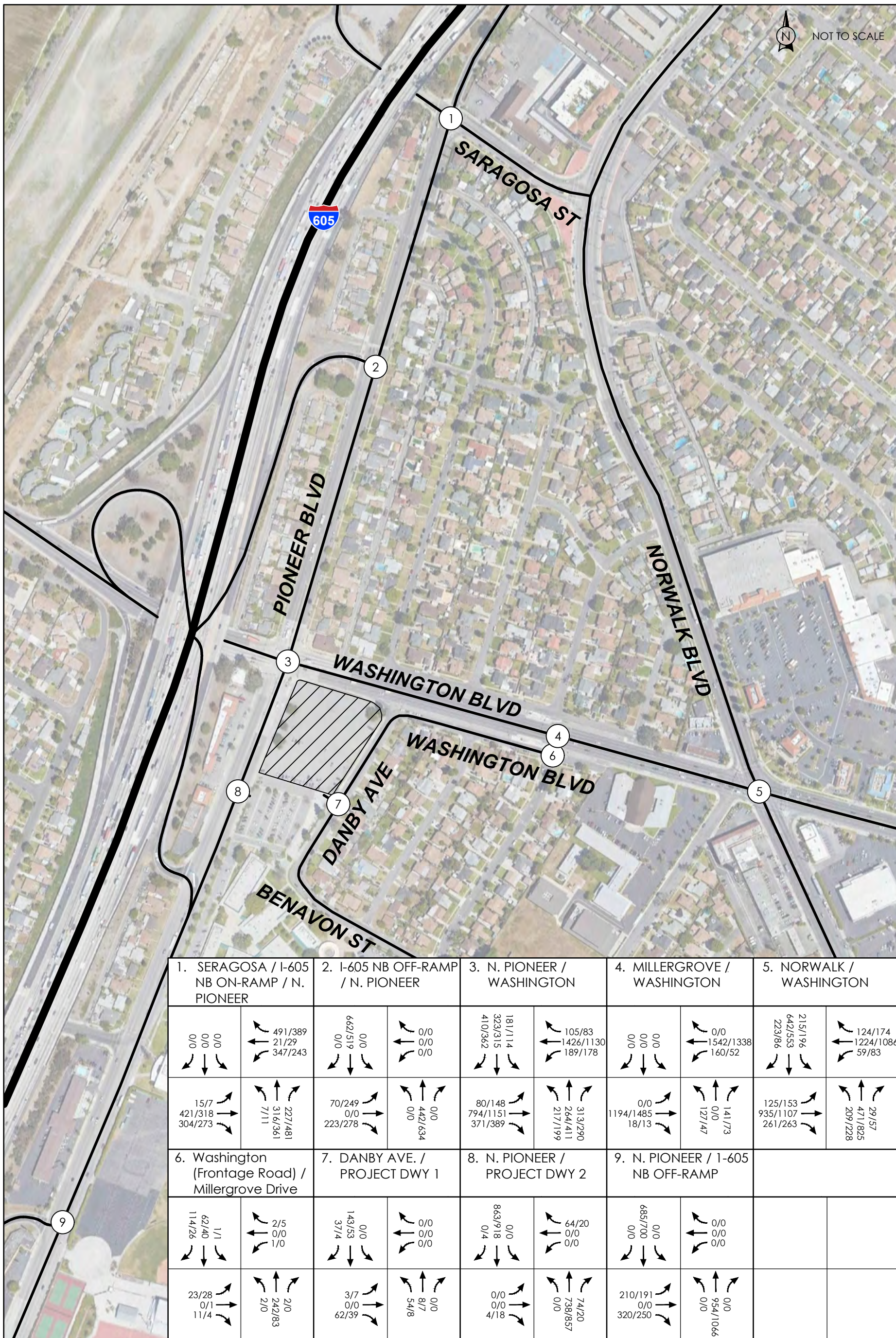
This scenario combines the existing peak hour traffic volume counts with the project operation and maintenance trip generation and the cumulative projects as described in *Section 3.2* and *Figure 8* of this study. Existing + Project + Cumulative Weekday Peak Hour and Existing + Project + Cumulative Saturday AM Peak Hour Turning Movements are shown in Figures 14 and 15, respectively. As indicated in Table 15, all study intersections operate at LOS D or better during weekday AM/PM Peak Hour and Saturday AM Peak Hours under this scenario. The v/c ratio does not increase by more than 0.01 at any study intersection from the existing baseline conditions and therefore no significant impacts occur.

### 5.5 LOS and v/c Worksheets

Detailed LOS Analysis and v/c worksheets can be found in the Appendix:

- Appendix D: Existing Year LOS Analysis
- Appendix E: Existing Year + Construction Traffic
- Appendix F: Existing Year + Project Trips
- Appendix G: Existing Year + Project Trips + Cumulative Traffic

# Existing Peak Hour Turning Movements



XX/YY (AM/PM)

Figure 9

# Existing Saturday AM Peak Hour Turning Movements

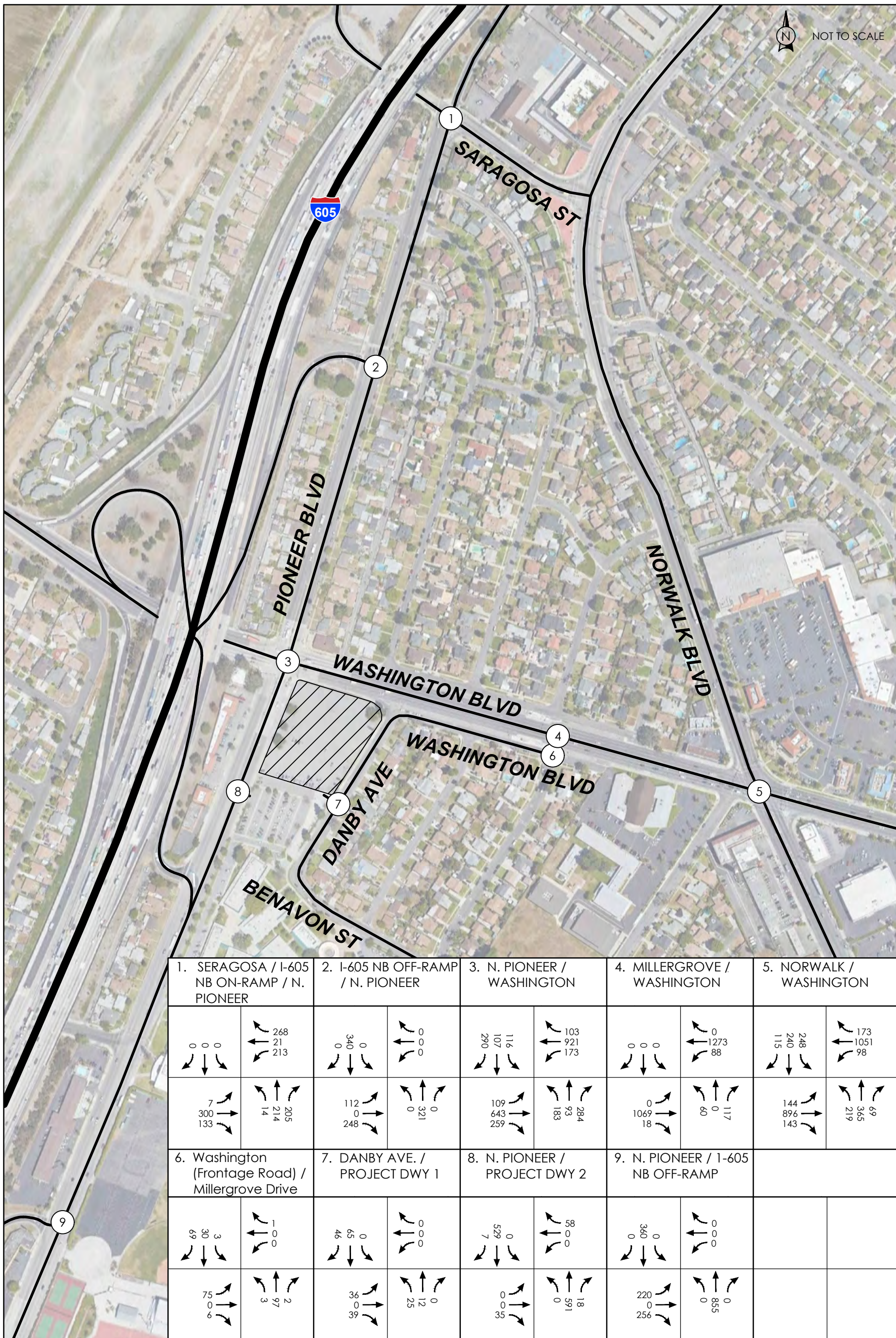
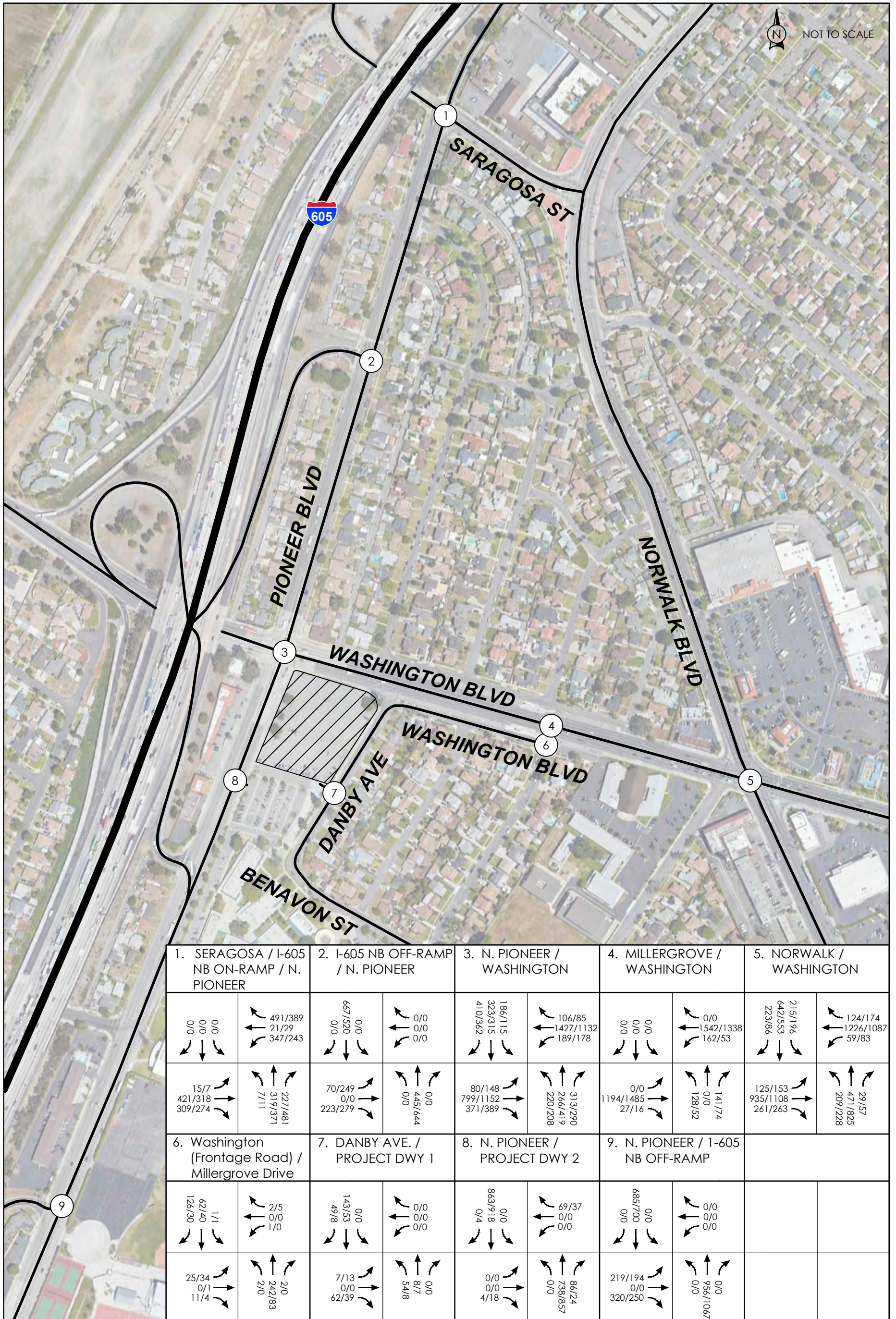


Figure 10



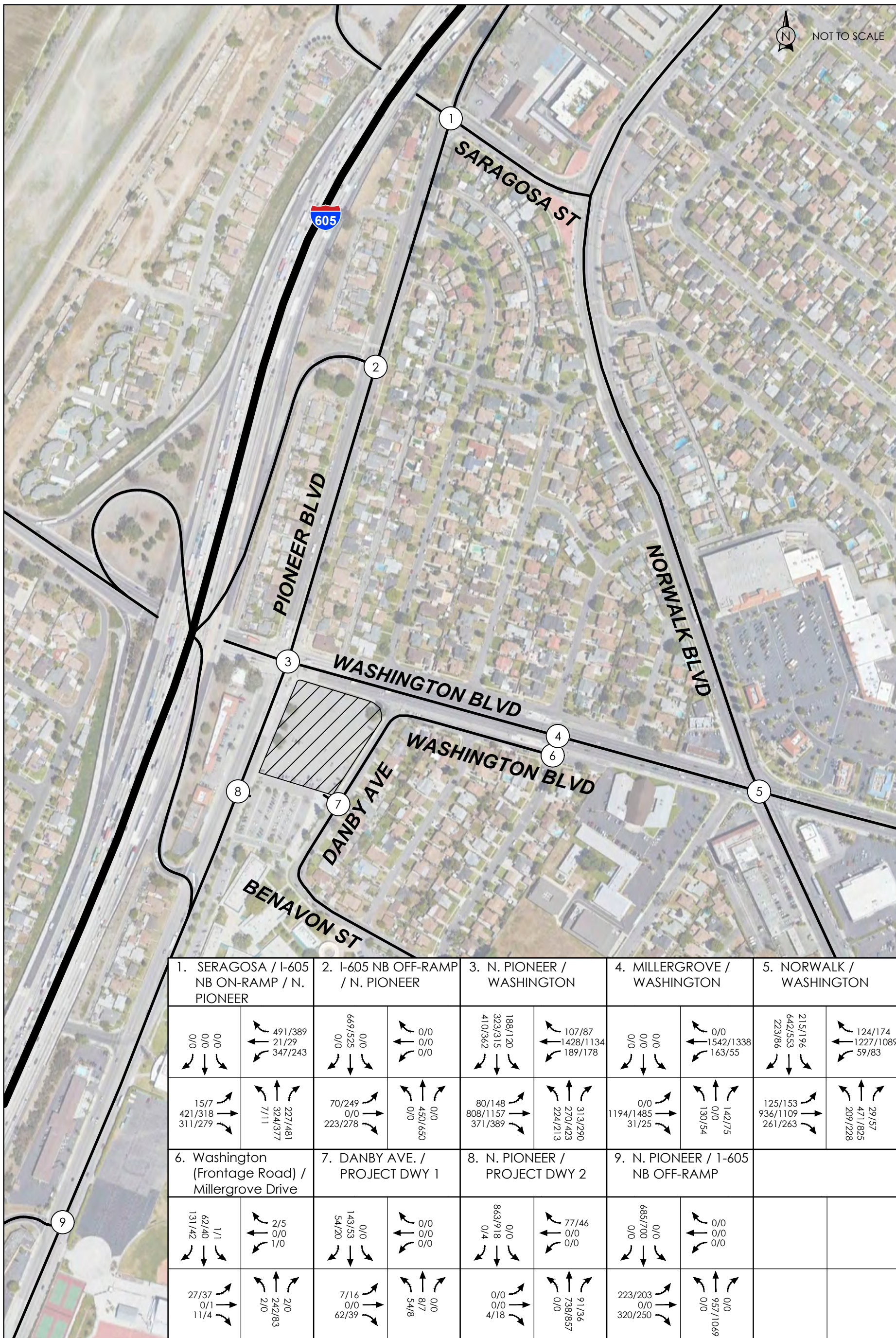
# Existing + Construction Weekday Peak Hour



XX/YY (AM/PM)

Figure 11

### Existing + Project O&M Weekday Peak Hour



XX/YY (AM/PM)

Figure 12

### Existing + Project O&M Saturday AM Peak Hour

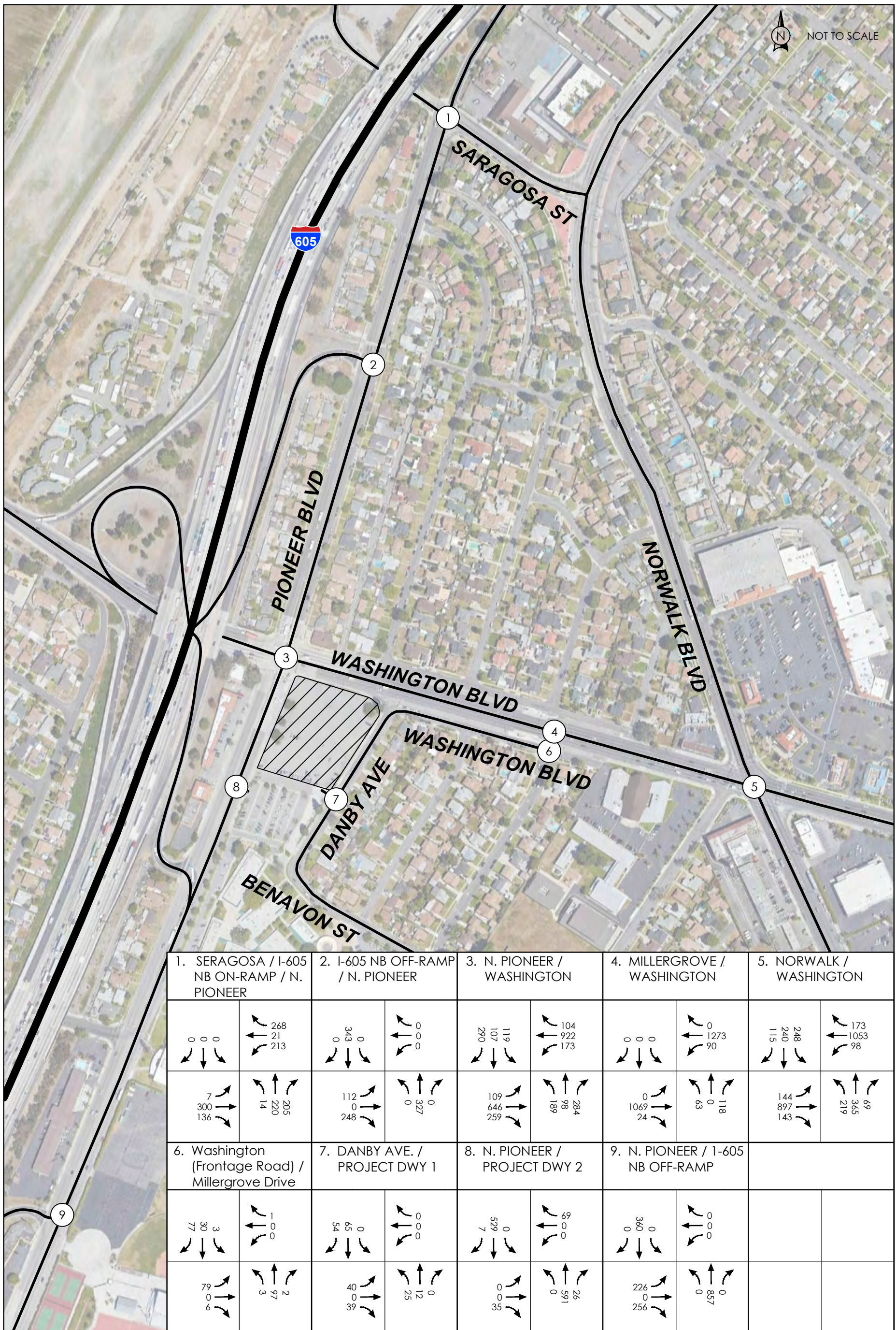
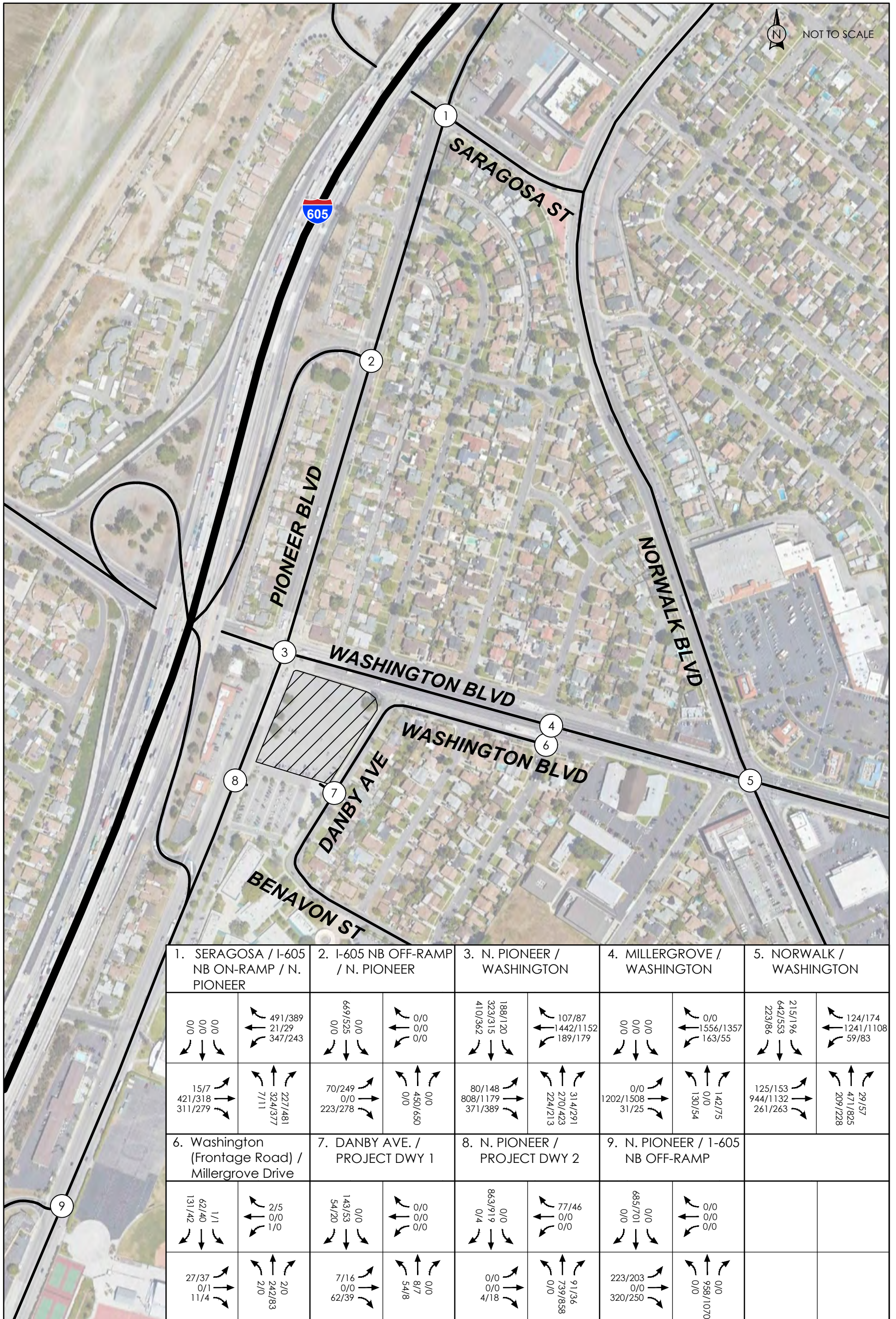


Figure 13

# Existing + Project + Cumulative Weekday Peak Hour



XX/YY (AM/PM)

Figure 14

## Existing + Project + Cumulative Saturday AM Peak Hour

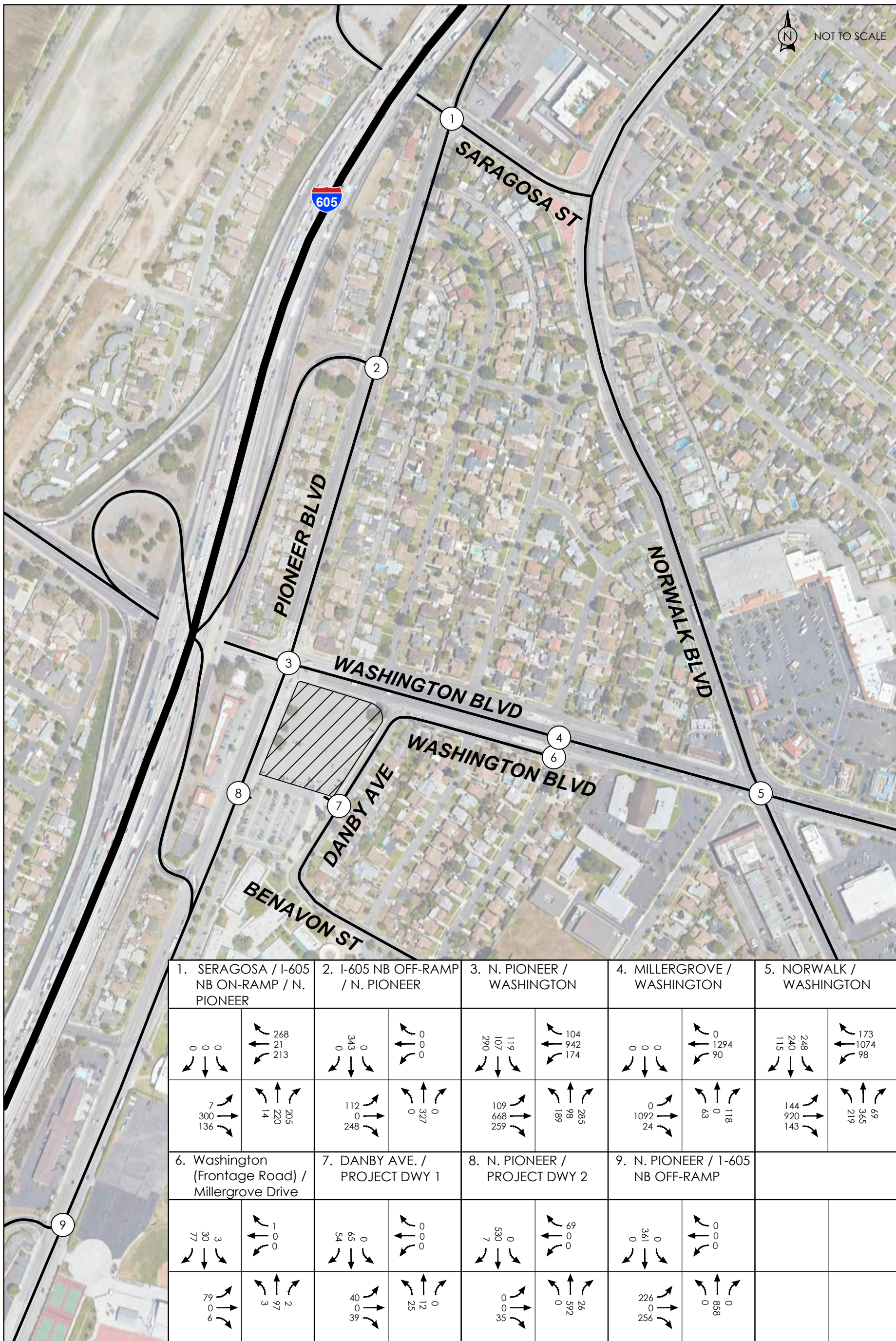


Figure 15

Table 15: Summary of Volume to Capacity Ratios and Level of Service

Intersections	Peak Hour	Existing Year		Existing Year + Construction				Existing Year + Project O&M				Existing Year + Project O&M + Cumulative			
		v/c	LOS	v/c	LOS	Δ v/c	Significant Impact	v/c	LOS	Δ v/c	Significant Impact	v/c	LOS	Δ v/c	Significant Impact
1. Seragosa St. / I-605 NB On-Ramp / N. Pioneer Blvd.	AM	0.79	C	0.79	C	0.00	NO	0.80	C	0.01	NO	0.80	C	0.01	NO
	PM	0.75	C	0.75	C	0.00	NO	0.75	C	0.00	NO	0.75	C	0.00	NO
	Saturday	0.57	A	-	-	-	-	0.57	A	0.00	NO	0.57	A	0.00	NO
2. I-605 NB Off-Ramp / N. Pioneer Blvd.	AM	0.45	A	0.45	A	0.00	NO	0.45	A	0.00	NO	0.45	A	0.00	NO
	PM	0.47	A	0.48	A	0.01	NO	0.48	A	0.01	NO	0.48	A	0.01	NO
	Saturday	0.47	A	-	-	-	-	0.47	A	0.00	NO	0.47	A	0.00	NO
3. N. Pioneer Blvd. / Washington Blvd.	AM	0.83	D	0.84	D	0.01	NO	0.84	D	0.01	NO	0.84	D	0.01	NO
	PM	0.87	D	0.87	D	0.00	NO	0.88	D	0.01	NO	0.88	D	0.01	NO
	Saturday	0.63	B	-	-	-	-	0.64	B	0.01	NO	0.64	B	0.01	NO
4. Millergrove Dr. / Washington Blvd.	AM	0.62	B	0.62	B	0.00	NO	0.63	B	0.01	NO	0.63	B	0.01	NO
	PM	0.52	A	0.52	A	0.00	NO	0.53	A	0.01	NO	0.53	A	0.01	NO
	Saturday	0.49	A	-	-	-	-	0.50	A	0.01	NO	0.50	A	0.01	NO
5. Norwalk Blvd. / Washington Blvd.	AM	0.86	D	0.86	D	0.00	NO	0.86	D	0.00	NO	0.86	D	0.00	NO
	PM	0.90	D	0.90	D	0.00	NO	0.90	D	0.00	NO	0.90	D	0.00	NO
	Saturday	0.74	C	-	-	-	-	0.74	C	0.00	NO	0.74	C	0.00	NO
6. Millergrove Dr. / Washington Blvd. (Frontage Road)	AM	0.28	A	0.28	A	0.00	NO	0.28	A	0.00	NO	0.28	A	0.00	NO
	PM	0.17	A	0.18	A	0.01	NO	0.18	A	0.01	NO	0.18	A	0.01	NO
	Saturday	0.22	A	-	-	-	-	0.22	A	0.00	NO	0.22	A	0.00	NO
7. Danby Ave. / Project Driveway 1	AM	0.29	A	0.30	A	0.01	NO	0.30	A	0.01	NO	0.30	A	0.01	NO
	PM	0.17	A	0.18	A	0.01	NO	0.19	A	0.02	NO	0.19	A	0.02	NO
	Saturday	0.23	A	-	-	-	-	0.24	A	0.01	NO	0.24	A	0.01	NO
8. N. Pioneer Blvd. / Project Driveway 2	AM	0.41	A	0.41	A	0.00	NO	0.42	A	0.01	NO	0.42	A	0.01	NO
	PM	0.40	A	0.41	A	0.01	NO	0.42	A	0.02	NO	0.42	A	0.02	NO
	Saturday	0.33	A	-	-	-	-	0.34	A	0.01	NO	0.34	A	0.01	NO
9. N. Pioneer Blvd. / I-605 NB Off-Ramp	AM	0.60	A	0.60	A	0.00	NO	0.60	A	0.00	NO	0.60	A	0.00	NO
	PM	0.59	A	0.59	A	0.00	NO	0.59	A	0.00	NO	0.59	A	0.00	NO
	Saturday	0.53	A	-	-	-	-	0.53	A	0.00	NO	0.53	A	0.00	NO

## 6.0 Mitigation Measures

The analysis determined no significant traffic impact to all study intersections per Table 15 of this study. Therefore no mitigation measures were applied based on the results of this study.

## 7.0 Conclusions

This traffic impact analysis has been prepared to evaluate the potential impacts to the local street system due to the development of the proposed Whittier Aquatic Facility located at Pioneer High School, 10800 Ben Avon Street, Whittier, in the unincorporated community of West Whittier-Los Nietos, on the corner southeast corner of Pioneer Boulevard and Washington Boulevard.

Analysis was prepared in accordance to the County of Los Angeles Department of Public Works - Traffic Impact Analysis Report Guidelines Draft, last revised December 2013. Nine intersections, including two project driveways, were identified and analyzed in order to determine changes in traffic operations due to the construction and operation of the proposed project.

Application of the County of Los Angeles impact threshold criteria indicates that there is no significant impact to any of the study intersections both during construction and after construction during the site's operation and usage. Therefore, all project-related traffic impacts due to the project are deemed to be less than significant.

## Appendix A





## SCOPING FOR TRAFFIC STUDY

<b>Project Name:</b>	Whittier Aquatics Facility
----------------------	----------------------------

This Memorandum of Understanding (MOU) acknowledges Los Angeles County Department of Public Works, Traffic Safety and Mobility Division (TSM) requirements of traffic impact analysis for the project and is subject to change:

<b>Project Address:</b>	10800 Ben Avon Street		
<b>Project Description:</b>	Aquatic Facility Open to Public		
<b>City:</b>	Whittier, CA 90606		
<b>Project Build-out Year:</b>	2020	<b>Notice of Preparation/Start of Env. Analysis:</b>	4/2019
<b>Closest Intersection (Xtn) to the Project</b>			
<b>Xtn N/S Street Name:</b>	N. Pioneer Boulevard		
<b>Xtn E/W Street Name:</b>	Washington Boulevard		
<b>Thomas Guide Pg+Grid:</b>		<b>Los Angeles County Supervisorial District:</b>	

	Consultant	Developer
<b>Company:</b>	Hernandez, Kroone & Associates	Capital Projects Group
<b>Name:</b>	Omar Sarsour, PE	Christopher Spisak
<b>Address:</b>	234 East Drake Drive	
<b>City, State, Zip Code:</b>	Redlands, CA 92373	
<b>Phone #:</b>	909 362-6790	
<b>Fax #:</b>		
<b>Email:</b>	<a href="mailto:omars@hkagroup.com">omars@hkagroup.com</a>	

<b>By:</b>	<b>Reviewed By:</b>
_____	_____
<b>Print Name:</b>	<b>Print Name:</b>
_____	_____
<b>Phone:</b>	<b>Phone:</b>
_____	_____
<b>Email:</b>	<b>Email:</b>
_____	_____
<b>Consultant/Developer's Representative</b>	<b>TLD's Representative</b>
<b>Date</b>	<b>Date</b>

For General Questions, please contact Traffic Studies Section at (626) 300-4740

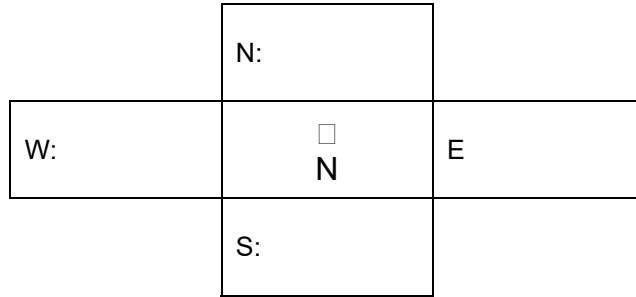


## SCOPING FOR TRAFFIC STUDY

<b>Project Name:</b>	Whittier Aquatics Facility
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**1. Traffic Distribution:** Figure(s) illustrating project trip distribution in percentages and volumes at the studied intersections analyzed.

Please see attached exhibit for Trip Distribution.



**Trip Credit/Reduction:** Exact amount of credit subject to approval by TLD.

<b>Existing Active Land Use Credit</b>	<u>Yes</u> /no	Potentially on Saturday; existing swap meet.
<b>Previous Land Use Credit</b>	Yes/ <u>no</u>	No
<b>Internal Trip Reduction</b>	Yes/ <u>no</u>	No
<b>Retail Pass-by Trip Reduction (10%)</b>	Yes/ <u>no</u>	No

For General Questions, please contact Traffic Studies Section at (626) 300-4740



## SCOPING FOR TRAFFIC STUDY

<b>Project Name:</b>	Whittier Aquatics Facility
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### 2. Trip Generation

Trip Generation Rate(s) Source: ITE Trip Generation		I – Institute of Transportation Engineers; S – San Diego Traffic Generators; C – County; O – Other:								
Land Use Description (Code)	Trip Generation Source	*AVTE vs.	Quantity	Daily Trips Generated	Weekday a.m. peak		Weekday p.m. peak		Weekend peak hour	
					In	Out	In	Out	In	Out
Please see attached trip generation sheet based on ITE										

\* - Average Vehicle Trip Ends.

For General Questions, please contact Traffic Studies Section at (626) 300-4740

By: \_\_\_\_\_  
Date: \_\_\_\_\_



## SCOPING FOR TRAFFIC STUDY

<b>Project Name:</b>	Whittier Aquatics Facility
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**3. Study Intersections:** At minimum, the study shall include the following intersections. The list is subject to change after related projects, trip generation and distribution are determined. Consultant should check with adjoining Cities regarding their requirements in addition to the following County/City intersections. Documentation of the consultation from these agencies shall be included in the traffic study.

Xtn #	Jurisdictional Split	Thomas Guide Page+Grid	N/S and E/W Street Names	Signalized	CMP
1			SERAGOSA / I-605 NB ON-RAMP / N. PIONEER	Yes/ <u>no</u>	Yes/no
2			I-605 NB OFF-RAMP / N. PIONEER	Yes/ <u>no</u>	Yes/no
3			N. PIONEER / WASHINGTON	<u>Yes</u> /no	Yes/no
4			MILLERGROVE / WASHINGTON	<u>Yes</u> /no	Yes/no
5			NORWALK / WASHINGTON	<u>Yes</u> /no	Yes/no
6			DANBY AVE. / PROJECT DWY 1	Yes/ <u>no</u>	Yes/no
7			N. PIONEER / PROJECT DWY 2	Yes/ <u>no</u>	Yes/no
8			N. PIONEER / 1-605 NB OFF-RAMP	Yes/ <u>no</u>	Yes/no
9				Yes/no	Yes/no
10				Yes/no	Yes/no

For General Questions, please contact Traffic Studies Section at (626) 300-4740



## SCOPING FOR TRAFFIC STUDY

<b>Project Name:</b>	Whittier Aquatics Facility
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**4. Related Projects:** Project Consultant shall consult with Los Angeles County Department of Regional Planning and planning departments of adjoining Cities to identify planned development in the vicinity of the project site.

**5. Congested Management Program (CMP):** Project Consultant shall conduct CMP analysis in accordance with the County's Traffic Impact Analysis Report Guidelines.

**6. Freeway Analysis:** Project Consultant shall consult with the State of California Department of Transportation (Caltrans) to determine the California Environmental Quality Act levels of significance with regard to traffic impacts on Caltrans' freeway facilities. This consultation shall also include a determination of Caltrans requirements for the study of traffic impacts to its facilities and the mitigation of any such impacts. This analysis must follow the most current Caltrans' Guide for the Preparation of Traffic Impact Studies (December 2002). If Caltrans finds that the project has a significant impact on the freeway, Caltrans shall be requested to include the basis for this finding in their response. If fees are proposed to mitigate the freeway impact, Caltrans shall be requested to identify the specific project to which the fees will apply. These written comments from Caltrans shall be included with the traffic study and submitted to Public Works for review and approval. If a documented good faith effort is made to consult with Caltrans and written comments cannot be obtained from within a reasonable amount of time, an analysis of the freeway impact shall be made using the County of Los Angeles' CMP Land Use Analysis Guidelines.

**7. Site Access Analysis:** Project's in rural areas shall conduct a site access analysis in accordance with the County's Access Management for Private Developments Guidelines Manual. All schools, waste/recycling collection or other projects as determined by TLD shall conduct a queuing analysis to ensure queues do not spill-over onto County roads. For schools, provide boundary map and information on neighboring schools including day care facilities. The traffic study will also document pick-up and drop-off procedures.

**8. Other Instructions:**

Traffic counts may be conducted immediately per the following:
<ul style="list-style-type: none"> <li>• Must be taken on Tuesdays, Wednesdays or Thursdays.</li> </ul>
<ul style="list-style-type: none"> <li>• Must exclude holidays, and the first weekdays before and after the holiday.</li> </ul>
<ul style="list-style-type: none"> <li>• Must be taken on days when local schools or colleges are in session.</li> </ul>
<ul style="list-style-type: none"> <li>• Must be taken on days of good weather, and avoid atypical conditions (e.g., road construction, detours, or major traffic incidents).</li> </ul>
<ul style="list-style-type: none"> <li>• Traffic counts used for other traffic studies in the area shall <b>NOT</b> be reused again, unless 25% of the counts conducted for that particular traffic study are validated with new counts. The difference in volumes between the old and new counts at each corresponding movement should not be more than 10%.</li> </ul>
<ul style="list-style-type: none"> <li>• New traffic counts shall be checked to ensure the difference in volumes at corresponding approaches, if applicable, between two adjacent intersections is no more than 10% unless the difference can be justified.</li> </ul>

For all proposed mitigation measures to address project specific impacts, the project shall include conceptual plans for the improvements in the traffic study which shall be made part of the review and approval of the traffic study. All proposed improvements

For General Questions, please contact Traffic Studies Section at (626) 300-4740



## SCOPING FOR TRAFFIC STUDY

**Project Name:**

Whittier Aquatics Facility

shall be within public the right-of-way.

For all proposed mitigation measures to address cumulative impacts, the project shall include conceptual plans and cost estimates for the improvements in the traffic study which shall be made part of the review and approval of the traffic study.

Unless otherwise approved by TLD, level-of-service analysis shall be performed based on the following scenarios:

- (a) Traffic conditions in the vicinity of the project as they exist at the time the notice of preparation (NOP) is published, or if no NOP is published, at the time environmental analysis is commenced;
- (b) Traffic in (a) plus project traffic;
- (c) Traffic in (b) with the proposed mitigation measures (if necessary);
- (d) Traffic in (b) plus the cumulative traffic that includes project and other known developments at the time the notice of preparation (NOP) is published, or if no NOP is published, at the time environmental analysis is commenced; and
- (e) Traffic in (d) with the proposed mitigation measures (if necessary).

Any required Traffic Index calculations shall be prepared in accordance with the latest version of the Caltrans Highway Design Manual

For General Questions, please contact Traffic Studies Section at (626) 300-4740







**Table 1: Trip Generation**

	Quantity	Unit <sup>1</sup>	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
<b>Whittier Aquatic Center (Weekday)</b>									
<b>ITE Usage Code - 495 Recreational Community Center</b>									
Rates	18.5	TSF	1.16	0.60	1.76	1.09	1.22	2.31	28.82
Trips			21	11	32	20	23	43	533
Internal Capture	0 %		0	0	0	0	0	0	0
External Trips			21	11	32	20	23	43	533
Pass-By	0 %		0	0	0	0	0	0	0
Net External Trips			21	11	32	20	23	43	533
<b>Whittier Aquatic Center (Saturday)</b>									
<b>ITE Usage Code - 495 Recreational Community Center</b>									
Rates	18.5	TSF	0.58	0.49	1.07	0.00	0.00		9.10
Trips			11	9	20	0	0	0	168
Internal Capture	0 %		0	0	0	0	0	0	0
External Trips			11	9	20	0	0	0	168
Pass-By	0 %		0	0	0	0	0	0	0
Net External Trips			11	9	20	0	0	0	168

<sup>1</sup>TSF = thousand square feet;

Source: Institute of Transportation Engineers *Trip Generation*, 10th Edition

## Appendix B

# DOCUMENT INDEX

## WHITTIER AQUATICS FACILITY

### **Part 1 - INFORMATION**

- A. Park Information
- B. Project Information

### **Part 2 – PROJECT ANALYSIS AND FINDINGS**

- A. Analysis
- B. Findings

### **Part 3 – DESIGN AND CONSTRUCTION DOCUMENT SCOPE OF WORK**

- A. Demolition and Site Work
- B. New Construction/Refurbishment
- C. Background Information
- D. Design Requirements
- E. Consultant Requirements

### **ATTACHMENTS**

- Attachment A: Vicinity Map
- Attachment B: Site Map
- Attachment C: Potential Layout

## FACILITY PROGRAM

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### WHITTIER AQUATICS FACILITY

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#### PART 1 - INFORMATION

##### A. Park Information

<b>Supervisory District:</b>	Fourth Supervisory District
<b>Agency:</b>	Regional Facilities Agency
<b>Park Name:</b>	Whittier Aquatics Facility
<b>Park Address or Location:</b>	10800 Ben Avon Street Whittier, CA 90606
<b>Park Phone Number:</b>	N/A
<b>Park Classification:</b>	New Aquatics Facility

##### B. Project Information

<b>Project Manager:</b>	Capital Projects Group
<b>Study Manager:</b>	Christopher Spisak
<b>Project Description:</b>	Design and Construction of an aquatics facility
<b>Project Funding:</b>	County of Los Angeles funds and State of California school funds
<b>Project Schedule:</b>	TBD

#### PART 2 – PROJECT ANALYSIS AND FINDINGS

##### A. Analysis

###### **Neighborhood/Regional Context and Connectivity:**

Pioneer High School is located in the unincorporated community of West Whittier-Los Nietos, California neighboring the city of Pico Rivera. The school serves students from the Los Nietos, South Whittier, and Whittier City School Districts.

The property is bordered on the north by Washington Blvd., bordered on the east by residential neighborhoods, and on the south by Slauson Avenue. The long west

side of the property is fronted by Pioneer Blvd. Commercial businesses run along the opposite side of Pioneer Boulevard.

**Property Issues and Land Use Considerations:**

1. Existing Facilities
  - a. Grades 9-12 High School
  - b. Existing L-shaped pool
  - c. Existing parking lot at the north end of the property where the aquatic facility can be located
  - d. Existing bus service is located along Pioneer Boulevard

2. Infrastructure/Utilities

Following is a list of utility companies and purveyors to the park:

- |              |                                    |
|--------------|------------------------------------|
| Electricity: | Southern California Edison Company |
| Water:       | San Gabriel Valley Water District  |
| Storm Drain: | LA County Flood Control District   |
| Telephone:   | Frontier California, Inc.          |
| Gas:         | Southern California Gas Company    |
| Internet:    | Sunesys                            |

3. Public Services

The school site has an exercise/ fitness zone located along Pioneer Blvd. which is open for public use.

**Grant Requirements:**

DPR has not secured grant funds for Pioneer High School; therefore, there are no grant restrictions applicable.

**Site Analysis:**

The school currently contains an existing L-shaped pool, which will be retained (and will not be a part of the subject property.) It is located between existing buildings, requiring the new aquatics facility to be located elsewhere on the site. A large parking lot at the north end of the school site is of sufficient size to site this project. See the enclosed attachment, which shows one possible configuration of the Pool Building and associated pools in this area.

**California Environmental Quality Act (CEQA) / NEPA Compliance:**

The proposed project exceeds 10,000 square feet in floor area as defined in State CEQA Guidelines Section 15303 (c). An Initial Study/Mitigated Negative Declaration may be required for the project.

**Regulatory-Permitting Considerations:**

The construction of the new aquatics facility will require design reviews, not limited to the following County of Los Angeles agencies:

- Department of Public Health, Environmental Health – Recreational Waters Program
- Department of Regional Planning
- Department of Public Works, Building and Safety Division
- Department of Parks and Recreation Planning and Development Agency and Aquatics Division

And the State of California:

- California Health and Safety Code
- California Code of Regulations (Title 22, Chapter 20)
- California Building Code (Title 24 with County of Los Angeles amendments)
- Virginia Graeme Baker Pool and Spa Safety Act
- California Division of the State Architect (DSA)

**Maintenance and Operational Considerations:**

Construction of this aquatics facility will heavily impact daily operations at the school. Scheduling, park staff involvement, and impacts will need to be coordinated closely between the school and Regional Facilities Agency Pools Aquatics Division.

**Findings:**

1. Sufficient space exists in the chosen location to accommodate this aquatics facility.
2. All pool enclosures and pool drains to follow California Building Code requirements.
3. The Board of Supervisors (BOS) and the Whittier Union School Board's desire for a local swimming facility at this location is high.
4. The building is to be designed using *LEED v4, BD+C: New Construction* standards, and follow *2017 County of Los Angeles Green Building Standards Code (Title 31.)*

These analyses and findings are valid for a one-year period after approval of this Facility Program and will require re-evaluation thereafter.

## **PART 3 – DESIGN AND CONSTRUCTION DOCUMENTS SCOPE OF WORK**

Provide complete contract documents for the following design requirements including, but not limited to:

### **A. Demolition and Site Work**

1. The work site to be securely fenced and protected at all times during construction.
2. Removal of asphalt and construction debris to comply with the *Los Angeles County Construction and Demolition Debris Recycling Ordinance*, Chapter 20.87 to the LA County Code.
3. Existing utilities are to be identified within the work area. Any necessary relocation will be coordinated and planned with the school district and utility companies.
4. Erosion control of construction debris and surface runoff of storm water to be contained on site, and not allowed to migrate off-site to the adjacent streets.

### **B. New Construction**

1. Design the new, approximately 5,000-10,000 square feet pool building using the *2017 Park Design Guidelines and Standards*. Provide ADA compliant access from the parking area to the pool building. The building should be provided with and not limited to:
  - a. Information Display Area
  - b. Trophy Display Cases
  - c. Public Counter (with controlled access to the pool area)
  - d. ADA Compliant Drinking Fountains
  - e. Restrooms
  - f. Bag Rooms
  - g. Lifeguard Office with clear visibility of the competition pool and lap instructional pool
  - h. First Aid Area
  - i. Classroom
  - j. Equipment Storage Area (for large items)
  - k. County officials' dedication plaque (located on the outside of the building)
  - l. Electrical Room
  - m. Maximum Air Ventilation
  - n. Eye Wash Station to be located next to chemical containment area per County Health Department Code. All eyewash stations must include the minimum required Dielectric fittings and insulation to ensure proper function.
2. Design a 50-meter x 25 yard, 15-foot deep competitive swimming pool with all applicable improvements necessary to accommodate and allow for competitive swim, diving, water polo training, and other competitive events. Construction should use sustainable methods and durable

materials. Design should meet all pool certification requirements for the following (but not limited to) organizations:

- a. FINA – Federation Internationale de Natation Amateur
  - b. U.S. Swimming
  - c. U.S. Diving
  - d. U.S. Water Polo
  - e. U.S. Synchronized Swimming
  - f. NCAA – National Collegiate Athletic Association
  - g. NFSHSA – National Federation of State High School Associations
3. Design a 25-meter x 25 yard practice pool. The shallow end to be 3 feet to 4 1/2 feet deep and the deep end to be 13 feet deep. This will allow for lessons, Aqua Exercise, ADA lessons, and competitive lap swimming. Lanes to be 8 feet 2 ½ inches wide.
  4. Pools should be oriented with the shallow end located closest to the pool building.
  5. Include a retractable pool cover in the design (for both pools.)
  6. All drain lines to connect to sanitary sewer system. Permit requirements shall be verified by the Sanitation District.
  7. Decorative steel security fence to enclose entire pool area.
  8. Provide ADA path-of-travel compliance to the facility.
  9. Re-surface and refurbish existing remaining parking lot adjacent to the facility.
  10. All new landscaping to be drought tolerant and irrigated using weather sensor controls.
  11. Include security lighting throughout the facility.
  12. Site amenities to include bicycle racks, drinking fountains, benches, and trash receptacles.
  13. Pool Deck Area and Pool to be lighted using energy efficient LED lighting fixtures (to allow for night swimming.)
  14. Include competitive type diving boards at the deep end of the pool.
  15. Pool water shall be heated to between 25 to 28 degrees Celsius. Consider solar water heating and include if feasible, as well as showers and domestic hot water.
  16. ADA compliant entry into the pool shall be provided.
  17. The concrete pool decking shall be a minimum of twenty feet (20') feet wide from the pool's edges.
  18. Pool gutter system shall be tiled with deep gutter system.
  19. ADA compliant Bleachers to be included in the design.
  20. Ladders and built-in steps should be provided.
  21. Swimming pool deck shall include "NO DIVING / RUNNING IN SWIMMING POOL AREA" with tile letters.
  22. Pool equipment area with exterior roll-up doors, minimum 12' wide, for equipment access. A separate drive-up access shall be provided to the chemical tanks and equipment area.



23. A public address system (PA) to serve pool areas. External components to be vandal proof.
24. Electronic score board and timing equipment.
25. Automated pool vacuum.
26. All Signage as required.
27. Include capacity for installing Variable-Frequency Drives in the equipment design with energy monitoring.
28. Integrate energy and water efficient pool pumps into the design.
29. Incorporate shower wastewater heat recovery for the shower areas.
30. Include the AngelEye LifeGuard anti-drowning system in the design.
31. A data connectivity line shall be provided in the Pool Equipment room to allow for remote connection.
32. Provide a 1 ½" Domestic Water Source. Provide isolation valves on all water source lines.
33. Use only Schedule 80 PVC pipe and fittings.

**1. Reference Documents**

Not available

**2. Surveys/ Reports/ Tests**

Surveys, reports, and tests may include, but are not limited to the following:

- a. Boundary Survey
- b. Topographic Survey
- c. Geotechnical Report
- d. Title Report

**3. Water and Energy Conservation**

- a. Contact the Development Division's Water and Conservation Planning Section to coordinate all possible rebates through Southern California Edison Company, Southern California Gas Company, Metropolitan Water District, and the Southern California Regional Energy Network, prior to the final selection of products.
- b. Contact the Development Division's Water and Conservation Planning Section to coordinate "Savings by Design" application prior to the start of the project Schematic Design phase.

### **C. Design Requirements**

Project design shall comply with all requirements of the Department's *Park Design Guidelines and Standards 2017*, available at:

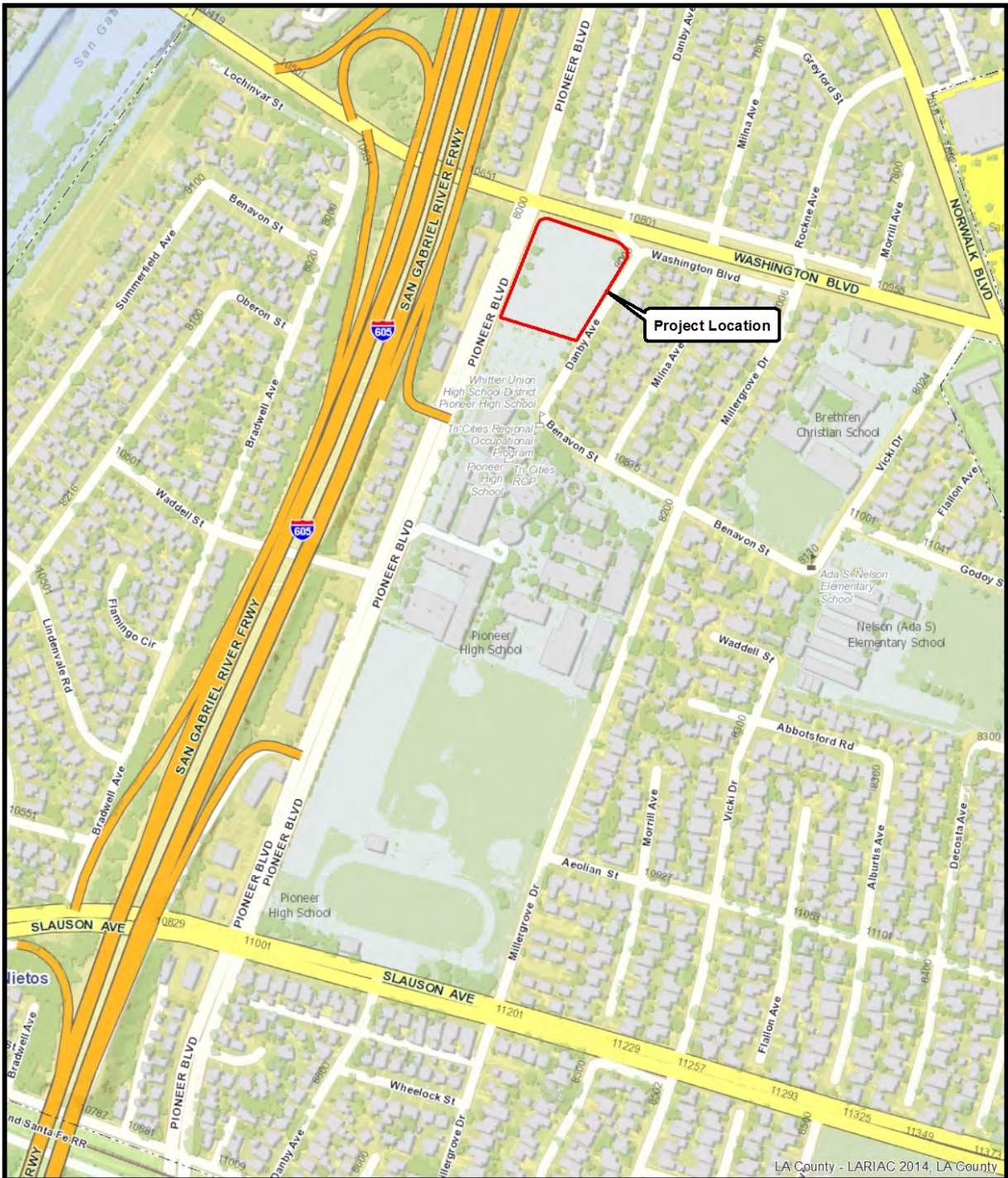
[http://file.lacounty.gov/SDSInter/dpr/1029701\\_ParkDesignGuideline2017.pdf](http://file.lacounty.gov/SDSInter/dpr/1029701_ParkDesignGuideline2017.pdf)

### **D. Consultant Requirements**

**Deliverables:** Deliverables shall be per Master Agreement for As-Needed Consultant Services made and entered into between County and Consultant on July 11, 2016, and Consultant's Fee Proposal approved by the Department.

**End of Program**

# VICINITY MAP

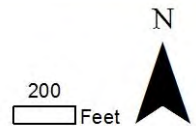


Date: 12-14-17  
Map Prepared By: Development  
Aerial: LARIAC 2014



## Joint Use Aquatics Facility Project Vicinity Map

County of Los Angeles Department of Parks and Recreation



Whittier Aquatics Facility  
Updated June 2018

# POTENTIAL LOCATION



Looking North



Looking East

# Potential Layout

[Project would occupy approximately 100,000 square feet]



## WHITTIER AQUATICS FACILITY





Existing Pioneer H.S. Pool (Not a Part)

## Appendix C

City of Whittier  
 N/S: I-605 NB On Ramp/Pioneer Boulevard  
 E/W: Saragosa Street  
 Weather: Clear

File Name : 01\_WTR\_605N On Ramp\_Pioneer\_Saragosa AM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
 Page No : 1

Groups Printed- Total Volume

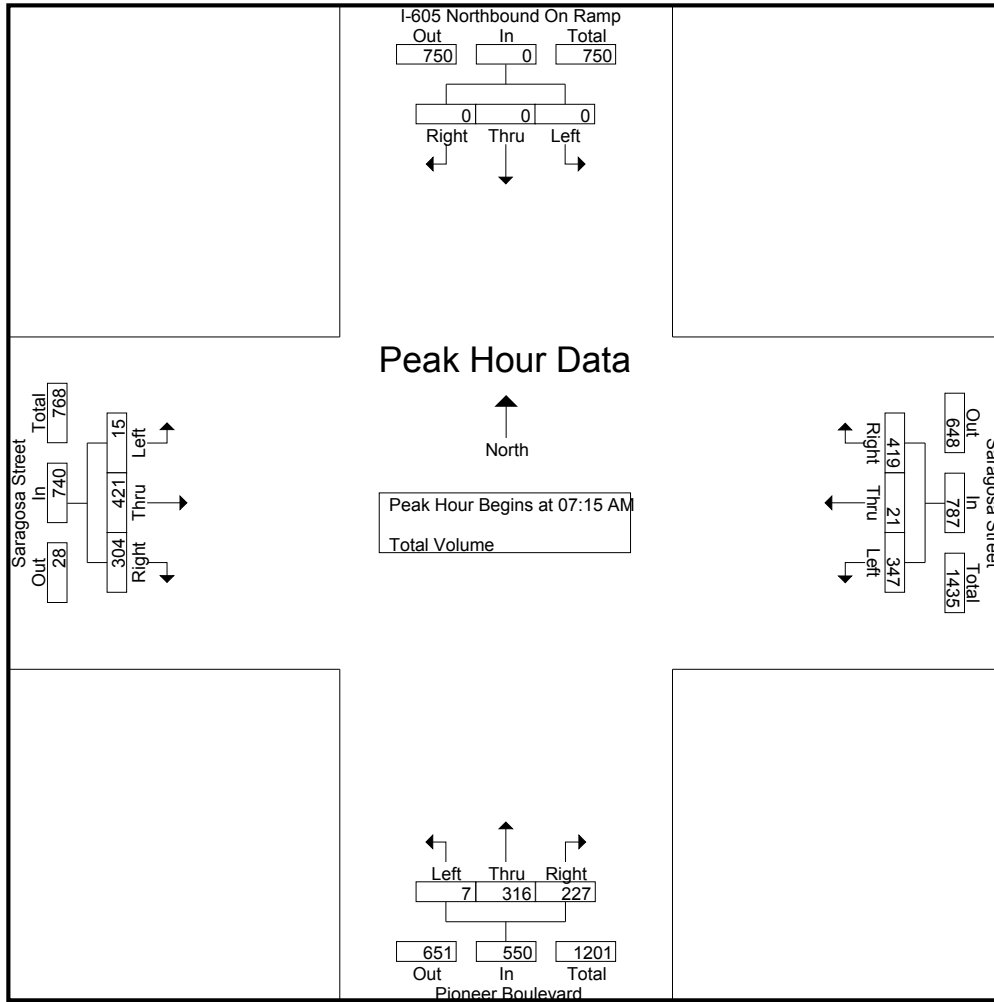
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	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	90	2	88	180	2	59	35	96	0	75	46	121	397
07:15 AM	0	0	0	0	78	2	105	185	2	70	27	99	6	107	65	178	462
07:30 AM	0	0	0	0	93	7	113	213	2	72	58	132	3	105	80	188	533
07:45 AM	0	0	0	0	86	6	104	196	2	93	83	178	3	112	87	202	576
Total	0	0	0	0	347	17	410	774	8	294	203	505	12	399	278	689	1968
08:00 AM	0	0	0	0	90	6	97	193	1	81	59	141	3	97	72	172	506
08:15 AM	0	0	0	0	69	2	84	155	1	65	38	104	4	88	56	148	407
08:30 AM	0	0	0	0	67	3	85	155	3	49	23	75	0	89	33	122	352
08:45 AM	0	0	0	0	50	2	74	126	1	38	27	66	0	85	30	115	307
Total	0	0	0	0	276	13	340	629	6	233	147	386	7	359	191	557	1572
Grand Total	0	0	0	0	623	30	750	1403	14	527	350	891	19	758	469	1246	3540
Apprch %	0	0	0		44.4	2.1	53.5		1.6	59.1	39.3		1.5	60.8	37.6		
Total %	0	0	0	0	17.6	0.8	21.2	39.6	0.4	14.9	9.9	25.2	0.5	21.4	13.2	35.2	

Start Time	I-605 Northbound On Ramp Southbound				Saragosa Street Westbound				Pioneer Boulevard Northbound				Saragosa Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	78	2	105	185	2	70	27	99	6	107	65	178	462
07:30 AM	0	0	0	0	93	7	113	213	2	72	58	132	3	105	80	188	533
07:45 AM	0	0	0	0	86	6	104	196	2	93	83	178	3	112	87	202	576
08:00 AM	0	0	0	0	90	6	97	193	1	81	59	141	3	97	72	172	506
Total Volume	0	0	0	0	347	21	419	787	7	316	227	550	15	421	304	740	2077
% App. Total	0	0	0		44.1	2.7	53.2		1.3	57.5	41.3		2	56.9	41.1		
PHF	.000	.000	.000	.000	.933	.750	.927	.924	.875	.849	.684	.772	.625	.940	.874	.916	.901



City of Whittier  
 N/S: I-605 NB On Ramp/Pioneer Boulevard  
 E/W: Saragosa Street  
 Weather: Clear

File Name : 01\_WTR\_605N On Ramp\_Pioneer\_Saragosa AM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	07:00 AM				07:15 AM				07:30 AM				07:15 AM			
+0 mins.	0	0	0	0	78	2	105	185	2	72	58	132	6	107	65	178
+15 mins.	0	0	0	0	93	7	113	213	2	93	83	178	3	105	80	188
+30 mins.	0	0	0	0	86	6	104	196	1	81	59	141	3	112	87	202
+45 mins.	0	0	0	0	90	6	97	193	1	65	38	104	3	97	72	172
Total Volume	0	0	0	0	347	21	419	787	6	311	238	555	15	421	304	740
% App. Total	0	0	0	0	44.1	2.7	53.2		1.1	56	42.9		2	56.9	41.1	
PHF	.000	.000	.000	.000	.933	.750	.927	.924	.750	.836	.717	.779	.625	.940	.874	.916

City of Whittier  
 N/S: I-605 NB On Ramp/Pioneer Boulevard  
 E/W: Saragosa Street  
 Weather: Clear

File Name : 01\_WTR\_605N On Ramp\_Pioneer\_Saragosa PM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
 Page No : 1

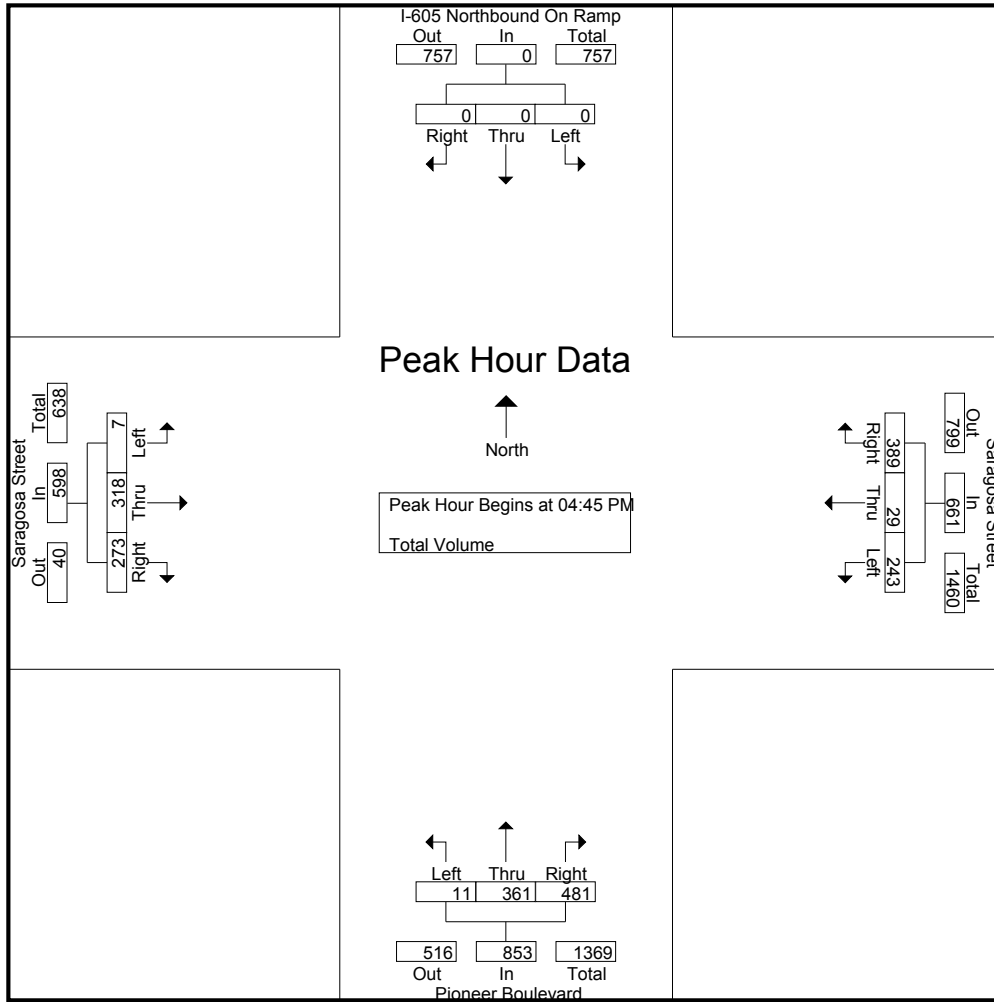
Groups Printed- Total Volume

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	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	62	1	79	142	6	89	84	179	1	72	70	143	464
04:15 PM	0	0	0	0	76	8	79	163	5	90	108	203	4	77	72	153	519
04:30 PM	0	0	0	0	63	8	78	149	5	80	113	198	4	83	55	142	489
04:45 PM	0	0	0	0	59	11	113	183	3	104	102	209	4	81	79	164	556
Total	0	0	0	0	260	28	349	637	19	363	407	789	13	313	276	602	2028
05:00 PM	0	0	0	0	61	8	89	158	2	85	113	200	0	74	72	146	504
05:15 PM	0	0	0	0	69	5	99	173	5	98	132	235	1	82	63	146	554
05:30 PM	0	0	0	0	54	5	88	147	1	74	134	209	2	81	59	142	498
05:45 PM	0	0	0	0	74	3	78	155	6	65	117	188	3	86	53	142	485
Total	0	0	0	0	258	21	354	633	14	322	496	832	6	323	247	576	2041
Grand Total	0	0	0	0	518	49	703	1270	33	685	903	1621	19	636	523	1178	4069
Apprch %	0	0	0		40.8	3.9	55.4		2	42.3	55.7		1.6	54	44.4		
Total %	0	0	0	0	12.7	1.2	17.3	31.2	0.8	16.8	22.2	39.8	0.5	15.6	12.9	29	

Start Time	I-605 Northbound On Ramp Southbound				Saragosa Street Westbound				Pioneer Boulevard Northbound				Saragosa Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	59	11	113	183	3	104	102	209	4	81	79	164	556
05:00 PM	0	0	0	0	61	8	89	158	2	85	113	200	0	74	72	146	504
05:15 PM	0	0	0	0	69	5	99	173	5	98	132	235	1	82	63	146	554
05:30 PM	0	0	0	0	54	5	88	147	1	74	134	209	2	81	59	142	498
Total Volume	0	0	0	0	243	29	389	661	11	361	481	853	7	318	273	598	2112
% App. Total	0	0	0		36.8	4.4	58.9		1.3	42.3	56.4		1.2	53.2	45.7		
PHF	.000	.000	.000	.000	.880	.659	.861	.903	.550	.868	.897	.907	.438	.970	.864	.912	.950

City of Whittier  
 N/S: I-605 NB On Ramp/Pioneer Boulevard  
 E/W: Saragosa Street  
 Weather: Clear

File Name : 01\_WTR\_605N On Ramp\_Pioneer\_Saragosa PM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	04:00 PM				04:30 PM				04:45 PM				04:15 PM			
+0 mins.	0	0	0	0	63	8	78	149	3	<b>104</b>	102	209	4	77	72	153
+15 mins.	0	0	0	0	59	<b>11</b>	<b>113</b>	<b>183</b>	2	85	113	200	4	<b>83</b>	55	142
+30 mins.	0	0	0	0	61	8	89	158	5	98	132	<b>235</b>	4	81	<b>79</b>	<b>164</b>
+45 mins.	0	0	0	0	<b>69</b>	5	99	173	1	74	<b>134</b>	209	0	74	72	146
Total Volume	0	0	0	0	252	32	379	663	11	361	481	853	12	315	278	605
% App. Total	0	0	0	0	38	4.8	57.2		1.3	42.3	56.4		2	52.1	46	
PHF	.000	.000	.000	.000	.913	.727	.838	.906	.550	.868	.897	.907	.750	.949	.880	.922

City of Whittier  
 N/S: I-605 NB On Ramp/Pioneer Boulevard  
 E/W: Saragosa Street  
 Weather: Clear

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 Page No : 1

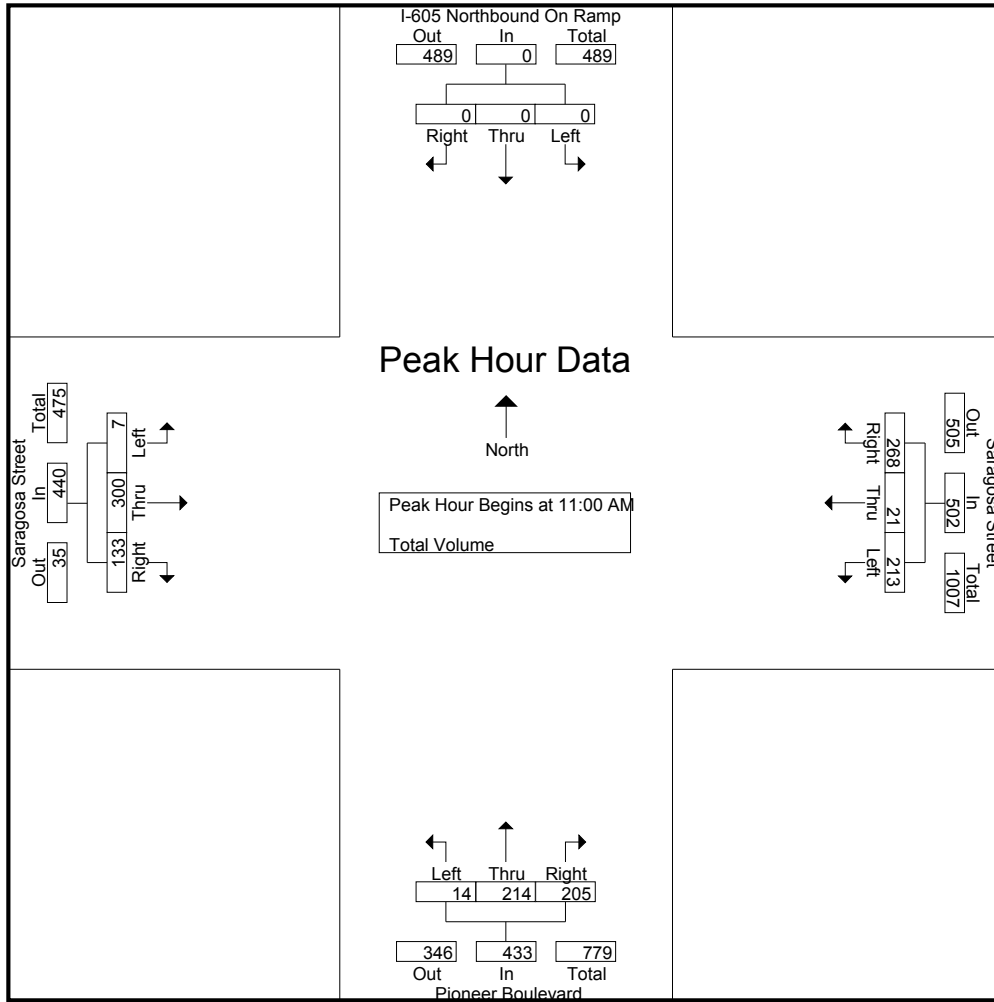
Groups Printed- Total Volume

Start Time	I-605 Northbound On Ramp Southbound				Saragosa Street Westbound				Pioneer Boulevard Northbound				Saragosa Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
08:00 AM	0	0	0	0	43	3	45	91	0	30	43	73	3	41	22	66	230
08:15 AM	0	0	0	0	45	3	53	101	2	33	41	76	1	43	36	80	257
08:30 AM	0	0	0	0	46	0	43	89	1	41	44	86	5	60	26	91	266
08:45 AM	0	0	0	0	53	3	45	101	2	35	26	63	3	60	19	82	246
Total	0	0	0	0	187	9	186	382	5	139	154	298	12	204	103	319	999
09:00 AM	0	0	0	0	57	1	59	117	1	25	29	55	1	44	26	71	243
09:15 AM	0	0	0	0	51	1	47	99	1	35	39	75	1	53	29	83	257
09:30 AM	0	0	0	0	50	5	53	108	2	42	37	81	1	72	26	99	288
09:45 AM	0	0	0	0	45	5	52	102	1	48	46	95	4	86	22	112	309
Total	0	0	0	0	203	12	211	426	5	150	151	306	7	255	103	365	1097
10:00 AM	0	0	0	0	71	2	55	128	1	45	56	102	3	62	32	97	327
10:15 AM	0	0	0	0	69	0	59	128	1	46	39	86	0	68	45	113	327
10:30 AM	0	0	0	0	57	5	51	113	4	52	34	90	2	76	29	107	310
10:45 AM	0	0	0	0	55	5	50	110	2	53	46	101	1	74	36	111	322
Total	0	0	0	0	252	12	215	479	8	196	175	379	6	280	142	428	1286
11:00 AM	0	0	0	0	44	6	61	111	3	58	43	104	3	68	35	106	321
11:15 AM	0	0	0	0	51	5	75	131	7	56	61	124	1	67	34	102	357
11:30 AM	0	0	0	0	46	7	64	117	2	52	48	102	2	73	31	106	325
11:45 AM	0	0	0	0	72	3	68	143	2	48	53	103	1	92	33	126	372
Total	0	0	0	0	213	21	268	502	14	214	205	433	7	300	133	440	1375
Grand Total	0	0	0	0	855	54	880	1789	32	699	685	1416	32	1039	481	1552	4757
Apprch %	0	0	0		47.8	3	49.2		2.3	49.4	48.4		2.1	66.9	31		
Total %	0	0	0		18	1.1	18.5	37.6	0.7	14.7	14.4	29.8	0.7	21.8	10.1	32.6	

Start Time	I-605 Northbound On Ramp Southbound				Saragosa Street Westbound				Pioneer Boulevard Northbound				Saragosa Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 08:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:00 AM																	
11:00 AM	0	0	0	0	44	6	61	111	3	<b>58</b>	43	104	3	68	<b>35</b>	106	321
11:15 AM	0	0	0	0	51	5	<b>75</b>	131	<b>7</b>	56	<b>61</b>	<b>124</b>	1	67	34	102	357
11:30 AM	0	0	0	0	46	<b>7</b>	64	117	2	52	48	102	2	73	31	106	325
11:45 AM	0	0	0	0	<b>72</b>	3	68	<b>143</b>	2	48	53	103	1	<b>92</b>	33	<b>126</b>	<b>372</b>
Total Volume	0	0	0	0	213	21	268	502	14	214	205	433	7	300	133	440	1375
% App. Total	0	0	0		42.4	4.2	53.4		3.2	49.4	47.3		1.6	68.2	30.2		
PHF	.000	.000	.000	.000	.740	.750	.893	.878	.500	.922	.840	.873	.583	.815	.950	.873	.924

City of Whittier  
 N/S: I-605 NB On Ramp/Pioneer Boulevard  
 E/W: Saragosa Street  
 Weather: Clear

File Name : 01\_WTR\_605N On Ramp\_Pioneer\_Saragosa SAT  
 Site Code : 04519342  
 Start Date : 5/11/2019  
 Page No : 2



Peak Hour Analysis From 08:00 AM to 11:45 AM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	08:00 AM				11:00 AM				11:00 AM				11:00 AM			
+0 mins.	0	0	0	0	44	6	61	111	3	<b>58</b>	43	104	3	68	<b>35</b>	106
+15 mins.	0	0	0	0	51	5	<b>75</b>	131	<b>7</b>	56	<b>61</b>	<b>124</b>	1	67	34	102
+30 mins.	0	0	0	0	46	<b>7</b>	64	117	2	52	48	102	2	73	31	106
+45 mins.	0	0	0	0	<b>72</b>	3	68	<b>143</b>	2	48	53	103	1	<b>92</b>	33	<b>126</b>
Total Volume	0	0	0	0	213	21	268	502	14	214	205	433	7	300	133	440
% App. Total	0	0	0	0	42.4	4.2	53.4		3.2	49.4	47.3		1.6	68.2	30.2	
PHF	.000	.000	.000	.000	.740	.750	.893	.878	.500	.922	.840	.873	.583	.815	.950	.873

City of Whittier  
 N/S: Pioneer Boulevard  
 E/W: I-605 Northbound Off Ramp  
 Weather: Clear

File Name : 02\_WTR\_Pioneer\_605N Off Ramp AM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
 Page No : 1

Groups Printed- Total Volume

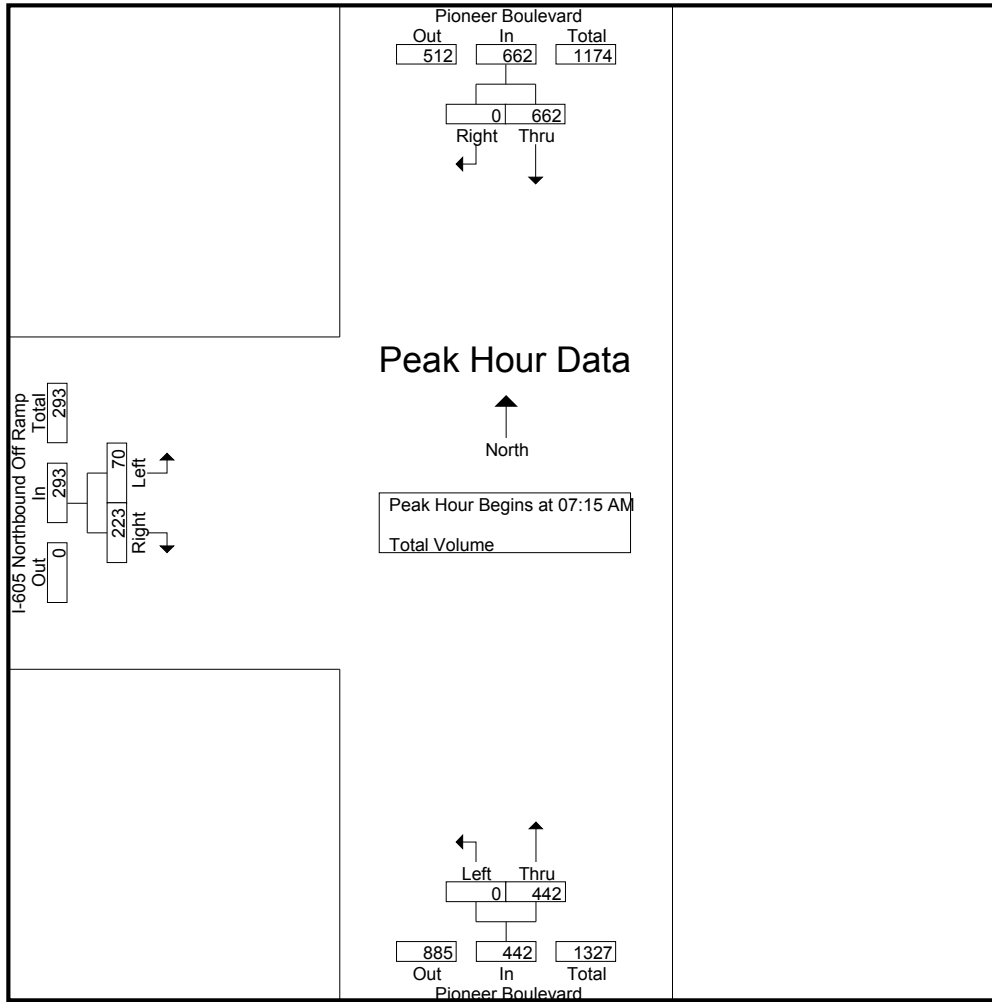
Start Time	Pioneer Boulevard Southbound			Pioneer Boulevard Northbound			I-605 Northbound Off Ramp Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
07:00 AM	140	0	140	0	73	73	15	51	66	279
07:15 AM	142	0	142	0	75	75	15	57	72	289
07:30 AM	183	0	183	0	111	111	17	53	70	364
07:45 AM	172	0	172	0	148	148	22	57	79	399
Total	637	0	637	0	407	407	69	218	287	1331
08:00 AM	165	0	165	0	108	108	16	56	72	345
08:15 AM	120	0	120	0	94	94	12	62	74	288
08:30 AM	99	0	99	0	58	58	10	42	52	209
08:45 AM	84	0	84	0	47	47	14	25	39	170
Total	468	0	468	0	307	307	52	185	237	1012
Grand Total	1105	0	1105	0	714	714	121	403	524	2343
Apprch %	100	0		0	100		23.1	76.9		
Total %	47.2	0	47.2	0	30.5	30.5	5.2	17.2	22.4	

Start Time	Pioneer Boulevard Southbound			Pioneer Boulevard Northbound			I-605 Northbound Off Ramp Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
07:15 AM	142	0	142	0	75	75	15	<b>57</b>	72	289
07:30 AM	<b>183</b>	0	<b>183</b>	0	111	111	17	53	70	364
07:45 AM	172	0	172	0	<b>148</b>	<b>148</b>	<b>22</b>	57	<b>79</b>	<b>399</b>
08:00 AM	165	0	165	0	108	108	16	56	72	345
Total Volume	662	0	662	0	442	442	70	223	293	1397
% App. Total	100	0		0	100		23.9	76.1		
PHF	.904	.000	.904	.000	.747	.747	.795	.978	.927	.875

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 07:15 AM

City of Whittier  
 N/S: Pioneer Boulevard  
 E/W: I-605 Northbound Off Ramp  
 Weather: Clear

File Name : 02\_WTR\_Pioneer\_605N Off Ramp AM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	07:15 AM			07:30 AM			07:30 AM		
+0 mins.	142	0	142	0	111	111	17	53	70
+15 mins.	<b>183</b>	0	<b>183</b>	0	<b>148</b>	<b>148</b>	<b>22</b>	57	<b>79</b>
+30 mins.	172	0	172	0	108	108	16	56	72
+45 mins.	165	0	165	0	94	94	12	<b>62</b>	74
Total Volume	662	0	662	0	461	461	67	228	295
% App. Total	100	0		0	100		22.7	77.3	
PHF	.904	.000	.904	.000	.779	.779	.761	.919	.934

City of Whittier  
 N/S: Pioneer Boulevard  
 E/W: I-605 Northbound Off Ramp  
 Weather: Clear

File Name : 02\_WTR\_Pioneer\_605N Off Ramp PM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
 Page No : 1

Groups Printed- Total Volume

Start Time	Pioneer Boulevard Southbound			Pioneer Boulevard Northbound			I-605 Northbound Off Ramp Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
04:00 PM	128	0	128	0	153	153	36	51	87	368
04:15 PM	150	0	150	0	136	136	55	38	93	379
04:30 PM	117	0	117	0	149	149	66	63	129	395
04:45 PM	135	0	135	0	160	160	57	65	122	417
Total	530	0	530	0	598	598	214	217	431	1559
05:00 PM	133	0	133	0	152	152	62	64	126	411
05:15 PM	134	0	134	0	173	173	64	86	150	457
05:30 PM	109	0	109	0	140	140	61	59	120	369
05:45 PM	120	0	120	0	130	130	63	57	120	370
Total	496	0	496	0	595	595	250	266	516	1607
Grand Total	1026	0	1026	0	1193	1193	464	483	947	3166
Apprch %	100	0		0	100		49	51		
Total %	32.4	0	32.4	0	37.7	37.7	14.7	15.3	29.9	

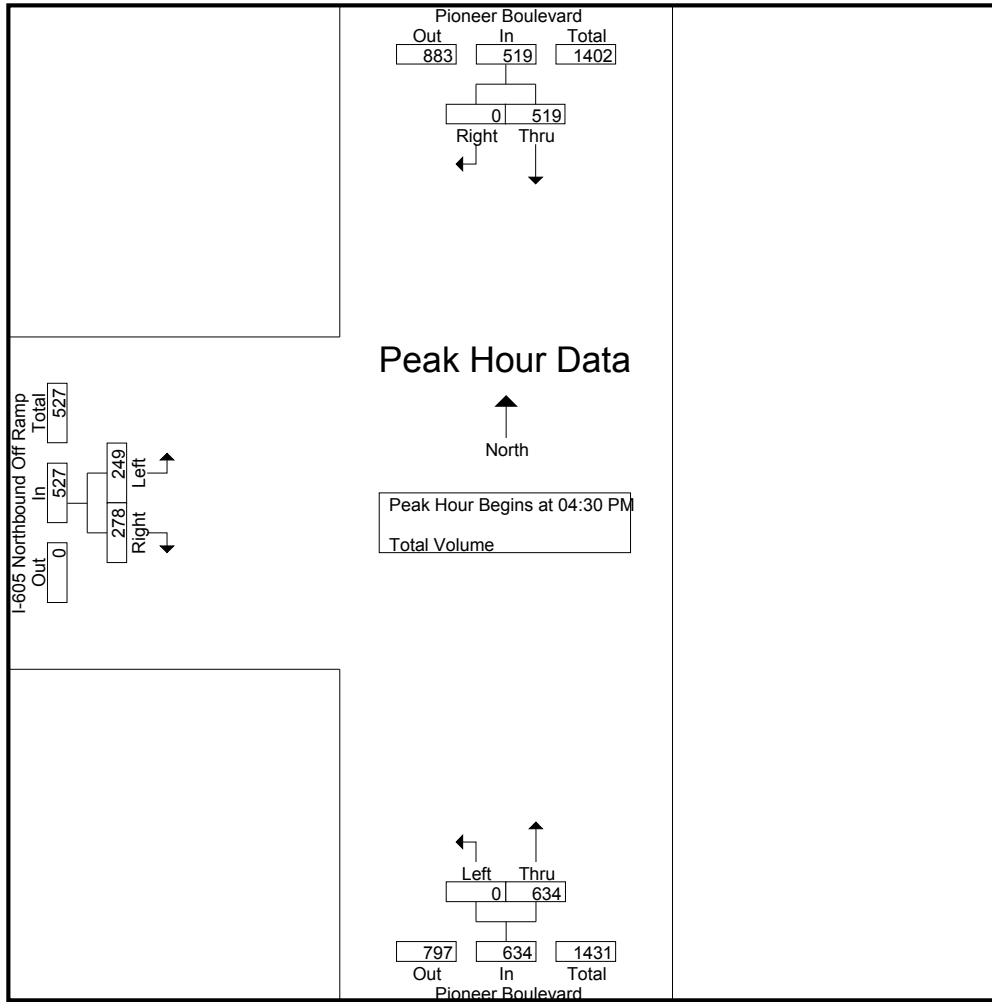
Start Time	Pioneer Boulevard Southbound			Pioneer Boulevard Northbound			I-605 Northbound Off Ramp Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
04:30 PM	117	0	117	0	149	149	<b>66</b>	63	129	395
04:45 PM	<b>135</b>	0	<b>135</b>	0	160	160	57	65	122	417
05:00 PM	133	0	133	0	152	152	62	64	126	411
05:15 PM	134	0	134	0	<b>173</b>	<b>173</b>	64	<b>86</b>	<b>150</b>	<b>457</b>
Total Volume	519	0	519	0	634	634	249	278	527	1680
% App. Total	100	0		0	100		47.2	52.8		
PHF	.961	.000	.961	.000	.916	.916	.943	.808	.878	.919

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 04:30 PM



City of Whittier  
 N/S: Pioneer Boulevard  
 E/W: I-605 Northbound Off Ramp  
 Weather: Clear

File Name : 02\_WTR\_Pioneer\_605N Off Ramp PM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	04:15 PM			04:30 PM			04:30 PM		
+0 mins.	150	0	150	0	149	149	66	63	129
+15 mins.	117	0	117	0	160	160	57	65	122
+30 mins.	135	0	135	0	152	152	62	64	126
+45 mins.	133	0	133	0	173	173	64	86	150
Total Volume	535	0	535	0	634	634	249	278	527
% App. Total	100	0		0	100		47.2	52.8	
PHF	.892	.000	.892	.000	.916	.916	.943	.808	.878

City of Whittier  
 N/S: Pioneer Boulevard  
 E/W: I-605 Northbound Off Ramp  
 Weather: Clear

File Name : 02\_WTR\_Pioneer\_605N Off Ramp SAT  
 Site Code : 04519342  
 Start Date : 5/11/2019  
 Page No : 1

Groups Printed- Total Volume

Start Time	Pioneer Boulevard Southbound			Pioneer Boulevard Northbound			I-605 Northbound Off Ramp Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
08:00 AM	67	0	67	0	47	47	26	39	65	179
08:15 AM	80	0	80	0	53	53	20	42	62	195
08:30 AM	73	0	73	0	59	59	24	63	87	219
08:45 AM	71	0	71	0	47	47	19	45	64	182
Total	291	0	291	0	206	206	89	189	278	775
09:00 AM	79	0	79	0	41	41	17	50	67	187
09:15 AM	85	0	85	0	56	56	19	57	76	217
09:30 AM	78	0	78	0	58	58	22	57	79	215
09:45 AM	71	0	71	0	68	68	24	62	86	225
Total	313	0	313	0	223	223	82	226	308	844
10:00 AM	98	0	98	0	73	73	27	49	76	247
10:15 AM	107	0	107	0	66	66	17	50	67	240
10:30 AM	87	0	87	0	64	64	29	60	89	240
10:45 AM	90	0	90	0	75	75	24	59	83	248
Total	382	0	382	0	278	278	97	218	315	975
11:00 AM	83	0	83	0	85	85	22	63	85	253
11:15 AM	81	0	81	0	78	78	40	55	95	254
11:30 AM	78	0	78	0	77	77	25	61	86	241
11:45 AM	98	0	98	0	81	81	25	69	94	273
Total	340	0	340	0	321	321	112	248	360	1021
Grand Total	1326	0	1326	0	1028	1028	380	881	1261	3615
Apprch %	100	0		0	100		30.1	69.9		
Total %	36.7	0	36.7	0	28.4	28.4	10.5	24.4	34.9	

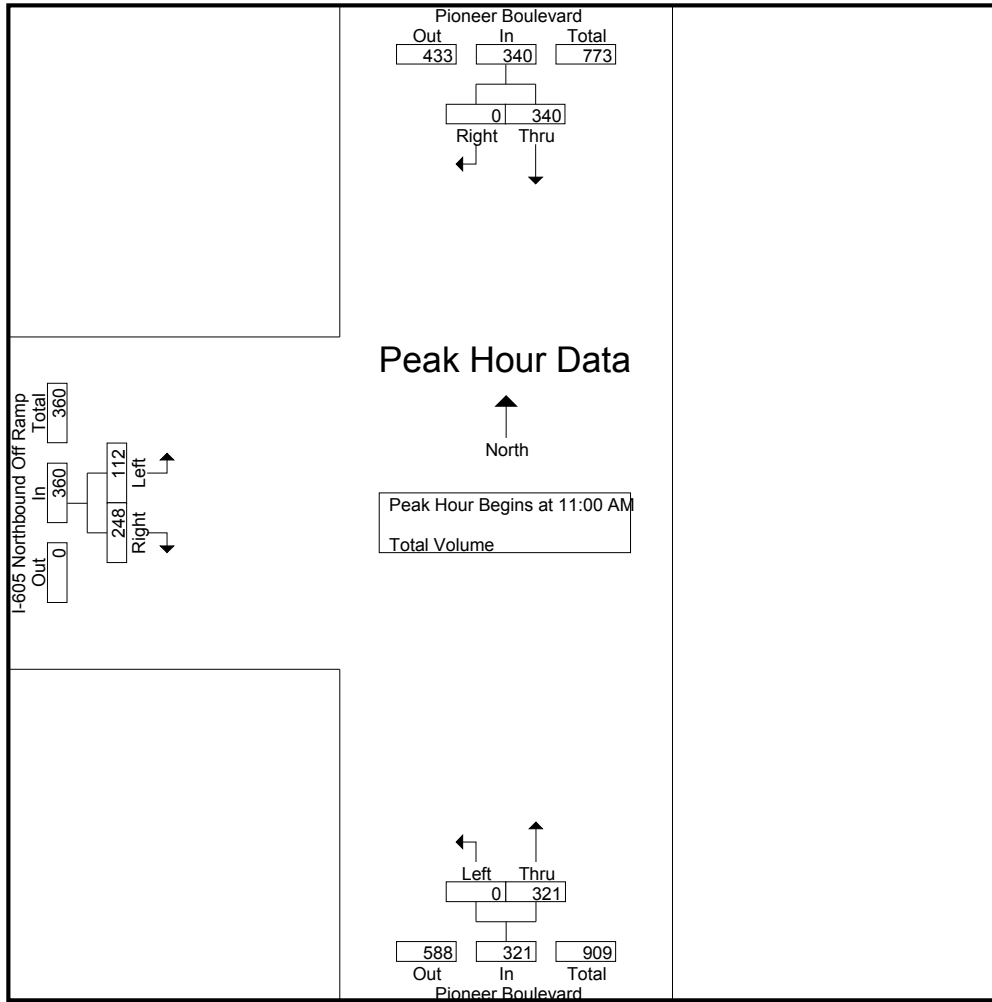
Start Time	Pioneer Boulevard Southbound			Pioneer Boulevard Northbound			I-605 Northbound Off Ramp Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
11:00 AM	83	0	83	0	<b>85</b>	<b>85</b>	22	63	85	253
11:15 AM	81	0	81	0	78	78	<b>40</b>	55	<b>95</b>	254
11:30 AM	78	0	78	0	77	77	25	61	86	241
11:45 AM	<b>98</b>	0	<b>98</b>	0	81	81	25	<b>69</b>	94	<b>273</b>
Total Volume	340	0	340	0	321	321	112	248	360	1021
% App. Total	100	0		0	100		31.1	68.9		
PHF	.867	.000	.867	.000	.944	.944	.700	.899	.947	.935

Peak Hour Analysis From 08:00 AM to 11:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 11:00 AM

City of Whittier  
 N/S: Pioneer Boulevard  
 E/W: I-605 Northbound Off Ramp  
 Weather: Clear

File Name : 02\_WTR\_Pioneer\_605N Off Ramp SAT  
 Site Code : 04519342  
 Start Date : 5/11/2019  
 Page No : 2



Peak Hour Analysis From 08:00 AM to 11:45 AM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	10:00 AM			11:00 AM			11:00 AM		
+0 mins.	98	0	98	0	<b>85</b>	<b>85</b>	22	63	85
+15 mins.	<b>107</b>	0	<b>107</b>	0	78	78	<b>40</b>	55	<b>95</b>
+30 mins.	87	0	87	0	77	77	25	61	86
+45 mins.	90	0	90	0	81	81	25	<b>69</b>	94
Total Volume	382	0	382	0	321	321	112	248	360
% App. Total	100	0		0	100		31.1	68.9	
PHF	.893	.000	.893	.000	.944	.944	.700	.899	.947

City of Whittier  
 N/S: Pioneer Boulevard  
 E/W: Washington Boulevard  
 Weather: Clear

File Name : 03\_WTR\_Pioneer\_Washington AM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
 Page No : 1

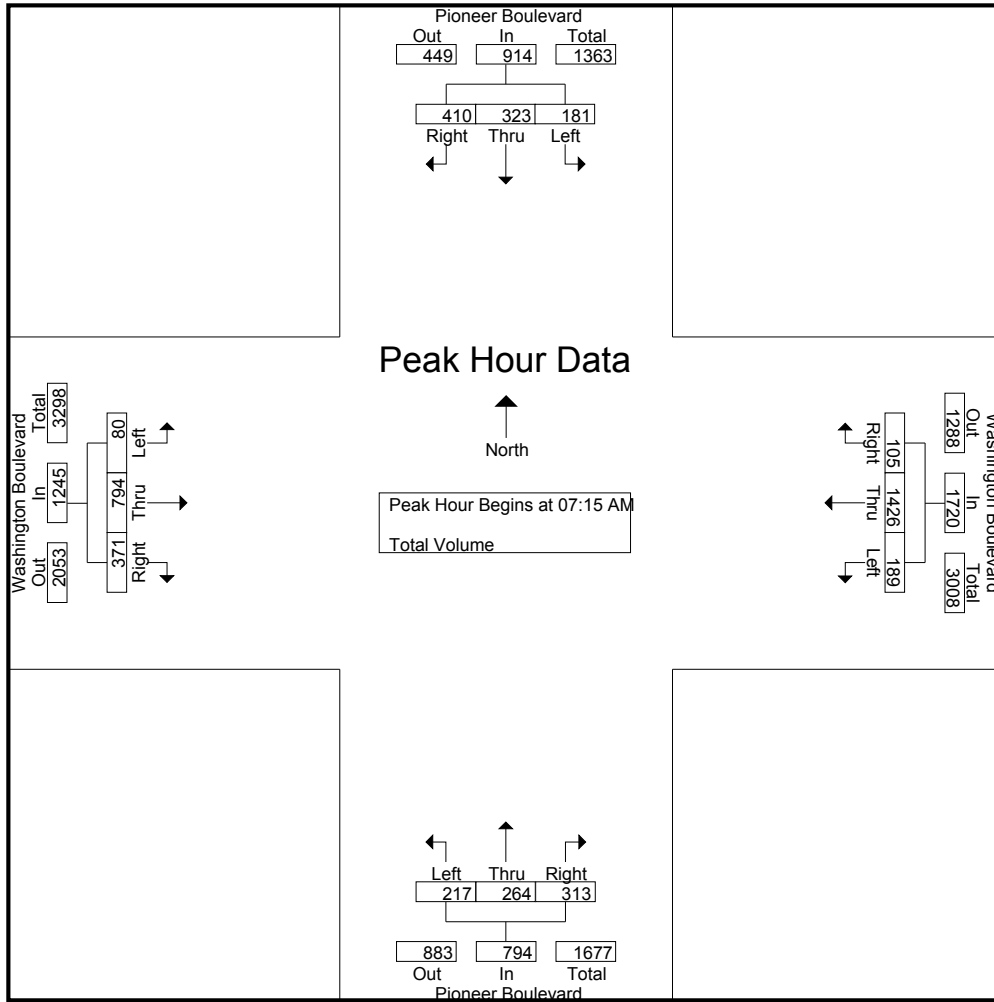
Groups Printed- Total Volume

Start Time	Pioneer Boulevard Southbound				Washington Boulevard Westbound				Pioneer Boulevard Northbound				Washington Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	28	51	97	176	21	366	32	419	35	25	63	123	18	146	69	233	951
07:15 AM	40	75	103	218	42	344	20	406	52	40	61	153	19	168	82	269	1046
07:30 AM	37	94	95	226	51	399	30	480	49	62	62	173	19	214	111	344	1223
07:45 AM	57	89	111	257	54	356	32	442	55	99	101	255	21	223	107	351	1305
Total	162	309	406	877	168	1465	114	1747	191	226	287	704	77	751	369	1197	4525
08:00 AM	47	65	101	213	42	327	23	392	61	63	89	213	21	189	71	281	1099
08:15 AM	44	66	87	197	52	330	23	405	43	55	72	170	19	162	77	258	1030
08:30 AM	35	42	70	147	36	352	26	414	36	25	54	115	9	164	62	235	911
08:45 AM	12	28	66	106	28	275	13	316	39	23	69	131	14	137	55	206	759
Total	138	201	324	663	158	1284	85	1527	179	166	284	629	63	652	265	980	3799
Grand Total	300	510	730	1540	326	2749	199	3274	370	392	571	1333	140	1403	634	2177	8324
Apprch %	19.5	33.1	47.4		10	84	6.1		27.8	29.4	42.8		6.4	64.4	29.1		
Total %	3.6	6.1	8.8	18.5	3.9	33	2.4	39.3	4.4	4.7	6.9	16	1.7	16.9	7.6	26.2	

Start Time	Pioneer Boulevard Southbound				Washington Boulevard Westbound				Pioneer Boulevard Northbound				Washington Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	40	75	103	218	42	344	20	406	52	40	61	153	19	168	82	269	1046
07:30 AM	37	<b>94</b>	95	226	51	<b>399</b>	30	<b>480</b>	49	62	62	173	19	214	<b>111</b>	344	1223
07:45 AM	<b>57</b>	89	<b>111</b>	<b>257</b>	<b>54</b>	356	<b>32</b>	442	55	<b>99</b>	<b>101</b>	<b>255</b>	<b>21</b>	<b>223</b>	107	<b>351</b>	<b>1305</b>
08:00 AM	47	65	101	213	42	327	23	392	<b>61</b>	63	89	213	21	189	71	281	1099
Total Volume	181	323	410	914	189	1426	105	1720	217	264	313	794	80	794	371	1245	4673
% App. Total	19.8	35.3	44.9		11	82.9	6.1		27.3	33.2	39.4		6.4	63.8	29.8		
PHF	.794	.859	.923	.889	.875	.893	.820	.896	.889	.667	.775	.778	.952	.890	.836	.887	.895

City of Whittier  
 N/S: Pioneer Boulevard  
 E/W: Washington Boulevard  
 Weather: Clear

File Name : 03\_WTR\_Pioneer\_Washington AM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	07:15 AM				07:00 AM				07:30 AM				07:15 AM			
+0 mins.	40	75	103	218	21	366	<b>32</b>	419	49	62	62	173	19	168	82	269
+15 mins.	37	<b>94</b>	95	226	42	344	20	406	55	<b>99</b>	<b>101</b>	<b>255</b>	19	214	<b>111</b>	344
+30 mins.	<b>57</b>	89	<b>111</b>	<b>257</b>	51	<b>399</b>	30	<b>480</b>	<b>61</b>	63	89	213	<b>21</b>	<b>223</b>	107	<b>351</b>
+45 mins.	47	65	101	213	<b>54</b>	356	32	442	43	55	72	170	21	189	71	281
Total Volume	181	323	410	914	168	1465	114	1747	208	279	324	811	80	794	371	1245
% App. Total	19.8	35.3	44.9		9.6	83.9	6.5		25.6	34.4	40		6.4	63.8	29.8	
PHF	.794	.859	.923	.889	.778	.918	.891	.910	.852	.705	.802	.795	.952	.890	.836	.887

City of Whittier  
 N/S: Pioneer Boulevard  
 E/W: Washington Boulevard  
 Weather: Clear

File Name : 03\_WTR\_Pioneer\_Washington PM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
 Page No : 1

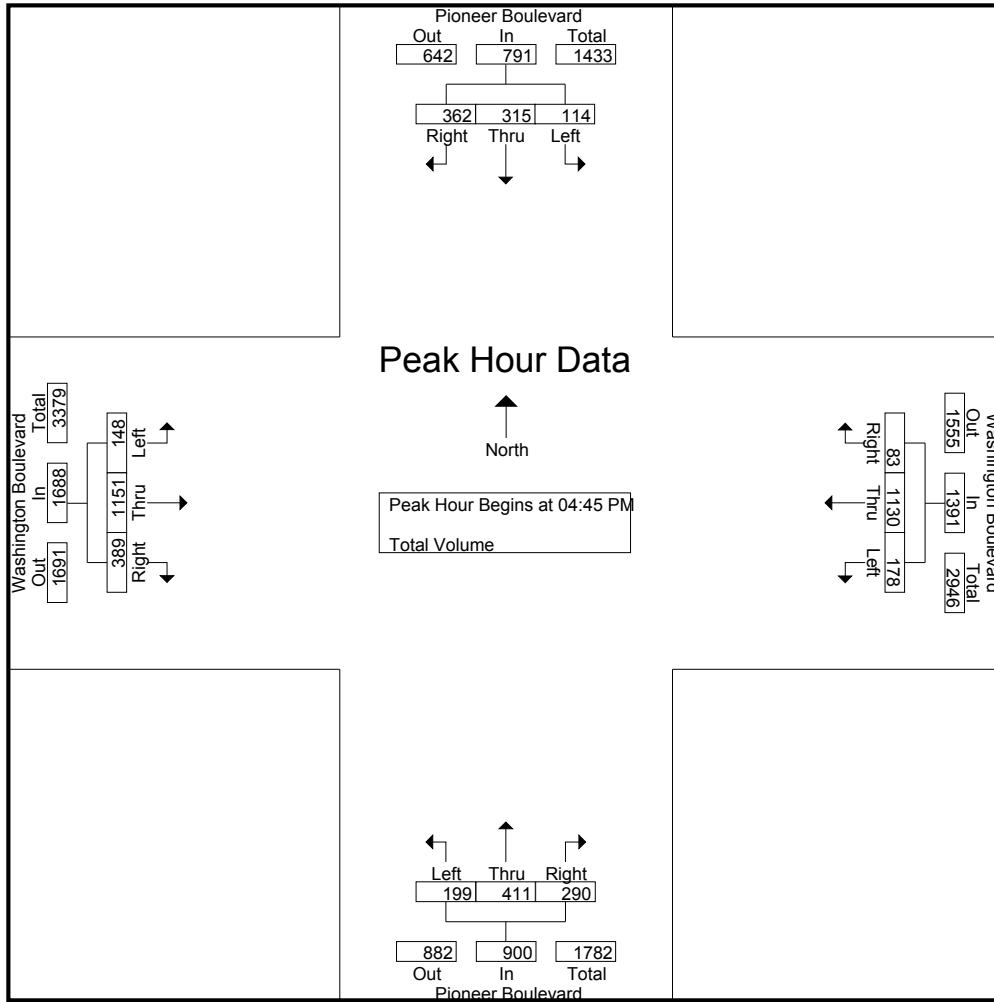
Groups Printed- Total Volume

Start Time	Pioneer Boulevard Southbound				Washington Boulevard Westbound				Pioneer Boulevard Northbound				Washington Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	29	67	74	170	36	230	28	294	68	88	65	221	30	241	104	375	1060
04:15 PM	27	91	72	190	42	270	27	339	52	74	75	201	46	275	98	419	1149
04:30 PM	33	85	76	194	43	230	30	303	62	82	56	200	37	266	114	417	1114
04:45 PM	29	82	75	186	42	288	20	350	40	114	63	217	34	293	98	425	1178
Total	118	325	297	740	163	1018	105	1286	222	358	259	839	147	1075	414	1636	4501
05:00 PM	31	92	90	213	40	261	19	320	60	106	69	235	27	263	90	380	1148
05:15 PM	26	68	107	201	59	328	26	413	45	102	65	212	54	316	105	475	1301
05:30 PM	28	73	90	191	37	253	18	308	54	89	93	236	33	279	96	408	1143
05:45 PM	29	63	80	172	41	252	26	319	57	69	72	198	42	274	97	413	1102
Total	114	296	367	777	177	1094	89	1360	216	366	299	881	156	1132	388	1676	4694
Grand Total	232	621	664	1517	340	2112	194	2646	438	724	558	1720	303	2207	802	3312	9195
Apprch %	15.3	40.9	43.8		12.8	79.8	7.3		25.5	42.1	32.4		9.1	66.6	24.2		
Total %	2.5	6.8	7.2	16.5	3.7	23	2.1	28.8	4.8	7.9	6.1	18.7	3.3	24	8.7	36	

Start Time	Pioneer Boulevard Southbound				Washington Boulevard Westbound				Pioneer Boulevard Northbound				Washington Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	29	82	75	186	42	288	20	350	40	114	63	217	34	293	98	425	1178
05:00 PM	31	92	90	213	40	261	19	320	60	106	69	235	27	263	90	380	1148
05:15 PM	26	68	107	201	59	328	26	413	45	102	65	212	54	316	105	475	1301
05:30 PM	28	73	90	191	37	253	18	308	54	89	93	236	33	279	96	408	1143
Total Volume	114	315	362	791	178	1130	83	1391	199	411	290	900	148	1151	389	1688	4770
% App. Total	14.4	39.8	45.8		12.8	81.2	6		22.1	45.7	32.2		8.8	68.2	23		
PHF	.919	.856	.846	.928	.754	.861	.798	.842	.829	.901	.780	.953	.685	.911	.926	.888	.917

City of Whittier  
 N/S: Pioneer Boulevard  
 E/W: Washington Boulevard  
 Weather: Clear

File Name : 03\_WTR\_Pioneer\_Washington PM  
 Site Code : 04519342  
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	04:30 PM				04:45 PM				04:45 PM				04:30 PM			
+0 mins.	<b>33</b>	85	76	194	42	288	20	350	40	<b>114</b>	63	217	37	266	<b>114</b>	417
+15 mins.	29	82	75	186	40	261	19	320	<b>60</b>	106	69	235	34	293	98	425
+30 mins.	31	<b>92</b>	90	<b>213</b>	<b>59</b>	<b>328</b>	<b>26</b>	<b>413</b>	45	102	65	212	27	263	90	380
+45 mins.	26	68	<b>107</b>	201	37	253	18	308	54	89	<b>93</b>	<b>236</b>	<b>54</b>	<b>316</b>	105	<b>475</b>
Total Volume	119	327	348	794	178	1130	83	1391	199	411	290	900	152	1138	407	1697
% App. Total	15	41.2	43.8		12.8	81.2	6		22.1	45.7	32.2		9	67.1	24	
PHF	.902	.889	.813	.932	.754	.861	.798	.842	.829	.901	.780	.953	.704	.900	.893	.893

City of Whittier  
 N/S: Pioneer Boulevard  
 E/W: Washington Boulevard  
 Weather: Clear

File Name : 03\_WTR\_Pioneer\_Washington SAT  
 Site Code : 04519342  
 Start Date : 5/11/2019  
 Page No : 1

Groups Printed- Total Volume

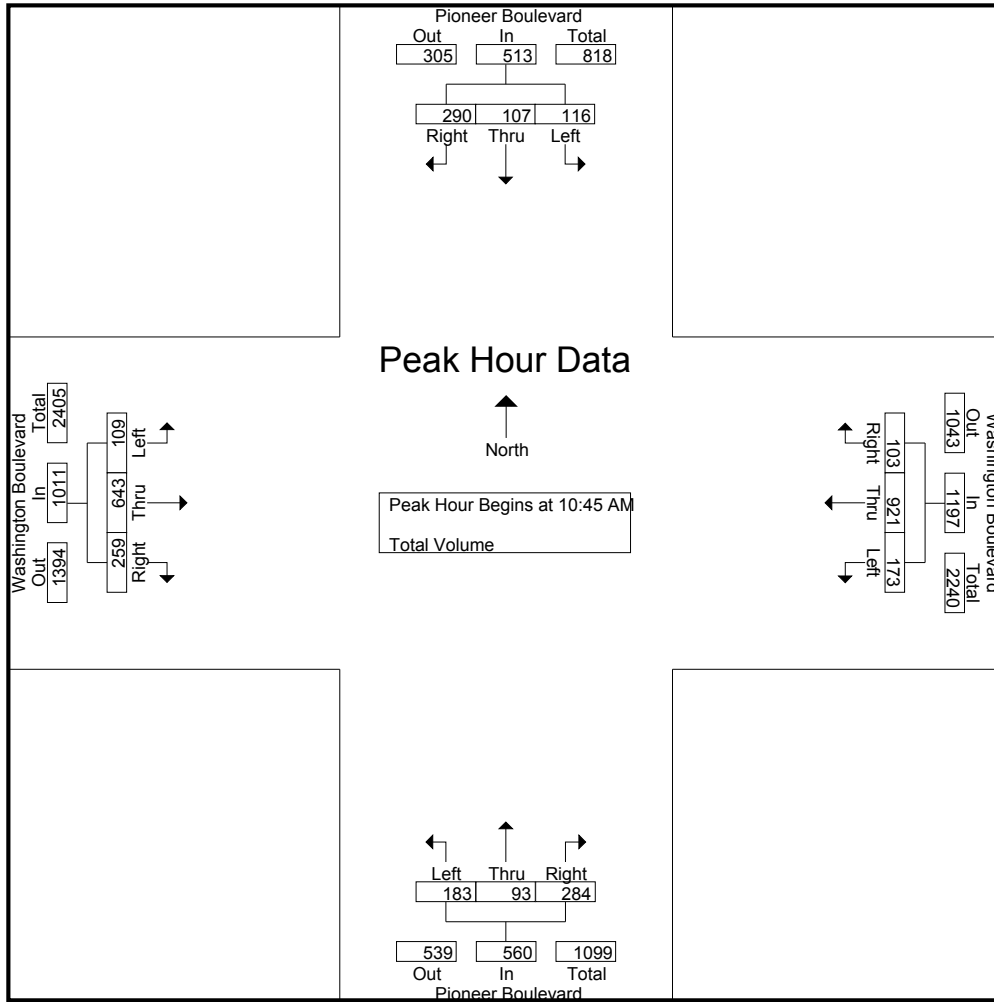
Start Time	Pioneer Boulevard Southbound				Washington Boulevard Westbound				Pioneer Boulevard Northbound				Washington Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
08:00 AM	29	16	57	102	20	161	15	196	46	19	69	134	15	80	43	138	570
08:15 AM	32	18	66	116	30	204	19	253	44	17	70	131	22	121	52	195	695
08:30 AM	45	20	72	137	20	217	20	257	52	21	76	149	17	124	56	197	740
08:45 AM	27	21	67	115	25	237	23	285	47	16	85	148	25	131	36	192	740
Total	133	75	262	470	95	819	77	991	189	73	300	562	79	456	187	722	2745
09:00 AM	36	15	84	135	23	246	17	286	46	18	73	137	10	144	55	209	767
09:15 AM	37	18	81	136	31	243	22	296	54	21	68	143	15	155	53	223	798
09:30 AM	35	16	80	131	28	245	20	293	50	20	71	141	13	149	52	214	779
09:45 AM	29	17	78	124	27	236	19	282	47	19	66	132	18	139	49	206	744
Total	137	66	323	526	109	970	78	1157	197	78	278	553	56	587	209	852	3088
10:00 AM	33	25	78	136	41	235	22	298	48	23	73	144	22	159	60	241	819
10:15 AM	29	32	75	136	38	228	21	287	45	29	69	143	23	156	55	234	800
10:30 AM	31	33	69	133	40	233	19	292	43	21	67	131	25	165	59	249	805
10:45 AM	26	31	71	128	44	243	22	309	46	20	71	137	27	175	65	267	841
Total	119	121	293	533	163	939	84	1186	182	93	280	555	97	655	239	991	3265
11:00 AM	30	26	71	127	43	219	25	287	44	22	75	141	31	154	66	251	806
11:15 AM	32	28	70	130	41	222	27	290	44	25	71	140	29	165	69	263	823
11:30 AM	28	22	78	128	45	237	29	311	49	26	67	142	22	149	59	230	811
11:45 AM	31	39	78	148	43	235	23	301	52	28	76	156	21	151	61	233	838
Total	121	115	297	533	172	913	104	1189	189	101	289	579	103	619	255	977	3278
Grand Total	510	377	1175	2062	539	3641	343	4523	757	345	1147	2249	335	2317	890	3542	12376
Apprch %	24.7	18.3	57		11.9	80.5	7.6		33.7	15.3	51		9.5	65.4	25.1		
Total %	4.1	3	9.5	16.7	4.4	29.4	2.8	36.5	6.1	2.8	9.3	18.2	2.7	18.7	7.2	28.6	

Start Time	Pioneer Boulevard Southbound				Washington Boulevard Westbound				Pioneer Boulevard Northbound				Washington Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 08:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 10:45 AM																	
10:45 AM	26	<b>31</b>	71	128	44	<b>243</b>	22	309	46	20	71	137	27	<b>175</b>	65	<b>267</b>	<b>841</b>
11:00 AM	30	26	71	127	43	219	25	287	44	22	<b>75</b>	141	<b>31</b>	154	66	251	806
11:15 AM	<b>32</b>	28	70	<b>130</b>	41	222	27	290	44	25	71	140	29	165	<b>69</b>	263	823
11:30 AM	28	22	<b>78</b>	128	<b>45</b>	237	<b>29</b>	<b>311</b>	<b>49</b>	<b>26</b>	67	<b>142</b>	22	149	59	230	811
Total Volume	116	107	290	513	173	921	103	1197	183	93	284	560	109	643	259	1011	3281
% App. Total	22.6	20.9	56.5		14.5	76.9	8.6		32.7	16.6	50.7		10.8	63.6	25.6		
PHF	.906	.863	.929	.987	.961	.948	.888	.962	.934	.894	.947	.986	.879	.919	.938	.947	.975



City of Whittier  
 N/S: Pioneer Boulevard  
 E/W: Washington Boulevard  
 Weather: Clear

File Name : 03\_WTR\_Pioneer\_Washington SAT  
 Site Code : 04519342  
 Start Date : 5/11/2019  
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Peak Hour Analysis From 08:00 AM to 11:45 AM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	10:00 AM				10:45 AM				11:00 AM				10:30 AM			
+0 mins.	33	25	78	136	44	243	22	309	44	22	75	141	25	165	59	249
+15 mins.	29	32	75	136	43	219	25	287	44	25	71	140	27	175	65	267
+30 mins.	31	33	69	133	41	222	27	290	49	26	67	142	31	154	66	251
+45 mins.	26	31	71	128	45	237	29	311	52	28	76	156	29	165	69	263
Total Volume	119	121	293	533	173	921	103	1197	189	101	289	579	112	659	259	1030
% App. Total	22.3	22.7	55		14.5	76.9	8.6		32.6	17.4	49.9		10.9	64	25.1	
PHF	.902	.917	.939	.980	.961	.948	.888	.962	.909	.902	.951	.928	.903	.941	.938	.964

City of Whittier  
 N/S: Millergrove Drive  
 E/W: Washington Boulevard  
 Weather: Clear

File Name : 04\_WTR\_Millergrove\_Washington AM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
 Page No : 1

Groups Printed- Total Volume

Start Time	Washington Boulevard Westbound			Millergrove Drive Northbound			Washington Boulevard Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	30	403	433	22	27	49	211	1	212	694
07:15 AM	25	396	421	21	15	36	259	2	261	718
07:30 AM	24	420	444	26	19	45	282	6	288	777
07:45 AM	65	375	440	42	58	100	333	5	338	878
Total	144	1594	1738	111	119	230	1085	14	1099	3067
08:00 AM	46	351	397	38	49	87	320	5	325	809
08:15 AM	14	389	403	14	23	37	267	0	267	707
08:30 AM	12	379	391	14	12	26	246	1	247	664
08:45 AM	5	294	299	14	5	19	212	1	213	531
Total	77	1413	1490	80	89	169	1045	7	1052	2711
Grand Total	221	3007	3228	191	208	399	2130	21	2151	5778
Apprch %	6.8	93.2		47.9	52.1		99	1		
Total %	3.8	52	55.9	3.3	3.6	6.9	36.9	0.4	37.2	

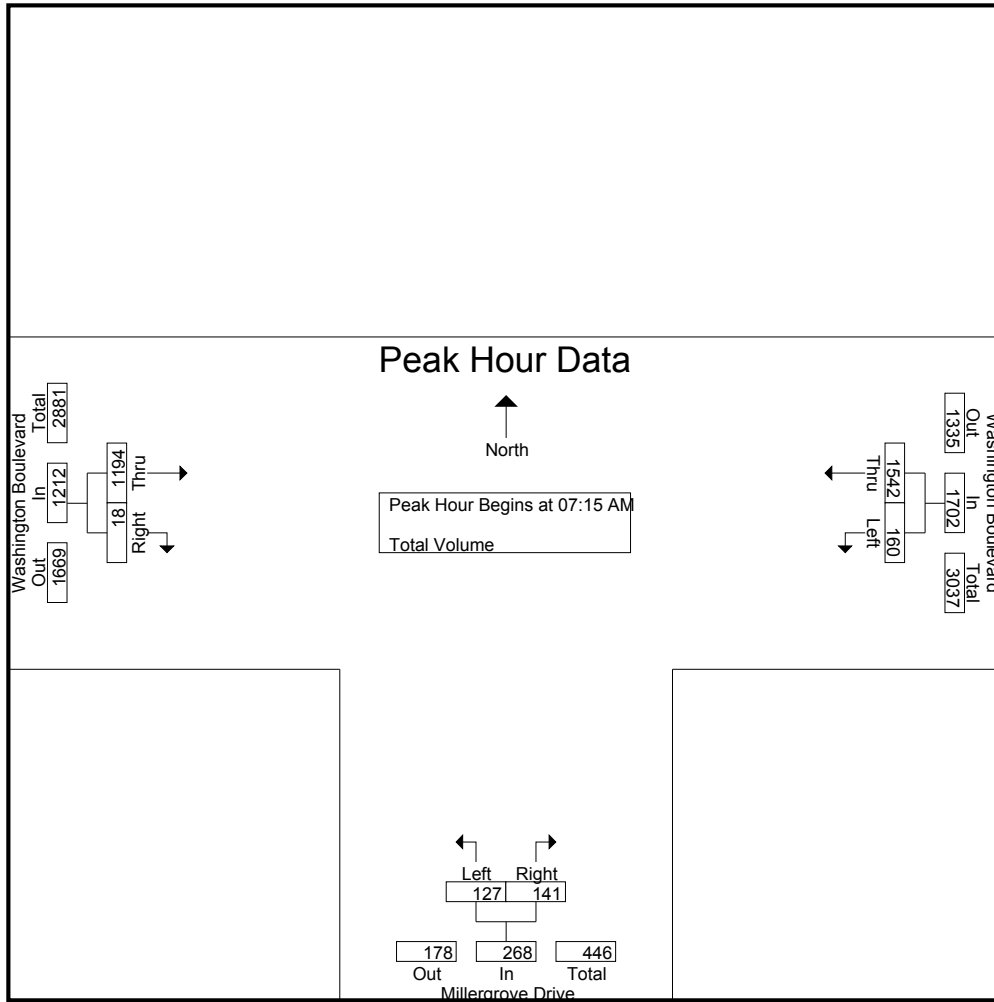
Start Time	Washington Boulevard Westbound			Millergrove Drive Northbound			Washington Boulevard Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:15 AM	25	396	421	21	15	36	259	2	261	718
07:30 AM	24	<b>420</b>	<b>444</b>	26	19	45	282	<b>6</b>	288	777
07:45 AM	<b>65</b>	375	440	<b>42</b>	<b>58</b>	<b>100</b>	<b>333</b>	5	<b>338</b>	<b>878</b>
08:00 AM	46	351	397	38	49	87	320	5	325	809
Total Volume	160	1542	1702	127	141	268	1194	18	1212	3182
% App. Total	9.4	90.6		47.4	52.6		98.5	1.5		
PHF	.615	.918	.958	.756	.608	.670	.896	.750	.896	.906

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:15 AM

City of Whittier  
 N/S: Millergrove Drive  
 E/W: Washington Boulevard  
 Weather: Clear

File Name : 04\_WTR\_Millergrove\_Washington AM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	07:00 AM			07:30 AM			07:30 AM		
+0 mins.	30	403	433	26	19	45	282	6	288
+15 mins.	25	396	421	42	58	100	333	5	338
+30 mins.	24	420	444	38	49	87	320	5	325
+45 mins.	65	375	440	14	23	37	267	0	267
Total Volume	144	1594	1738	120	149	269	1202	16	1218
% App. Total	8.3	91.7		44.6	55.4		98.7	1.3	
PHF	.554	.949	.979	.714	.642	.673	.902	.667	.901

City of Whittier  
 N/S: Millergrove Drive  
 E/W: Washington Boulevard  
 Weather: Clear

File Name : 04\_WTR\_Millergrove\_Washington PM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
 Page No : 1

Groups Printed- Total Volume

Start Time	Washington Boulevard Westbound			Millergrove Drive Northbound			Washington Boulevard Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	10	300	310	11	19	30	310	4	314	654
04:15 PM	12	301	313	6	12	18	366	5	371	702
04:30 PM	12	314	326	15	17	32	343	6	349	707
04:45 PM	13	323	336	10	22	32	374	3	377	745
Total	47	1238	1285	42	70	112	1393	18	1411	2808
05:00 PM	4	337	341	8	18	26	349	5	354	721
05:15 PM	14	374	388	13	16	29	392	3	395	812
05:30 PM	21	304	325	16	17	33	370	2	372	730
05:45 PM	15	298	313	9	25	34	374	4	378	725
Total	54	1313	1367	46	76	122	1485	14	1499	2988
Grand Total	101	2551	2652	88	146	234	2878	32	2910	5796
Apprch %	3.8	96.2		37.6	62.4		98.9	1.1		
Total %	1.7	44	45.8	1.5	2.5	4	49.7	0.6	50.2	

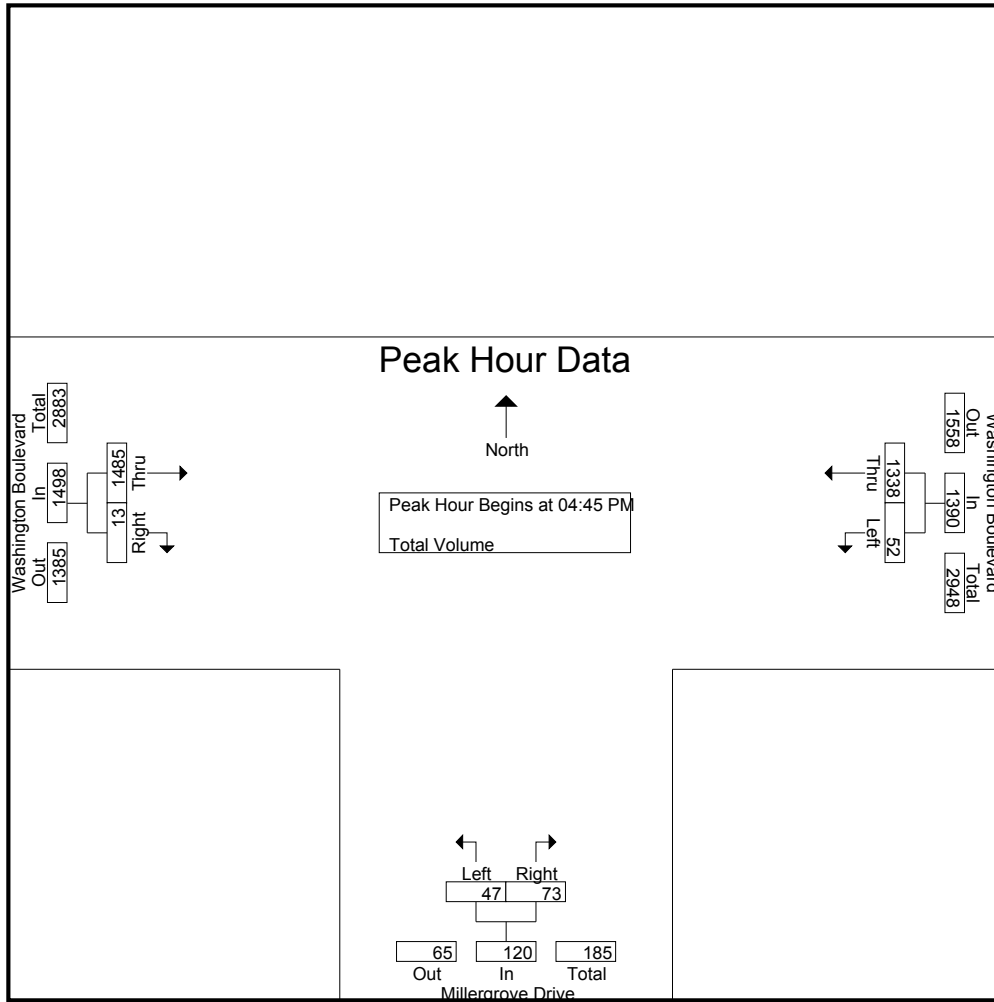
Start Time	Washington Boulevard Westbound			Millergrove Drive Northbound			Washington Boulevard Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:45 PM	13	323	336	10	22	32	374	3	377	745
05:00 PM	4	337	341	8	18	26	349	5	354	721
05:15 PM	14	374	388	13	16	29	392	3	395	812
05:30 PM	21	304	325	16	17	33	370	2	372	730
Total Volume	52	1338	1390	47	73	120	1485	13	1498	3008
% App. Total	3.7	96.3		39.2	60.8		99.1	0.9		
PHF	.619	.894	.896	.734	.830	.909	.947	.650	.948	.926

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM

City of Whittier  
 N/S: Millergrove Drive  
 E/W: Washington Boulevard  
 Weather: Clear

File Name : 04\_WTR\_Millergrove\_Washington PM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	04:30 PM			05:00 PM			05:00 PM		
+0 mins.	12	314	326	8	18	26	349	5	354
+15 mins.	13	323	336	13	16	29	<b>392</b>	3	<b>395</b>
+30 mins.	4	337	341	<b>16</b>	17	33	370	2	372
+45 mins.	<b>14</b>	<b>374</b>	<b>388</b>	9	<b>25</b>	<b>34</b>	374	4	378
Total Volume	43	1348	1391	46	76	122	1485	14	1499
% App. Total	3.1	96.9		37.7	62.3		99.1	0.9	
PHF	.768	.901	.896	.719	.760	.897	.947	.700	.949

City of Whittier  
 N/S: Millergrove Drive  
 E/W: Washington Boulevard  
 Weather: Clear

File Name : 04\_WTR\_Millergrove\_Washington SAT  
 Site Code : 04519342  
 Start Date : 5/11/2019  
 Page No : 1

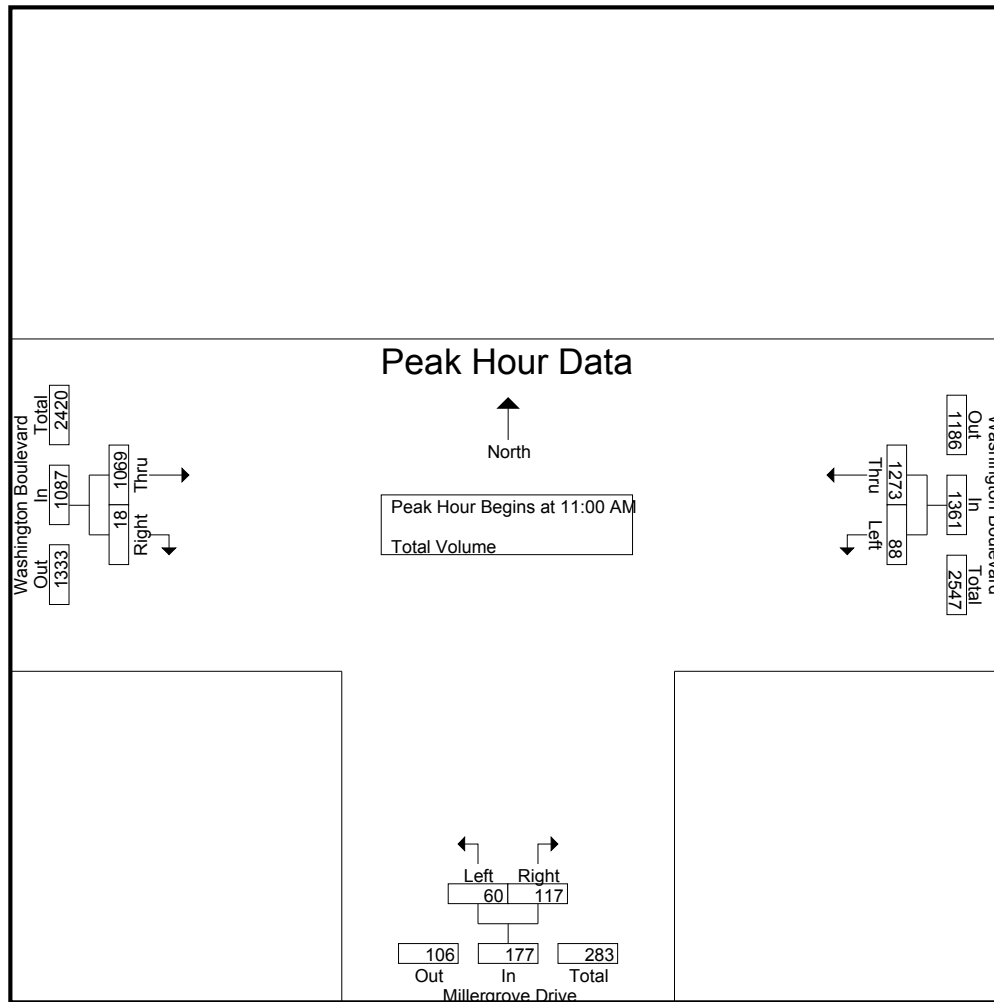
Groups Printed- Total Volume

Start Time	Washington Boulevard Westbound			Millergrove Drive Northbound			Washington Boulevard Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
08:00 AM	19	195	214	14	27	41	174	1	175	430
08:15 AM	16	243	259	17	20	37	198	3	201	497
08:30 AM	17	203	220	26	20	46	221	6	227	493
08:45 AM	17	276	293	21	25	46	229	2	231	570
Total	69	917	986	78	92	170	822	12	834	1990
09:00 AM	19	247	266	16	22	38	227	2	229	533
09:15 AM	17	265	282	15	16	31	214	8	222	535
09:30 AM	13	253	266	19	17	36	262	3	265	567
09:45 AM	11	273	284	23	14	37	240	3	243	564
Total	60	1038	1098	73	69	142	943	16	959	2199
10:00 AM	19	281	300	18	19	37	221	4	225	562
10:15 AM	21	285	306	16	21	37	248	4	252	595
10:30 AM	21	259	280	18	27	45	253	2	255	580
10:45 AM	21	326	347	20	21	41	245	7	252	640
Total	82	1151	1233	72	88	160	967	17	984	2377
11:00 AM	16	306	322	8	28	36	248	3	251	609
11:15 AM	23	341	364	15	30	45	241	4	245	654
11:30 AM	24	325	349	21	24	45	254	8	262	656
11:45 AM	25	301	326	16	35	51	326	3	329	706
Total	88	1273	1361	60	117	177	1069	18	1087	2625
Grand Total	299	4379	4678	283	366	649	3801	63	3864	9191
Apprch %	6.4	93.6		43.6	56.4		98.4	1.6		
Total %	3.3	47.6	50.9	3.1	4	7.1	41.4	0.7	42	

Start Time	Washington Boulevard Westbound			Millergrove Drive Northbound			Washington Boulevard Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 08:00 AM to 11:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 11:00 AM										
11:00 AM	16	306	322	8	28	36	248	3	251	609
11:15 AM	23	<b>341</b>	<b>364</b>	15	30	45	241	4	245	654
11:30 AM	24	325	349	<b>21</b>	24	45	254	<b>8</b>	262	656
11:45 AM	<b>25</b>	301	326	16	<b>35</b>	<b>51</b>	<b>326</b>	3	<b>329</b>	<b>706</b>
Total Volume	88	1273	1361	60	117	177	1069	18	1087	2625
% App. Total	6.5	93.5		33.9	66.1		98.3	1.7		
PHF	.880	.933	.935	.714	.836	.868	.820	.563	.826	.930

City of Whittier  
 N/S: Millergrove Drive  
 E/W: Washington Boulevard  
 Weather: Clear

File Name : 04\_WTR\_Millergrove\_Washington SAT  
 Site Code : 04519342  
 Start Date : 5/11/2019  
 Page No : 2



Peak Hour Analysis From 08:00 AM to 11:45 AM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	10:45 AM			11:00 AM			11:00 AM		
+0 mins.	21	326	347	8	28	36	248	3	251
+15 mins.	16	306	322	15	30	45	241	4	245
+30 mins.	23	<b>341</b>	<b>364</b>	<b>21</b>	24	45	254	<b>8</b>	262
+45 mins.	<b>24</b>	325	349	16	<b>35</b>	<b>51</b>	<b>326</b>	3	<b>329</b>
Total Volume	84	1298	1382	60	117	177	1069	18	1087
% App. Total	6.1	93.9		33.9	66.1		98.3	1.7	
PHF	.875	.952	.949	.714	.836	.868	.820	.563	.826

City of Whittier  
 N/S: Norwalk Boulevard  
 E/W: Washington Boulevard  
 Weather: Clear

File Name : 05\_WTR\_Norwalk\_Washington AM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
 Page No : 1

Groups Printed- Total Volume

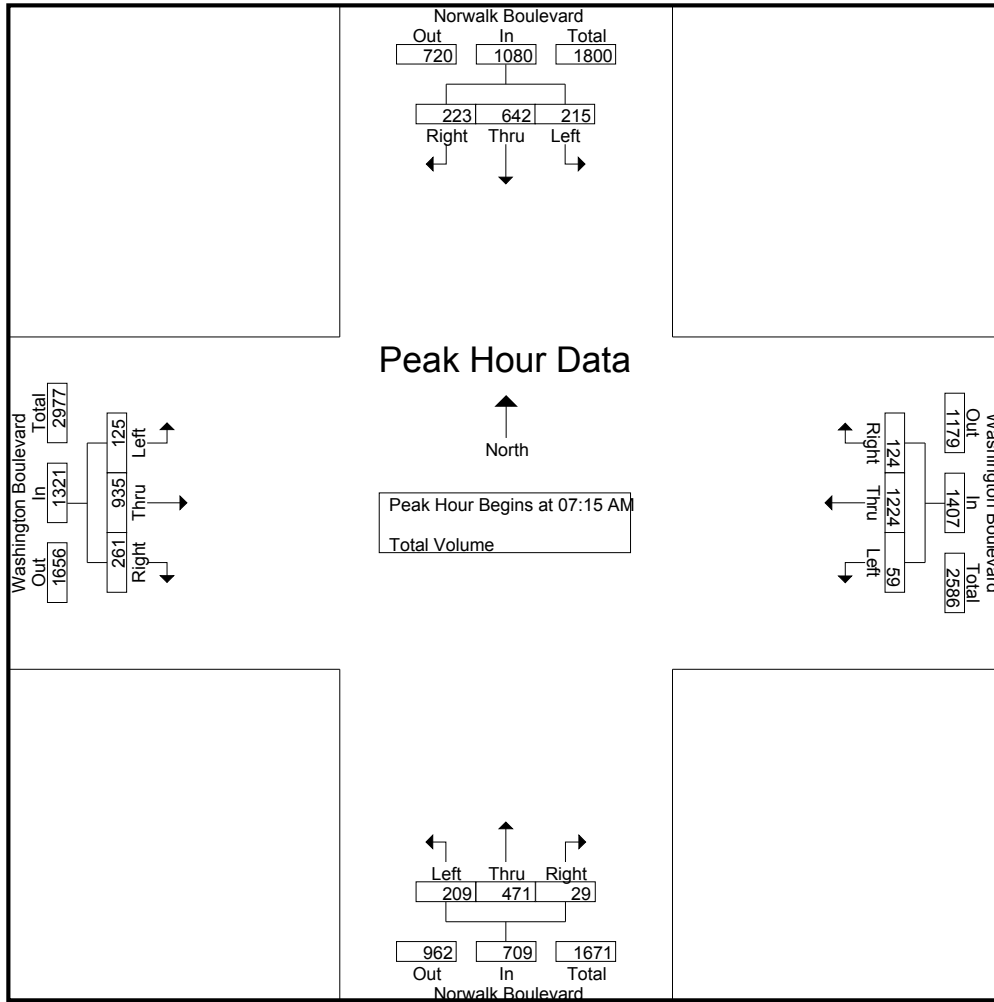
Start Time	Norwalk Boulevard Southbound				Washington Boulevard Westbound				Norwalk Boulevard Northbound				Washington Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	28	128	43	199	20	289	42	351	52	109	6	167	22	167	45	234	951
07:15 AM	48	151	44	243	7	344	25	376	61	93	10	164	14	221	59	294	1077
07:30 AM	50	166	50	266	17	301	33	351	54	145	6	205	26	181	70	277	1099
07:45 AM	60	181	71	312	20	325	37	382	49	117	4	170	39	288	75	402	1266
Total	186	626	208	1020	64	1259	137	1460	216	464	26	706	101	857	249	1207	4393
08:00 AM	57	144	58	259	15	254	29	298	45	116	9	170	46	245	57	348	1075
08:15 AM	53	120	38	211	12	320	26	358	59	106	8	173	27	250	58	335	1077
08:30 AM	46	116	28	190	12	286	31	329	57	104	10	171	24	177	30	231	921
08:45 AM	53	97	16	166	14	247	33	294	40	80	9	129	29	182	36	247	836
Total	209	477	140	826	53	1107	119	1279	201	406	36	643	126	854	181	1161	3909
Grand Total	395	1103	348	1846	117	2366	256	2739	417	870	62	1349	227	1711	430	2368	8302
Apprch %	21.4	59.8	18.9		4.3	86.4	9.3		30.9	64.5	4.6		9.6	72.3	18.2		
Total %	4.8	13.3	4.2	22.2	1.4	28.5	3.1	33	5	10.5	0.7	16.2	2.7	20.6	5.2	28.5	

Start Time	Norwalk Boulevard Southbound				Washington Boulevard Westbound				Norwalk Boulevard Northbound				Washington Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	48	151	44	243	7	<b>344</b>	25	376	<b>61</b>	93	<b>10</b>	164	14	221	59	294	1077
07:30 AM	50	166	50	266	17	301	33	351	54	<b>145</b>	6	<b>205</b>	26	181	70	277	1099
07:45 AM	<b>60</b>	<b>181</b>	<b>71</b>	<b>312</b>	<b>20</b>	325	<b>37</b>	<b>382</b>	49	117	4	170	39	<b>288</b>	<b>75</b>	<b>402</b>	<b>1266</b>
08:00 AM	57	144	58	259	15	254	29	298	45	116	9	170	<b>46</b>	245	57	348	1075
Total Volume	215	642	223	1080	59	1224	124	1407	209	471	29	709	125	935	261	1321	4517
% App. Total	19.9	59.4	20.6		4.2	87	8.8		29.5	66.4	4.1		9.5	70.8	19.8		
PHF	.896	.887	.785	.865	.738	.890	.838	.921	.857	.812	.725	.865	.679	.812	.870	.822	.892



City of Whittier  
 N/S: Norwalk Boulevard  
 E/W: Washington Boulevard  
 Weather: Clear

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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	07:15 AM				07:00 AM				07:30 AM				07:30 AM			
+0 mins.	48	151	44	243	20	289	42	351	54	145	6	205	26	181	70	277
+15 mins.	50	166	50	266	7	344	25	376	49	117	4	170	39	288	75	402
+30 mins.	60	181	71	312	17	301	33	351	45	116	9	170	46	245	57	348
+45 mins.	57	144	58	259	20	325	37	382	59	106	8	173	27	250	58	335
Total Volume	215	642	223	1080	64	1259	137	1460	207	484	27	718	138	964	260	1362
% App. Total	19.9	59.4	20.6		4.4	86.2	9.4		28.8	67.4	3.8		10.1	70.8	19.1	
PHF	.896	.887	.785	.865	.800	.915	.815	.955	.877	.834	.750	.876	.750	.837	.867	.847

City of Whittier  
 N/S: Norwalk Boulevard  
 E/W: Washington Boulevard  
 Weather: Clear

File Name : 05\_WTR\_Norwalk\_Washington PM  
 Site Code : 04519342  
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 Page No : 1

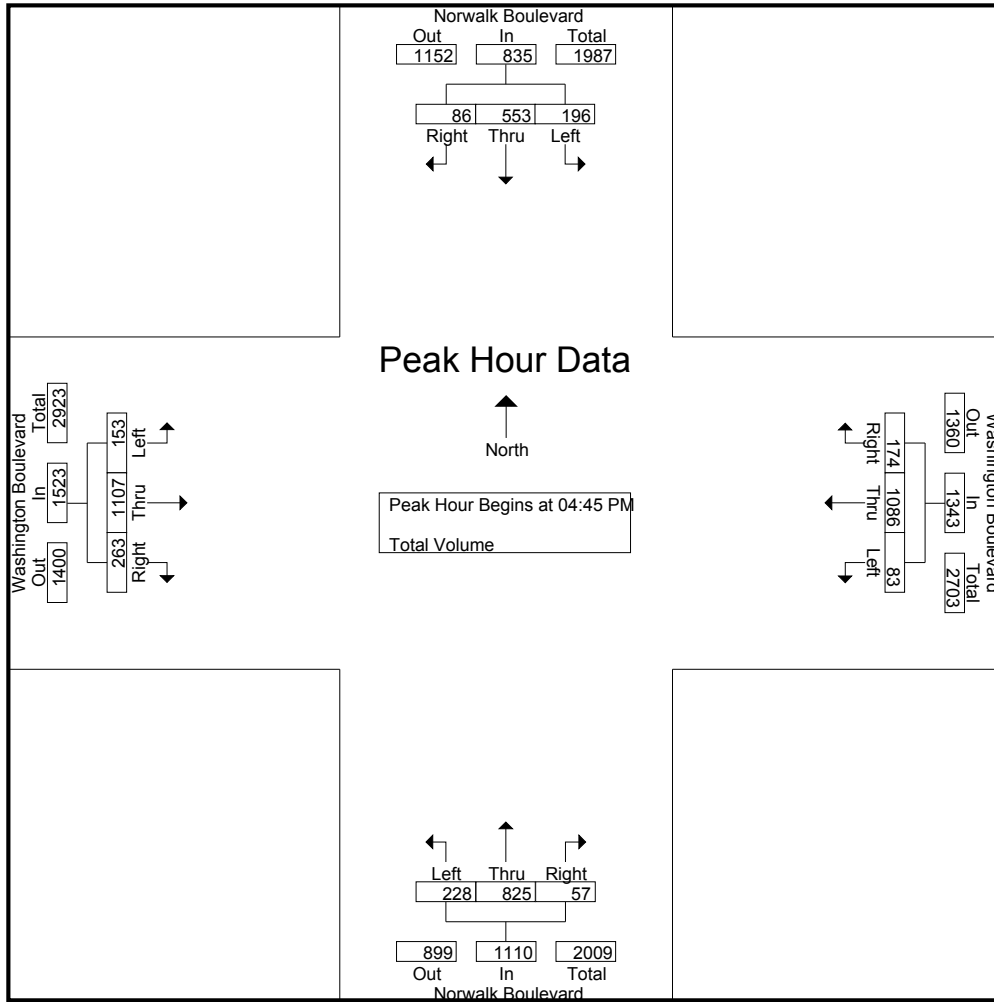
Groups Printed- Total Volume

Start Time	Norwalk Boulevard Southbound				Washington Boulevard Westbound				Norwalk Boulevard Northbound				Washington Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	44	99	31	174	25	250	33	308	44	143	8	195	38	265	55	358	1035
04:15 PM	51	154	16	221	29	231	43	303	57	213	16	286	33	255	57	345	1155
04:30 PM	48	113	15	176	16	262	40	318	61	160	10	231	39	294	69	402	1127
04:45 PM	54	156	28	238	22	229	45	296	60	234	21	315	38	255	62	355	1204
Total	197	522	90	809	92	972	161	1225	222	750	55	1027	148	1069	243	1460	4521
05:00 PM	40	103	18	161	15	296	42	353	57	186	15	258	34	318	63	415	1187
05:15 PM	57	163	24	244	23	280	38	341	61	227	9	297	36	235	72	343	1225
05:30 PM	45	131	16	192	23	281	49	353	50	178	12	240	45	299	66	410	1195
05:45 PM	64	151	24	239	18	209	37	264	59	176	17	252	43	273	60	376	1131
Total	206	548	82	836	79	1066	166	1311	227	767	53	1047	158	1125	261	1544	4738
Grand Total	403	1070	172	1645	171	2038	327	2536	449	1517	108	2074	306	2194	504	3004	9259
Apprch %	24.5	65	10.5		6.7	80.4	12.9		21.6	73.1	5.2		10.2	73	16.8		
Total %	4.4	11.6	1.9	17.8	1.8	22	3.5	27.4	4.8	16.4	1.2	22.4	3.3	23.7	5.4	32.4	

Start Time	Norwalk Boulevard Southbound				Washington Boulevard Westbound				Norwalk Boulevard Northbound				Washington Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	54	156	<b>28</b>	238	22	229	45	296	60	<b>234</b>	<b>21</b>	<b>315</b>	38	255	62	355	1204
05:00 PM	40	103	18	161	15	<b>296</b>	42	<b>353</b>	57	186	15	258	34	<b>318</b>	63	<b>415</b>	1187
05:15 PM	<b>57</b>	<b>163</b>	24	<b>244</b>	<b>23</b>	280	38	341	<b>61</b>	227	9	297	36	235	<b>72</b>	343	<b>1225</b>
05:30 PM	45	131	16	192	23	281	<b>49</b>	353	50	178	12	240	<b>45</b>	299	66	410	1195
Total Volume	196	553	86	835	83	1086	174	1343	228	825	57	1110	153	1107	263	1523	4811
% App. Total	23.5	66.2	10.3		6.2	80.9	13		20.5	74.3	5.1		10	72.7	17.3		
PHF	.860	.848	.768	.856	.902	.917	.888	.951	.934	.881	.679	.881	.850	.870	.913	.917	.982

City of Whittier  
 N/S: Norwalk Boulevard  
 E/W: Washington Boulevard  
 Weather: Clear

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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	05:00 PM				04:45 PM				04:45 PM				05:00 PM			
+0 mins.	40	103	18	161	22	229	45	296	60	<b>234</b>	21	<b>315</b>	34	<b>318</b>	63	<b>415</b>
+15 mins.	57	<b>163</b>	<b>24</b>	<b>244</b>	15	<b>296</b>	42	<b>353</b>	57	186	15	258	36	235	<b>72</b>	343
+30 mins.	45	131	16	192	<b>23</b>	280	38	341	<b>61</b>	227	9	297	<b>45</b>	299	66	410
+45 mins.	<b>64</b>	151	24	239	23	281	<b>49</b>	353	50	178	12	240	43	273	60	376
Total Volume	206	548	82	836	83	1086	174	1343	228	825	57	1110	158	1125	261	1544
% App. Total	24.6	65.6	9.8		6.2	80.9	13		20.5	74.3	5.1		10.2	72.9	16.9	
PHF	.805	.840	.854	.857	.902	.917	.888	.951	.934	.881	.679	.881	.878	.884	.906	.930

City of Whittier  
 N/S: Norwalk Boulevard  
 E/W: Washington Boulevard  
 Weather: Clear

File Name : 05\_WTR\_Norwalk\_Washington SAT  
 Site Code : 04519342  
 Start Date : 5/11/2019  
 Page No : 1

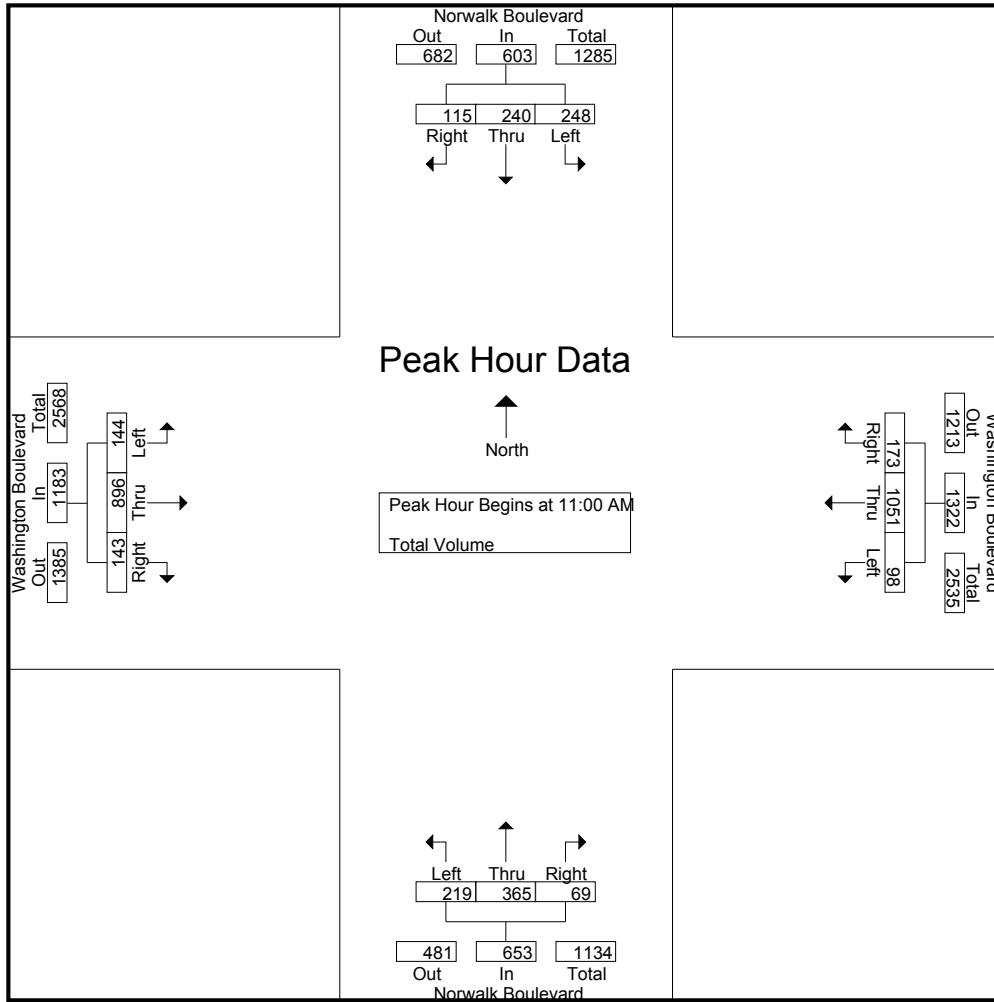
Groups Printed- Total Volume

Start Time	Norwalk Boulevard Southbound				Washington Boulevard Westbound				Norwalk Boulevard Northbound				Washington Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
08:00 AM	31	52	23	106	12	163	21	196	28	42	5	75	28	151	19	198	575
08:15 AM	37	38	19	94	12	205	27	244	28	59	5	92	21	174	18	213	643
08:30 AM	45	40	15	100	15	165	27	207	35	67	9	111	31	167	23	221	639
08:45 AM	48	50	29	127	19	236	28	283	36	50	9	95	33	226	20	279	784
Total	161	180	86	427	58	769	103	930	127	218	28	373	113	718	80	911	2641
09:00 AM	45	40	32	117	20	187	25	232	45	64	11	120	23	192	26	241	710
09:15 AM	53	49	17	119	20	226	38	284	37	66	8	111	22	185	21	228	742
09:30 AM	68	56	24	148	17	201	26	244	30	70	12	112	41	180	35	256	760
09:45 AM	69	66	32	167	16	238	42	296	29	70	14	113	21	222	22	265	841
Total	235	211	105	551	73	852	131	1056	141	270	45	456	107	779	104	990	3053
10:00 AM	49	62	29	140	18	235	34	287	45	79	14	138	32	186	17	235	800
10:15 AM	60	72	26	158	23	242	38	303	36	82	12	130	26	214	36	276	867
10:30 AM	58	53	34	145	20	209	36	265	39	77	10	126	36	207	28	271	807
10:45 AM	63	66	34	163	19	270	47	336	46	78	8	132	26	215	33	274	905
Total	230	253	123	606	80	956	155	1191	166	316	44	526	120	822	114	1056	3379
11:00 AM	59	62	33	154	24	252	39	315	54	87	30	171	34	198	34	266	906
11:15 AM	63	47	30	140	26	274	44	344	65	95	11	171	27	218	27	272	927
11:30 AM	56	64	26	146	30	272	53	355	45	90	12	147	43	214	33	290	938
11:45 AM	70	67	26	163	18	253	37	308	55	93	16	164	40	266	49	355	990
Total	248	240	115	603	98	1051	173	1322	219	365	69	653	144	896	143	1183	3761
Grand Total	874	884	429	2187	309	3628	562	4499	653	1169	186	2008	484	3215	441	4140	12834
Apprch %	40	40.4	19.6		6.9	80.6	12.5		32.5	58.2	9.3		11.7	77.7	10.7		
Total %	6.8	6.9	3.3	17	2.4	28.3	4.4	35.1	5.1	9.1	1.4	15.6	3.8	25.1	3.4	32.3	

Start Time	Norwalk Boulevard Southbound				Washington Boulevard Westbound				Norwalk Boulevard Northbound				Washington Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 08:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:00 AM																	
11:00 AM	59	62	<b>33</b>	154	24	252	39	315	54	87	<b>30</b>	171	34	198	34	266	906
11:15 AM	63	47	30	140	26	<b>274</b>	44	344	<b>65</b>	<b>95</b>	11	171	27	218	27	272	927
11:30 AM	56	64	26	146	<b>30</b>	272	<b>53</b>	<b>355</b>	45	90	12	147	<b>43</b>	214	33	290	938
11:45 AM	<b>70</b>	<b>67</b>	26	<b>163</b>	18	253	37	308	55	93	16	164	40	<b>266</b>	<b>49</b>	<b>355</b>	<b>990</b>
Total Volume	248	240	115	603	98	1051	173	1322	219	365	69	653	144	896	143	1183	3761
% App. Total	41.1	39.8	19.1		7.4	79.5	13.1		33.5	55.9	10.6		12.2	75.7	12.1		
PHF	.886	.896	.871	.925	.817	.959	.816	.931	.842	.961	.575	.955	.837	.842	.730	.833	.950

City of Whittier  
 N/S: Norwalk Boulevard  
 E/W: Washington Boulevard  
 Weather: Clear

File Name : 05\_WTR\_Norwalk\_Washington SAT  
 Site Code : 04519342  
 Start Date : 5/11/2019  
 Page No : 2



Peak Hour Analysis From 08:00 AM to 11:45 AM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	10:15 AM				10:45 AM				11:00 AM				11:00 AM			
+0 mins.	60	<b>72</b>	26	158	19	270	47	336	54	87	<b>30</b>	<b>171</b>	34	198	34	266
+15 mins.	58	53	<b>34</b>	145	24	252	39	315	<b>65</b>	<b>95</b>	11	171	27	218	27	272
+30 mins.	<b>63</b>	66	34	<b>163</b>	26	<b>274</b>	44	344	45	90	12	147	<b>43</b>	214	33	290
+45 mins.	59	62	33	154	<b>30</b>	272	<b>53</b>	<b>355</b>	55	93	16	164	40	<b>266</b>	<b>49</b>	<b>355</b>
Total Volume	240	253	127	620	99	1068	183	1350	219	365	69	653	144	896	143	1183
% App. Total	38.7	40.8	20.5		7.3	79.1	13.6		33.5	55.9	10.6		12.2	75.7	12.1	
PHF	.952	.878	.934	.951	.825	.974	.863	.951	.842	.961	.575	.955	.837	.842	.730	.833

City of Whittier  
 N/S: Danby Avenue  
 E/W: Project Driveway 1  
 Weather: Clear

File Name : 06\_WTR\_Danby\_Project DW1 AM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
 Page No : 1

Groups Printed- Total Volume

Start Time	Danby Avenue Southbound			Danby Avenue Northbound			Project Driveway 1 Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
07:00 AM	28	3	31	13	1	14	0	5	5	50
07:15 AM	21	7	28	9	1	10	1	8	9	47
07:30 AM	21	12	33	8	1	9	0	12	12	54
07:45 AM	60	9	69	23	2	25	1	29	30	124
Total	130	31	161	53	5	58	2	54	56	275
08:00 AM	41	9	50	14	4	18	1	13	14	82
08:15 AM	11	2	13	10	3	13	3	4	7	33
08:30 AM	9	3	12	2	0	2	1	4	5	19
08:45 AM	1	4	5	4	1	5	0	2	2	12
Total	62	18	80	30	8	38	5	23	28	146
Grand Total	192	49	241	83	13	96	7	77	84	421
Apprch %	79.7	20.3		86.5	13.5		8.3	91.7		
Total %	45.6	11.6	57.2	19.7	3.1	22.8	1.7	18.3	20	

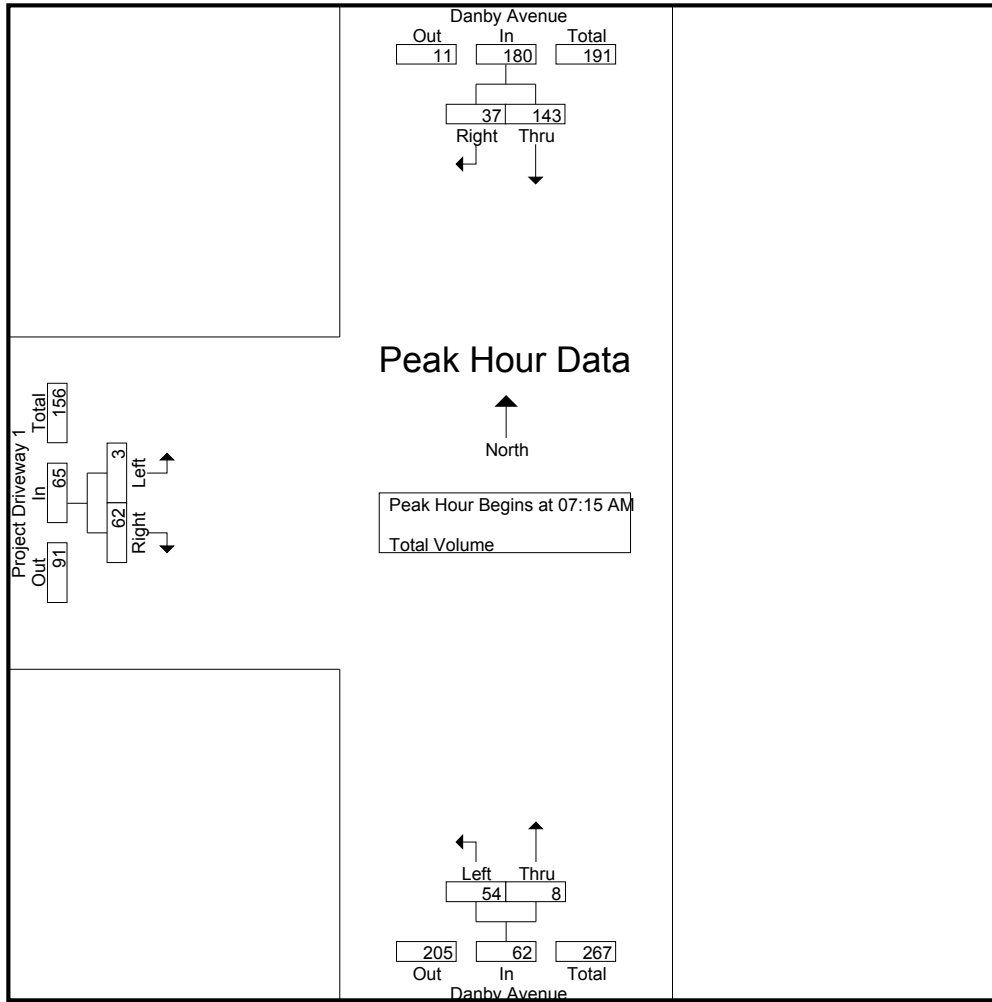
Start Time	Danby Avenue Southbound			Danby Avenue Northbound			Project Driveway 1 Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
07:15 AM	21	7	28	9	1	10	1	8	9	47
07:30 AM	21	12	33	8	1	9	0	12	12	54
07:45 AM	<b>60</b>	9	<b>69</b>	<b>23</b>	2	<b>25</b>	1	<b>29</b>	<b>30</b>	<b>124</b>
08:00 AM	41	9	50	14	4	18	1	13	14	82
Total Volume	143	37	180	54	8	62	3	62	65	307
% App. Total	79.4	20.6		87.1	12.9		4.6	95.4		
PHF	.596	.771	.652	.587	.500	.620	.750	.534	.542	.619

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:15 AM

City of Whittier  
 N/S: Danby Avenue  
 E/W: Project Driveway 1  
 Weather: Clear

File Name : 06\_WTR\_Danby\_Project DW1 AM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:15 AM			07:30 AM			07:45 AM		
+0 mins.	21	7	28	8	1	9	1	8	9
+15 mins.	21	<b>12</b>	33	<b>23</b>	2	<b>25</b>	0	12	12
+30 mins.	<b>60</b>	9	<b>69</b>	14	<b>4</b>	18	1	<b>29</b>	<b>30</b>
+45 mins.	41	9	50	10	3	13	1	13	14
Total Volume	143	37	180	55	10	65	3	62	65
% App. Total	79.4	20.6		84.6	15.4		4.6	95.4	
PHF	.596	.771	.652	.598	.625	.650	.750	.534	.542

City of Whittier  
 N/S: Danby Avenue  
 E/W: Project Driveway 1  
 Weather: Clear

File Name : 06\_WTR\_Danby\_Project DW1 PM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
 Page No : 1

Groups Printed- Total Volume

Start Time	Danby Avenue Southbound			Danby Avenue Northbound			Project Driveway 1 Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
04:00 PM	14	1	15	2	0	2	5	7	12	29
04:15 PM	14	0	14	1	3	4	0	8	8	26
04:30 PM	10	2	12	2	2	4	2	10	12	28
04:45 PM	15	1	16	3	2	5	0	9	9	30
<b>Total</b>	<b>53</b>	<b>4</b>	<b>57</b>	<b>8</b>	<b>7</b>	<b>15</b>	<b>7</b>	<b>34</b>	<b>41</b>	<b>113</b>
05:00 PM	5	0	5	2	1	3	2	4	6	14
05:15 PM	11	1	12	1	4	5	0	4	4	21
05:30 PM	7	3	10	2	2	4	1	4	5	19
05:45 PM	11	2	13	6	2	8	2	7	9	30
<b>Total</b>	<b>34</b>	<b>6</b>	<b>40</b>	<b>11</b>	<b>9</b>	<b>20</b>	<b>5</b>	<b>19</b>	<b>24</b>	<b>84</b>
<b>Grand Total</b>	<b>87</b>	<b>10</b>	<b>97</b>	<b>19</b>	<b>16</b>	<b>35</b>	<b>12</b>	<b>53</b>	<b>65</b>	<b>197</b>
Apprch %	89.7	10.3		54.3	45.7		18.5	81.5		
Total %	44.2	5.1	49.2	9.6	8.1	17.8	6.1	26.9	33	

Start Time	Danby Avenue Southbound			Danby Avenue Northbound			Project Driveway 1 Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
04:00 PM	14	1	15	2	0	2	<b>5</b>	7	<b>12</b>	29
04:15 PM	14	0	14	1	<b>3</b>	4	0	8	8	26
04:30 PM	10	<b>2</b>	12	2	2	4	2	<b>10</b>	12	28
04:45 PM	<b>15</b>	1	<b>16</b>	<b>3</b>	2	<b>5</b>	0	9	9	<b>30</b>
<b>Total Volume</b>	<b>53</b>	<b>4</b>	<b>57</b>	<b>8</b>	<b>7</b>	<b>15</b>	<b>7</b>	<b>34</b>	<b>41</b>	<b>113</b>
% App. Total	93	7		53.3	46.7		17.1	82.9		
PHF	.883	.500	.891	.667	.583	.750	.350	.850	.854	.942

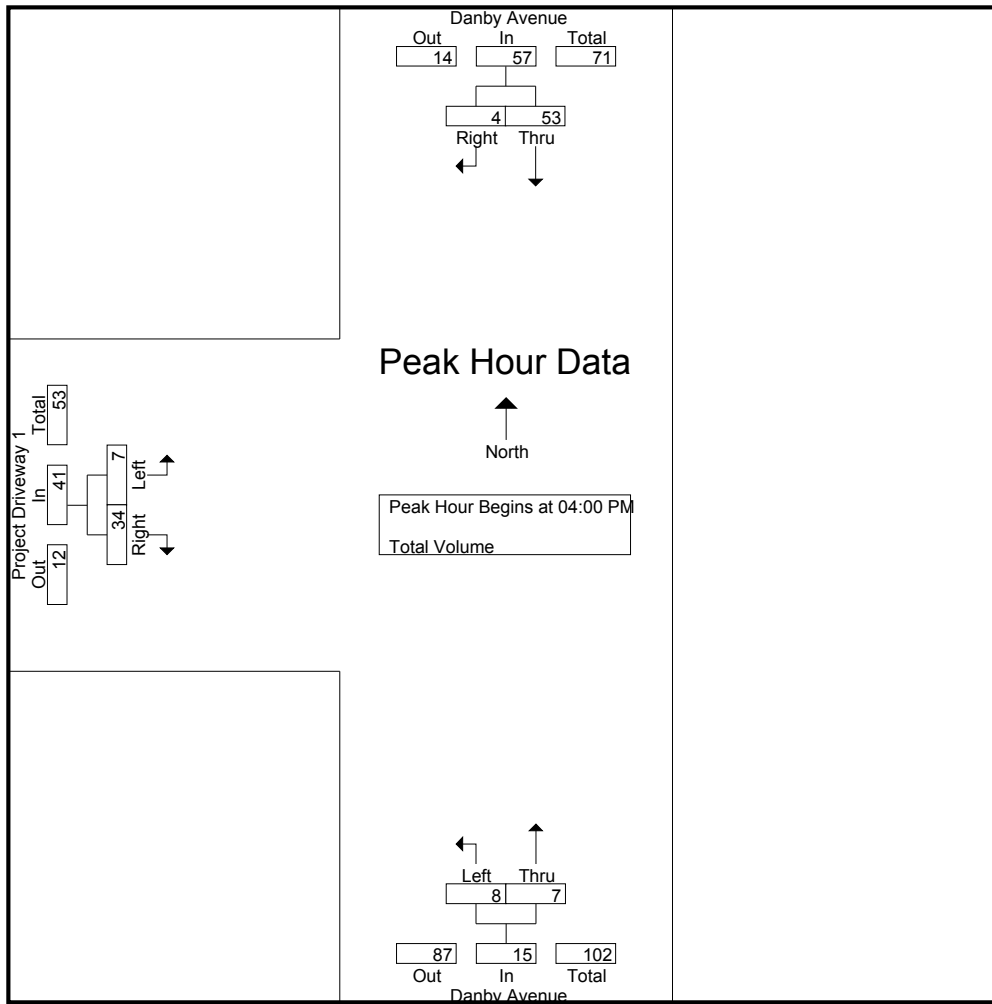
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:00 PM



City of Whittier  
 N/S: Danby Avenue  
 E/W: Project Driveway 1  
 Weather: Clear

File Name : 06\_WTR\_Danby\_Project DW1 PM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	04:00 PM			05:00 PM			04:00 PM		
+0 mins.	14	1	15	2	1	3	5	7	12
+15 mins.	14	0	14	1	4	5	0	8	8
+30 mins.	10	2	12	2	2	4	2	10	12
+45 mins.	15	1	16	6	2	8	0	9	9
Total Volume	53	4	57	11	9	20	7	34	41
% App. Total	93	7		55	45		17.1	82.9	
PHF	.883	.500	.891	.458	.563	.625	.350	.850	.854

City of Whittier  
 N/S: Danby Avenue  
 E/W: Project Driveway 1  
 Weather: Clear

File Name : 06\_WTR\_Danby\_Project DW1 SAT  
 Site Code : 04519342  
 Start Date : 5/11/2019  
 Page No : 1

Groups Printed- Total Volume

Start Time	Danby Avenue Southbound			Danby Avenue Northbound			Project Driveway 1 Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
08:00 AM	17	12	29	5	1	6	3	9	12	47
08:15 AM	10	12	22	6	1	7	7	7	14	43
08:30 AM	12	9	21	7	3	10	5	8	13	44
08:45 AM	17	11	28	5	5	10	3	13	16	54
Total	56	44	100	23	10	33	18	37	55	188
09:00 AM	10	14	24	3	9	12	6	7	13	49
09:15 AM	10	14	24	3	8	11	8	6	14	49
09:30 AM	6	13	19	4	2	6	9	12	21	46
09:45 AM	17	9	26	6	4	10	6	11	17	53
Total	43	50	93	16	23	39	29	36	65	197
10:00 AM	21	14	35	4	7	11	9	5	14	60
10:15 AM	13	15	28	3	5	8	8	6	14	50
10:30 AM	16	13	29	5	2	7	10	6	16	52
10:45 AM	11	13	24	6	2	8	9	6	15	47
Total	61	55	116	18	16	34	36	23	59	209
11:00 AM	11	17	28	7	3	10	8	9	17	55
11:15 AM	18	13	31	5	4	9	9	9	18	58
11:30 AM	16	6	22	8	2	10	9	9	18	50
11:45 AM	20	10	30	5	3	8	10	12	22	60
Total	65	46	111	25	12	37	36	39	75	223
Grand Total	225	195	420	82	61	143	119	135	254	817
Apprch %	53.6	46.4		57.3	42.7		46.9	53.1		
Total %	27.5	23.9	51.4	10	7.5	17.5	14.6	16.5	31.1	

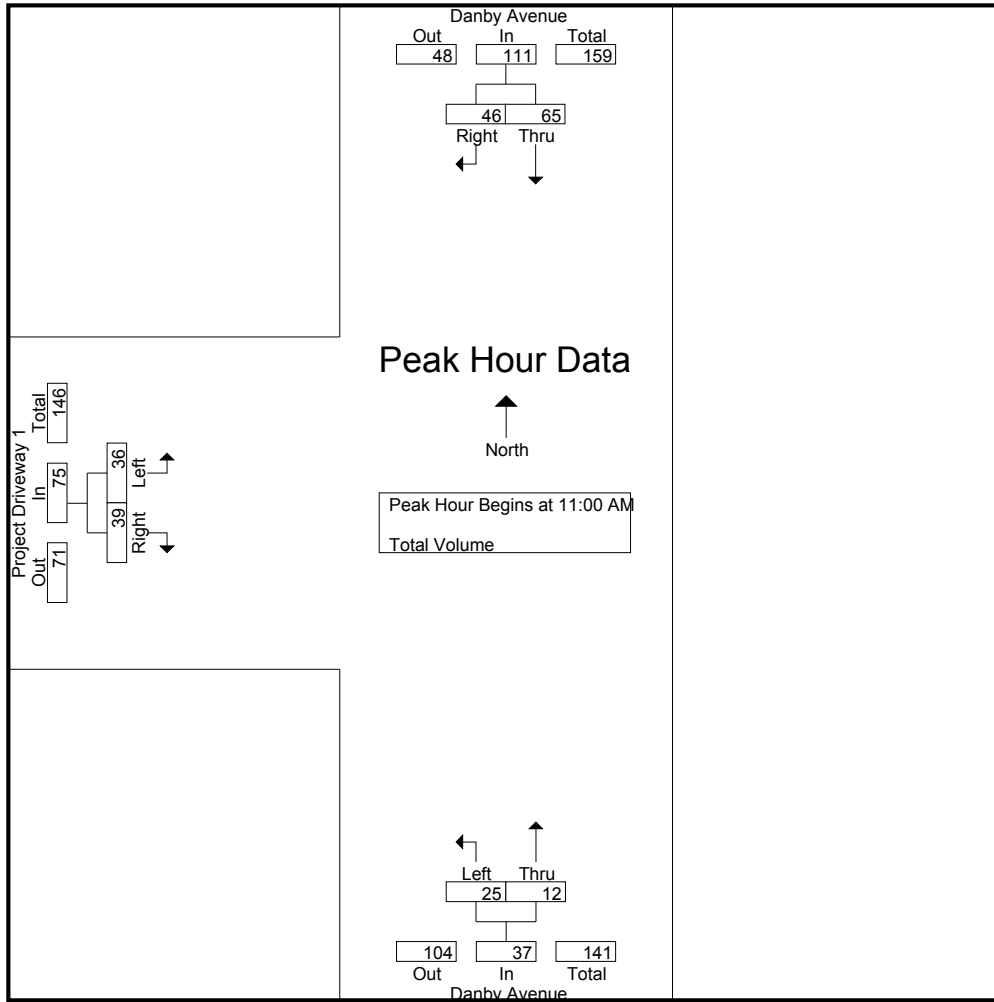
Start Time	Danby Avenue Southbound			Danby Avenue Northbound			Project Driveway 1 Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
11:00 AM	11	17	28	7	3	10	8	9	17	55
11:15 AM	18	13	31	5	4	9	9	9	18	58
11:30 AM	16	6	22	8	2	10	9	9	18	50
11:45 AM	20	10	30	5	3	8	10	12	22	60
Total Volume	65	46	111	25	12	37	36	39	75	223
% App. Total	58.6	41.4		67.6	32.4		48	52		
PHF	.813	.676	.895	.781	.750	.925	.900	.813	.852	.929

Peak Hour Analysis From 08:00 AM to 11:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 11:00 AM

City of Whittier  
 N/S: Danby Avenue  
 E/W: Project Driveway 1  
 Weather: Clear

File Name : 06\_WTR\_Danby\_Project DW1 SAT  
 Site Code : 04519342  
 Start Date : 5/11/2019  
 Page No : 2



Peak Hour Analysis From 08:00 AM to 11:45 AM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	09:45 AM			08:30 AM			11:00 AM		
+0 mins.	17	9	26	7	3	10	8	9	17
+15 mins.	21	14	35	5	5	10	9	9	18
+30 mins.	13	15	28	3	9	12	9	9	18
+45 mins.	16	13	29	3	8	11	10	12	22
Total Volume	67	51	118	18	25	43	36	39	75
% App. Total	56.8	43.2		41.9	58.1		48	52	
PHF	.798	.850	.843	.643	.694	.896	.900	.813	.852

City of Whittier  
 N/S: Pioneer Boulevard  
 E/W: Project Driveway 2  
 Weather: Clear

File Name : 07\_WTR\_Pioneer\_Project DW2 AM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
 Page No : 1

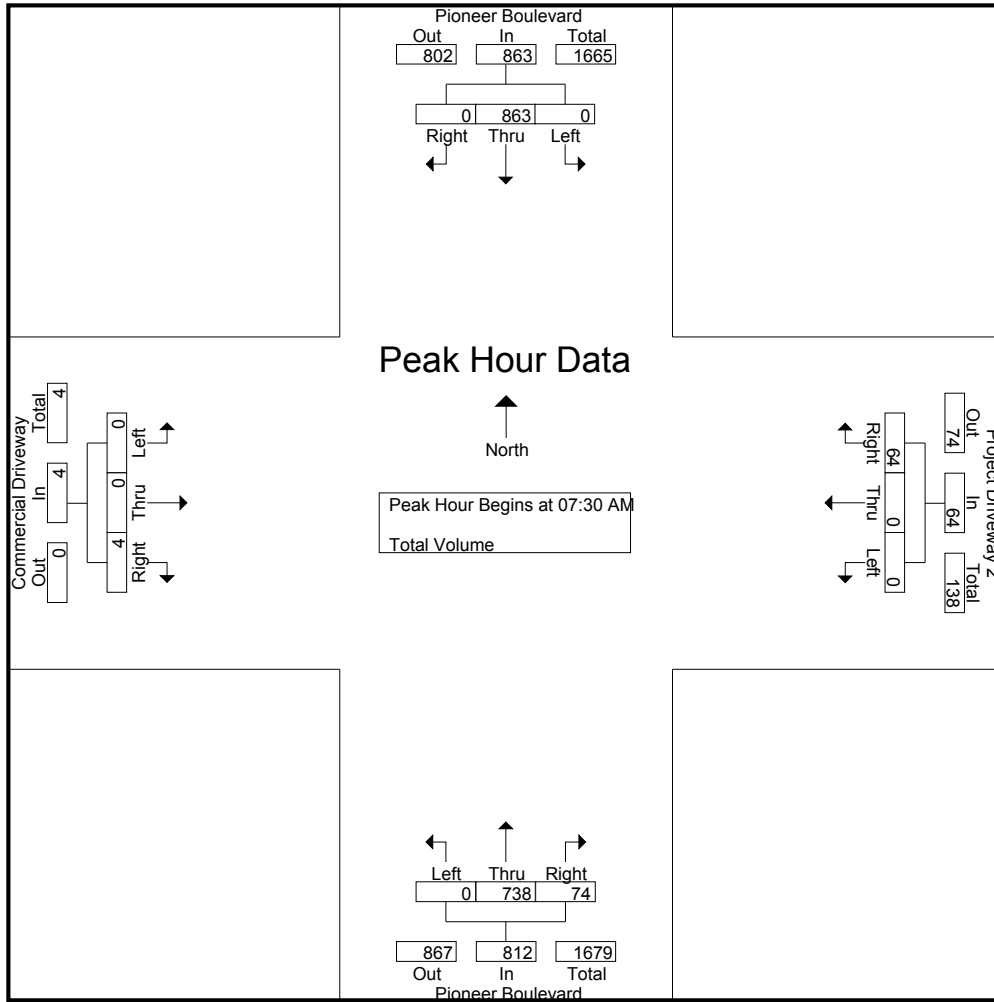
Groups Printed- Total Volume

Start Time	Pioneer Boulevard Southbound				Project Driveway 2 Westbound				Pioneer Boulevard Northbound				Commercial Driveway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	135	0	135	0	0	8	8	0	128	7	135	0	0	0	0	278
07:15 AM	0	192	1	193	0	0	7	7	0	136	9	145	0	0	1	1	346
07:30 AM	0	240	0	240	0	0	12	12	0	176	13	189	0	0	1	1	442
07:45 AM	0	247	0	247	0	0	25	25	0	214	35	249	0	0	0	0	521
Total	0	814	1	815	0	0	52	52	0	654	64	718	0	0	2	2	1587
08:00 AM	0	192	0	192	0	0	20	20	0	189	18	207	0	0	0	0	419
08:15 AM	0	184	0	184	0	0	7	7	0	159	8	167	0	0	3	3	361
08:30 AM	0	143	1	144	0	0	4	4	0	111	6	117	0	0	3	3	268
08:45 AM	0	113	0	113	0	0	2	2	0	132	2	134	0	0	3	3	252
Total	0	632	1	633	0	0	33	33	0	591	34	625	0	0	9	9	1300
Grand Total	0	1446	2	1448	0	0	85	85	0	1245	98	1343	0	0	11	11	2887
Apprch %	0	99.9	0.1		0	0	100		0	92.7	7.3		0	0	100		
Total %	0	50.1	0.1	50.2	0	0	2.9	2.9	0	43.1	3.4	46.5	0	0	0.4	0.4	

Start Time	Pioneer Boulevard Southbound				Project Driveway 2 Westbound				Pioneer Boulevard Northbound				Commercial Driveway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	240	0	240	0	0	12	12	0	176	13	189	0	0	1	1	442
07:45 AM	0	<b>247</b>	0	<b>247</b>	0	0	<b>25</b>	<b>25</b>	0	<b>214</b>	<b>35</b>	<b>249</b>	0	0	0	0	<b>521</b>
08:00 AM	0	192	0	192	0	0	20	20	0	189	18	207	0	0	0	0	419
08:15 AM	0	184	0	184	0	0	7	7	0	159	8	167	0	0	<b>3</b>	<b>3</b>	361
Total Volume	0	863	0	863	0	0	64	64	0	738	74	812	0	0	4	4	1743
% App. Total	0	100	0		0	0	100		0	90.9	9.1		0	0	100		
PHF	.000	.873	.000	.873	.000	.000	.640	.640	.000	.862	.529	.815	.000	.000	.333	.333	.836

City of Whittier  
 N/S: Pioneer Boulevard  
 E/W: Project Driveway 2  
 Weather: Clear

File Name : 07\_WTR\_Pioneer\_Project DW2 AM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:30 AM				08:00 AM			
+0 mins.	0	192	1	193	0	0	7	7	0	176	13	189	0	0	0	0
+15 mins.	0	240	0	240	0	0	12	12	0	<b>214</b>	<b>35</b>	<b>249</b>	0	0	<b>3</b>	<b>3</b>
+30 mins.	0	<b>247</b>	0	<b>247</b>	0	0	<b>25</b>	<b>25</b>	0	189	18	207	0	0	3	3
+45 mins.	0	192	0	192	0	0	20	20	0	159	8	167	0	0	3	3
Total Volume	0	871	1	872	0	0	64	64	0	738	74	812	0	0	9	9
% App. Total	0	99.9	0.1		0	0	100		0	90.9	9.1		0	0	100	
PHF	.000	.882	.250	.883	.000	.000	.640	.640	.000	.862	.529	.815	.000	.000	.750	.750

City of Whittier  
 N/S: Pioneer Boulevard  
 E/W: Project Driveway 2  
 Weather: Clear

File Name : 07\_WTR\_Pioneer\_Project DW2 PM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
 Page No : 1

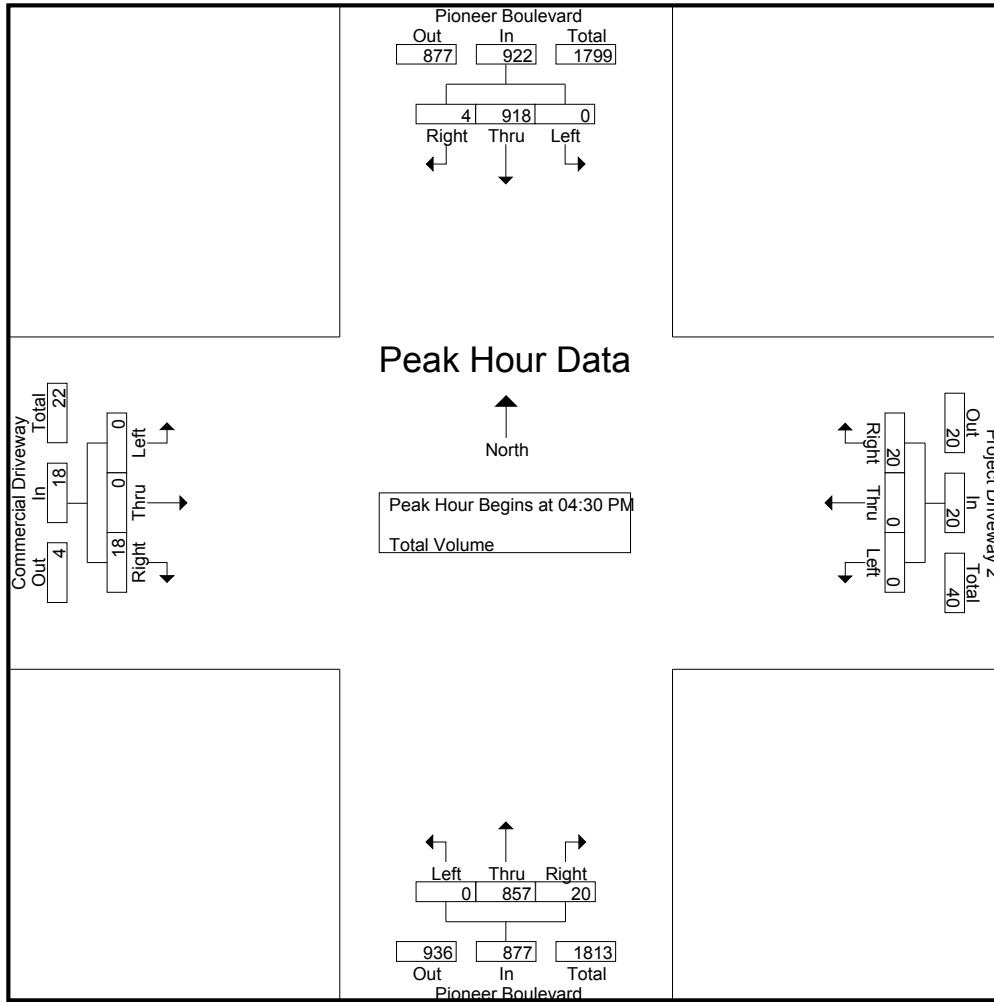
Groups Printed- Total Volume

Start Time	Pioneer Boulevard Southbound				Project Driveway 2 Westbound				Pioneer Boulevard Northbound				Commercial Driveway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	202	3	205	0	0	5	5	0	194	4	198	0	0	7	7	415
04:15 PM	0	229	1	230	0	0	5	5	0	211	6	217	0	0	4	4	456
04:30 PM	0	231	2	233	0	0	2	2	0	192	3	195	0	0	5	5	435
04:45 PM	0	229	0	229	0	0	8	8	0	222	10	232	0	0	4	4	473
Total	0	891	6	897	0	0	20	20	0	819	23	842	0	0	20	20	1779
05:00 PM	0	222	1	223	0	0	2	2	0	226	3	229	0	0	2	2	456
05:15 PM	0	236	1	237	0	0	8	8	0	217	4	221	0	0	7	7	473
05:30 PM	0	206	0	206	0	0	3	3	0	214	3	217	0	0	1	1	427
05:45 PM	0	199	2	201	0	0	10	10	0	198	3	201	0	0	2	2	414
Total	0	863	4	867	0	0	23	23	0	855	13	868	0	0	12	12	1770
Grand Total	0	1754	10	1764	0	0	43	43	0	1674	36	1710	0	0	32	32	3549
Apprch %	0	99.4	0.6		0	0	100		0	97.9	2.1		0	0	100		
Total %	0	49.4	0.3	49.7	0	0	1.2	1.2	0	47.2	1	48.2	0	0	0.9	0.9	

Start Time	Pioneer Boulevard Southbound				Project Driveway 2 Westbound				Pioneer Boulevard Northbound				Commercial Driveway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	231	2	233	0	0	2	2	0	192	3	195	0	0	5	5	435
04:45 PM	0	229	0	229	0	0	8	8	0	222	10	232	0	0	4	4	473
05:00 PM	0	222	1	223	0	0	2	2	0	226	3	229	0	0	2	2	456
05:15 PM	0	236	1	237	0	0	8	8	0	217	4	221	0	0	7	7	473
Total Volume	0	918	4	922	0	0	20	20	0	857	20	877	0	0	18	18	1837
% App. Total	0	99.6	0.4		0	0	100		0	97.7	2.3		0	0	100		
PHF	.000	.972	.500	.973	.000	.000	.625	.625	.000	.948	.500	.945	.000	.000	.643	.643	.971

City of Whittier  
 N/S: Pioneer Boulevard  
 E/W: Project Driveway 2  
 Weather: Clear

File Name : 07\_WTR\_Pioneer\_Project DW2 PM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	04:30 PM				05:00 PM				04:45 PM				04:00 PM			
+0 mins.	0	231	2	233	0	0	2	2	0	222	10	232	0	0	7	7
+15 mins.	0	229	0	229	0	0	8	8	0	226	3	229	0	0	4	4
+30 mins.	0	222	1	223	0	0	3	3	0	217	4	221	0	0	5	5
+45 mins.	0	236	1	237	0	0	10	10	0	214	3	217	0	0	4	4
Total Volume	0	918	4	922	0	0	23	23	0	879	20	899	0	0	20	20
% App. Total	0	99.6	0.4		0	0	100		0	97.8	2.2		0	0	100	
PHF	.000	.972	.500	.973	.000	.000	.575	.575	.000	.972	.500	.969	.000	.000	.714	.714

City of Whittier  
 N/S: Pioneer Boulevard  
 E/W: Project Driveway 2  
 Weather: Clear

File Name : 07\_WTR\_Pioneer\_Project DW2 SAT  
 Site Code : 04519342  
 Start Date : 5/11/2019  
 Page No : 1

Groups Printed- Total Volume

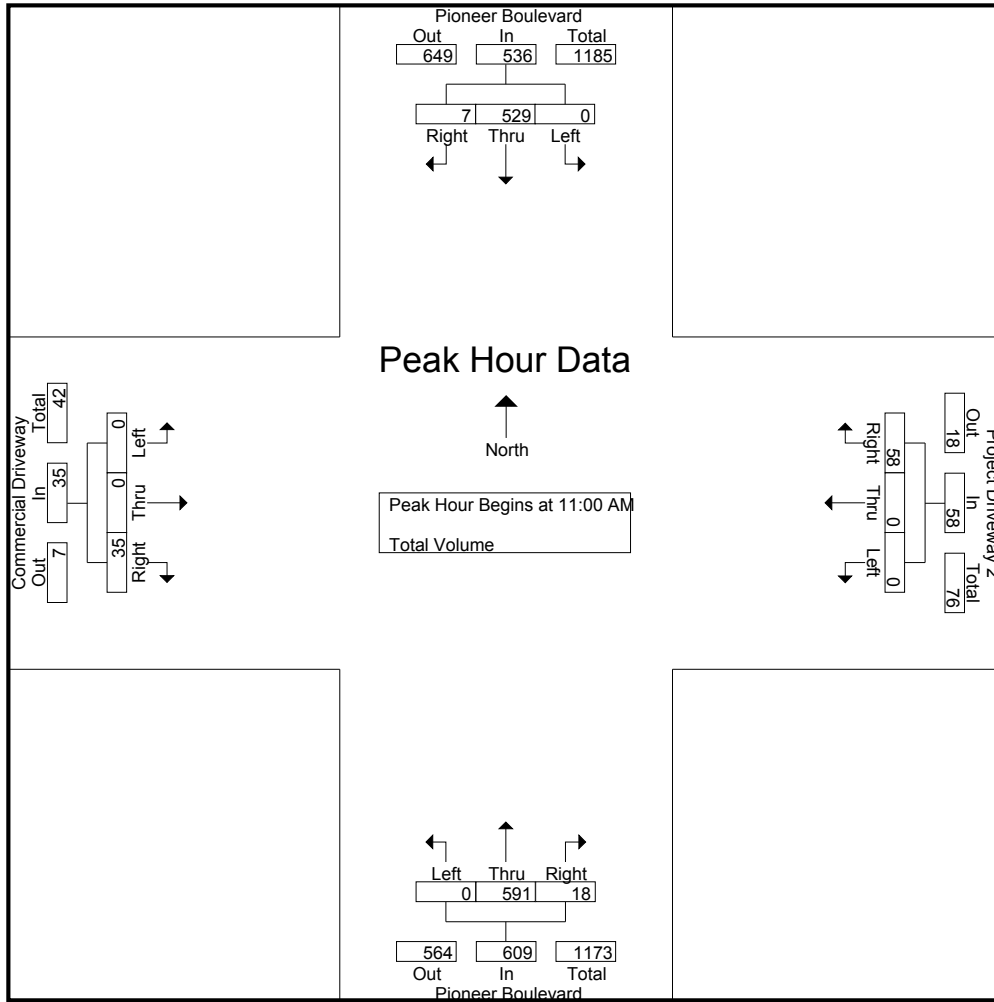
Start Time	Pioneer Boulevard Southbound				Project Driveway 2 Westbound				Pioneer Boulevard Northbound				Commercial Driveway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
08:00 AM	0	77	2	79	0	0	7	7	0	126	14	140	0	0	2	2	228
08:15 AM	0	94	3	97	0	0	10	10	0	132	7	139	0	0	2	2	248
08:30 AM	0	90	2	92	0	0	11	11	0	131	4	135	0	0	2	2	240
08:45 AM	0	77	5	82	0	0	8	8	0	139	4	143	0	0	5	5	238
Total	0	338	12	350	0	0	36	36	0	528	29	557	0	0	11	11	954
09:00 AM	0	95	1	96	0	0	10	10	0	127	5	132	0	0	5	5	243
09:15 AM	0	106	0	106	0	0	10	10	0	130	5	135	0	0	8	8	259
09:30 AM	0	105	3	108	0	0	11	11	0	130	4	134	0	0	6	6	259
09:45 AM	0	108	3	111	0	0	10	10	0	135	7	142	0	0	7	7	270
Total	0	414	7	421	0	0	41	41	0	522	21	543	0	0	26	26	1031
10:00 AM	0	128	3	131	0	0	10	10	0	141	6	147	0	0	2	2	290
10:15 AM	0	139	4	143	0	0	10	10	0	147	5	152	0	0	6	6	311
10:30 AM	0	111	3	114	0	0	8	8	0	141	7	148	0	0	8	8	278
10:45 AM	0	123	3	126	0	0	13	13	0	140	8	148	0	0	7	7	294
Total	0	501	13	514	0	0	41	41	0	569	26	595	0	0	23	23	1173
11:00 AM	0	132	1	133	0	0	18	18	0	140	4	144	0	0	8	8	303
11:15 AM	0	122	2	124	0	0	7	7	0	153	6	159	0	0	12	12	302
11:30 AM	0	141	2	143	0	0	17	17	0	141	3	144	0	0	9	9	313
11:45 AM	0	134	2	136	0	0	16	16	0	157	5	162	0	0	6	6	320
Total	0	529	7	536	0	0	58	58	0	591	18	609	0	0	35	35	1238
Grand Total	0	1782	39	1821	0	0	176	176	0	2210	94	2304	0	0	95	95	4396
Apprch %	0	97.9	2.1		0	0	100		0	95.9	4.1		0	0	100		
Total %	0	40.5	0.9	41.4	0	0	4	4	0	50.3	2.1	52.4	0	0	2.2	2.2	

Start Time	Pioneer Boulevard Southbound				Project Driveway 2 Westbound				Pioneer Boulevard Northbound				Commercial Driveway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 08:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:00 AM																	
11:00 AM	0	132	1	133	0	0	<b>18</b>	<b>18</b>	0	140	4	144	0	0	8	8	303
11:15 AM	0	122	2	124	0	0	7	7	0	153	6	159	0	0	12	12	302
11:30 AM	0	<b>141</b>	2	<b>143</b>	0	0	17	17	0	141	3	144	0	0	9	9	313
11:45 AM	0	134	2	136	0	0	16	16	0	<b>157</b>	5	<b>162</b>	0	0	6	6	<b>320</b>
Total Volume	0	529	7	536	0	0	58	58	0	591	18	609	0	0	35	35	1238
% App. Total	0	98.7	1.3		0	0	100		0	97	3		0	0	100		
PHF	.000	.938	.875	.937	.000	.000	.806	.806	.000	.941	.750	.940	.000	.000	.729	.729	.967



City of Whittier  
 N/S: Pioneer Boulevard  
 E/W: Project Driveway 2  
 Weather: Clear

File Name : 07\_WTR\_Pioneer\_Project DW2 SAT  
 Site Code : 04519342  
 Start Date : 5/11/2019  
 Page No : 2



Peak Hour Analysis From 08:00 AM to 11:45 AM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	11:00 AM				11:00 AM				11:00 AM				10:45 AM			
+0 mins.	0	132	1	133	0	0	<b>18</b>	<b>18</b>	0	140	4	144	0	0	7	7
+15 mins.	0	122	<b>2</b>	124	0	0	7	7	0	153	<b>6</b>	159	0	0	8	8
+30 mins.	0	<b>141</b>	2	<b>143</b>	0	0	17	17	0	141	3	144	0	0	<b>12</b>	<b>12</b>
+45 mins.	0	134	2	136	0	0	16	16	0	<b>157</b>	5	<b>162</b>	0	0	9	9
Total Volume	0	529	7	536	0	0	58	58	0	591	18	609	0	0	36	36
% App. Total	0	98.7	1.3		0	0	100		0	97	3		0	0	100	
PHF	.000	.938	.875	.937	.000	.000	.806	.806	.000	.941	.750	.940	.000	.000	.750	.750

City of Whittier  
 N/S: Pioneer Boulevard  
 E/W: I-605 Northbound Off Ramp  
 Weather: Clear

File Name : 08\_WTR\_Pioneer\_605N Off AM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
 Page No : 1

Groups Printed- Total Volume

Start Time	Pioneer Boulevard Southbound			Pioneer Boulevard Northbound			I-605 Northbound Off Ramp Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
07:00 AM	119	0	119	0	207	207	49	79	128	454
07:15 AM	141	0	141	0	186	186	49	62	111	438
07:30 AM	212	0	212	0	233	233	46	77	123	568
07:45 AM	197	0	197	0	261	261	65	96	161	619
Total	669	0	669	0	887	887	209	314	523	2079
08:00 AM	152	0	152	0	231	231	55	74	129	512
08:15 AM	124	0	124	0	229	229	44	73	117	470
08:30 AM	120	0	120	0	170	170	39	68	107	397
08:45 AM	72	0	72	0	157	157	54	57	111	340
Total	468	0	468	0	787	787	192	272	464	1719
Grand Total	1137	0	1137	0	1674	1674	401	586	987	3798
Apprch %	100	0		0	100		40.6	59.4		
Total %	29.9	0	29.9	0	44.1	44.1	10.6	15.4	26	

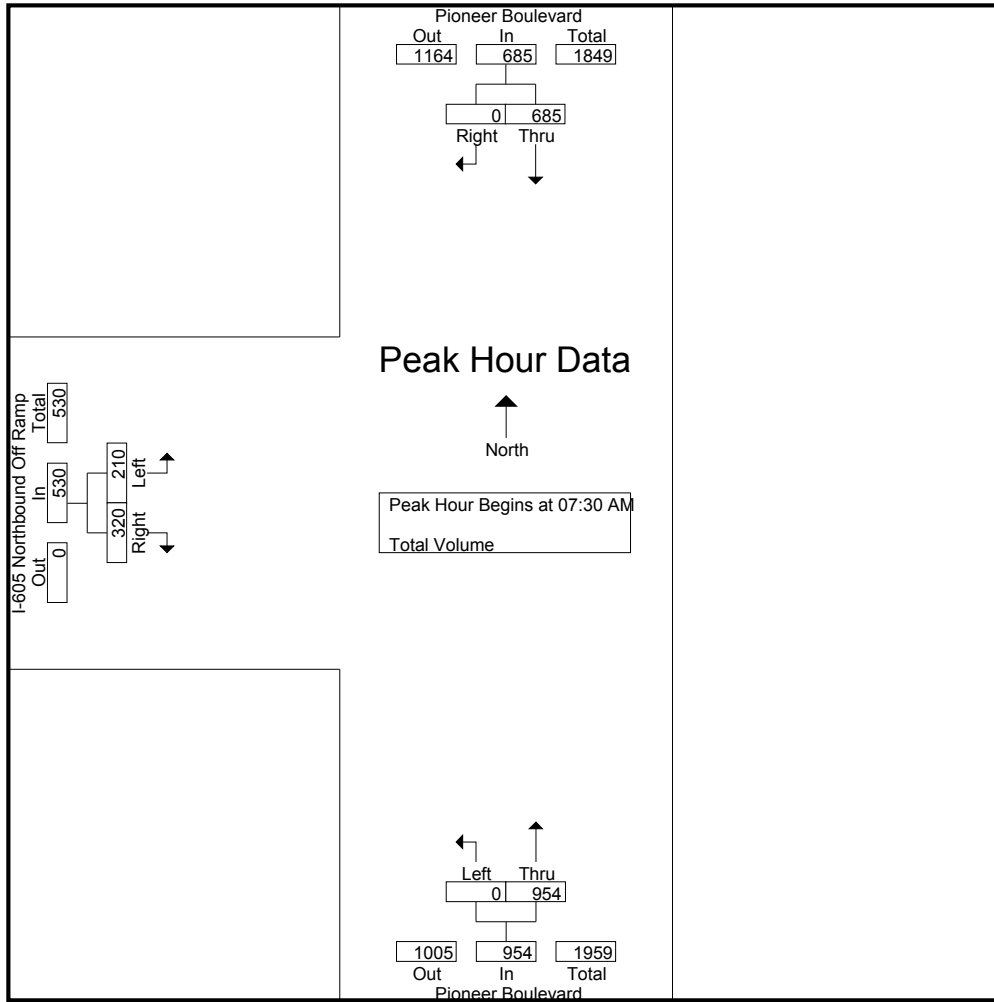
Start Time	Pioneer Boulevard Southbound			Pioneer Boulevard Northbound			I-605 Northbound Off Ramp Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
07:30 AM	<b>212</b>	0	<b>212</b>	0	233	233	46	77	123	568
07:45 AM	197	0	197	0	<b>261</b>	<b>261</b>	<b>65</b>	<b>96</b>	<b>161</b>	<b>619</b>
08:00 AM	152	0	152	0	231	231	55	74	129	512
08:15 AM	124	0	124	0	229	229	44	73	117	470
Total Volume	685	0	685	0	954	954	210	320	530	2169
% App. Total	100	0		0	100		39.6	60.4		
PHF	.808	.000	.808	.000	.914	.914	.808	.833	.823	.876

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:30 AM

City of Whittier  
 N/S: Pioneer Boulevard  
 E/W: I-605 Northbound Off Ramp  
 Weather: Clear

File Name : 08\_WTR\_Pioneer\_605N Off AM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	07:15 AM			07:30 AM			07:45 AM		
+0 mins.	141	0	141	0	233	233	46	77	123
+15 mins.	<b>212</b>	0	<b>212</b>	0	<b>261</b>	<b>261</b>	<b>65</b>	<b>96</b>	<b>161</b>
+30 mins.	197	0	197	0	231	231	55	74	129
+45 mins.	152	0	152	0	229	229	44	73	117
Total Volume	702	0	702	0	954	954	210	320	530
% App. Total	100	0	100	0	100	100	39.6	60.4	100
PHF	.828	.000	.828	.000	.914	.914	.808	.833	.823

City of Whittier  
 N/S: Pioneer Boulevard  
 E/W: I-605 Northbound Off Ramp  
 Weather: Clear

File Name : 08\_WTR\_Pioneer\_605N Off PM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
 Page No : 1

Groups Printed- Total Volume

Start Time	Pioneer Boulevard Southbound			Pioneer Boulevard Northbound			I-605 Northbound Off Ramp Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
04:00 PM	141	0	141	0	264	264	39	46	85	490
04:15 PM	170	0	170	0	262	262	54	52	106	538
04:30 PM	171	0	171	0	257	257	53	63	116	544
04:45 PM	192	0	192	0	278	278	42	76	118	588
Total	674	0	674	0	1061	1061	188	237	425	2160
05:00 PM	153	0	153	0	268	268	41	62	103	524
05:15 PM	184	0	184	0	263	263	55	49	104	551
05:30 PM	160	0	160	0	247	247	63	60	123	530
05:45 PM	134	0	134	0	243	243	53	64	117	494
Total	631	0	631	0	1021	1021	212	235	447	2099
Grand Total	1305	0	1305	0	2082	2082	400	472	872	4259
Apprch %	100	0		0	100		45.9	54.1		
Total %	30.6	0	30.6	0	48.9	48.9	9.4	11.1	20.5	

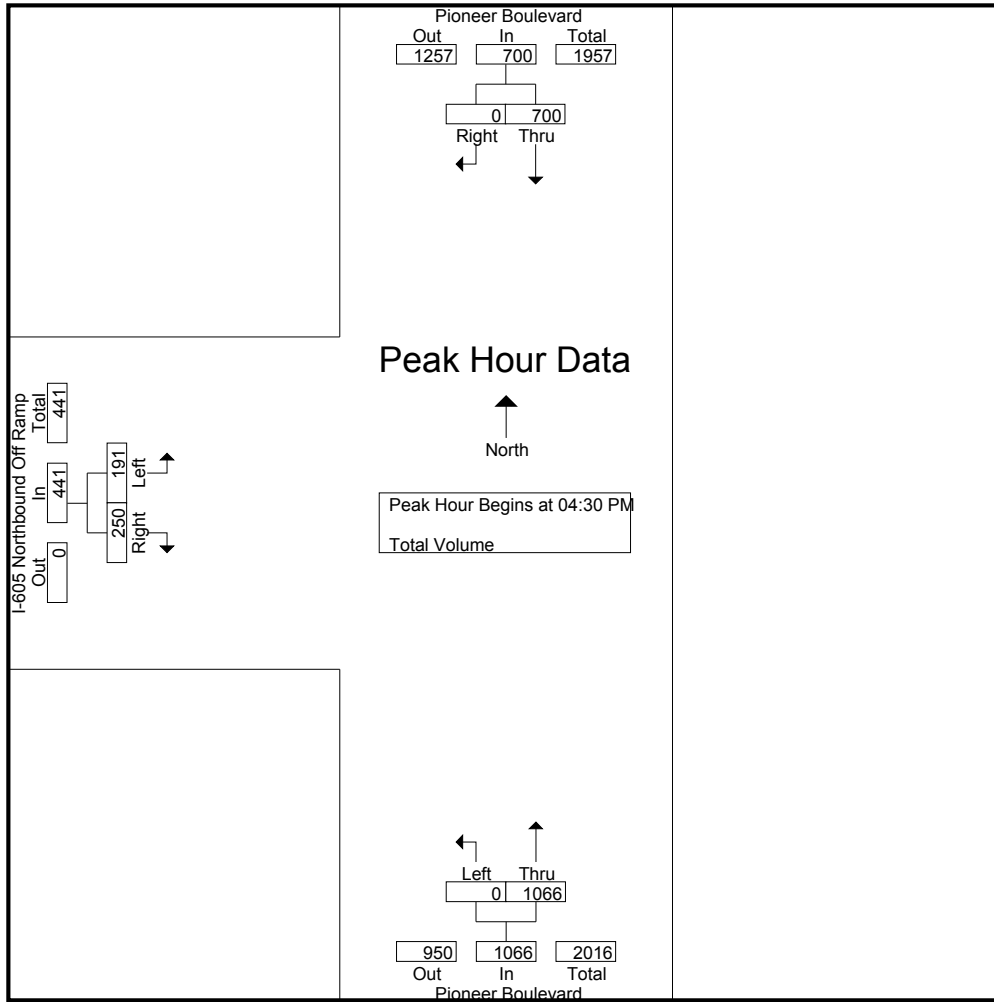
Start Time	Pioneer Boulevard Southbound			Pioneer Boulevard Northbound			I-605 Northbound Off Ramp Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
04:30 PM	171	0	171	0	257	257	53	63	116	544
04:45 PM	<b>192</b>	0	<b>192</b>	0	<b>278</b>	<b>278</b>	42	<b>76</b>	<b>118</b>	<b>588</b>
05:00 PM	153	0	153	0	268	268	41	62	103	524
05:15 PM	184	0	184	0	263	263	55	49	104	551
Total Volume	700	0	700	0	1066	1066	191	250	441	2207
% App. Total	100	0		0	100		43.3	56.7		
PHF	.911	.000	.911	.000	.959	.959	.868	.822	.934	.938

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:30 PM

City of Whittier  
 N/S: Pioneer Boulevard  
 E/W: I-605 Northbound Off Ramp  
 Weather: Clear

File Name : 08\_WTR\_Pioneer\_605N Off PM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:45 PM		
+0 mins.	171	0	171	0	257	257	42	76	118
+15 mins.	192	0	192	0	278	278	41	62	103
+30 mins.	153	0	153	0	268	268	55	49	104
+45 mins.	184	0	184	0	263	263	63	60	123
Total Volume	700	0	700	0	1066	1066	201	247	448
% App. Total	100	0	100	0	100	100	44.9	55.1	
PHF	.911	.000	.911	.000	.959	.959	.798	.813	.911

City of Whittier  
 N/S: Pioneer Boulevard  
 E/W: I-605 Northbound Off Ramp  
 Weather: Clear

File Name : 08\_WTR\_Pioneer\_605N Off SAT  
 Site Code : 04519342  
 Start Date : 5/11/2019  
 Page No : 1

Groups Printed- Total Volume

Start Time	Pioneer Boulevard Southbound			Pioneer Boulevard Northbound			I-605 Northbound Off Ramp Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
08:00 AM	43	0	43	0	146	146	53	44	97	286
08:15 AM	51	0	51	0	162	162	67	60	127	340
08:30 AM	54	0	54	0	157	157	62	50	112	323
08:45 AM	54	0	54	0	148	148	56	61	117	319
Total	202	0	202	0	613	613	238	215	453	1268
09:00 AM	63	0	63	0	178	178	54	54	108	349
09:15 AM	68	0	68	0	156	156	44	58	102	326
09:30 AM	60	0	60	0	172	172	52	70	122	354
09:45 AM	70	0	70	0	193	193	68	63	131	394
Total	261	0	261	0	699	699	218	245	463	1423
10:00 AM	68	0	68	0	186	186	52	70	122	376
10:15 AM	100	0	100	0	181	181	62	66	128	409
10:30 AM	82	0	82	0	224	224	44	56	100	406
10:45 AM	73	0	73	0	183	183	58	84	142	398
Total	323	0	323	0	774	774	216	276	492	1589
11:00 AM	96	0	96	0	221	221	53	57	110	427
11:15 AM	77	0	77	0	232	232	58	76	134	443
11:30 AM	95	0	95	0	186	186	52	71	123	404
11:45 AM	92	0	92	0	216	216	57	52	109	417
Total	360	0	360	0	855	855	220	256	476	1691
Grand Total	1146	0	1146	0	2941	2941	892	992	1884	5971
Apprch %	100	0		0	100		47.3	52.7		
Total %	19.2	0	19.2	0	49.3	49.3	14.9	16.6	31.6	

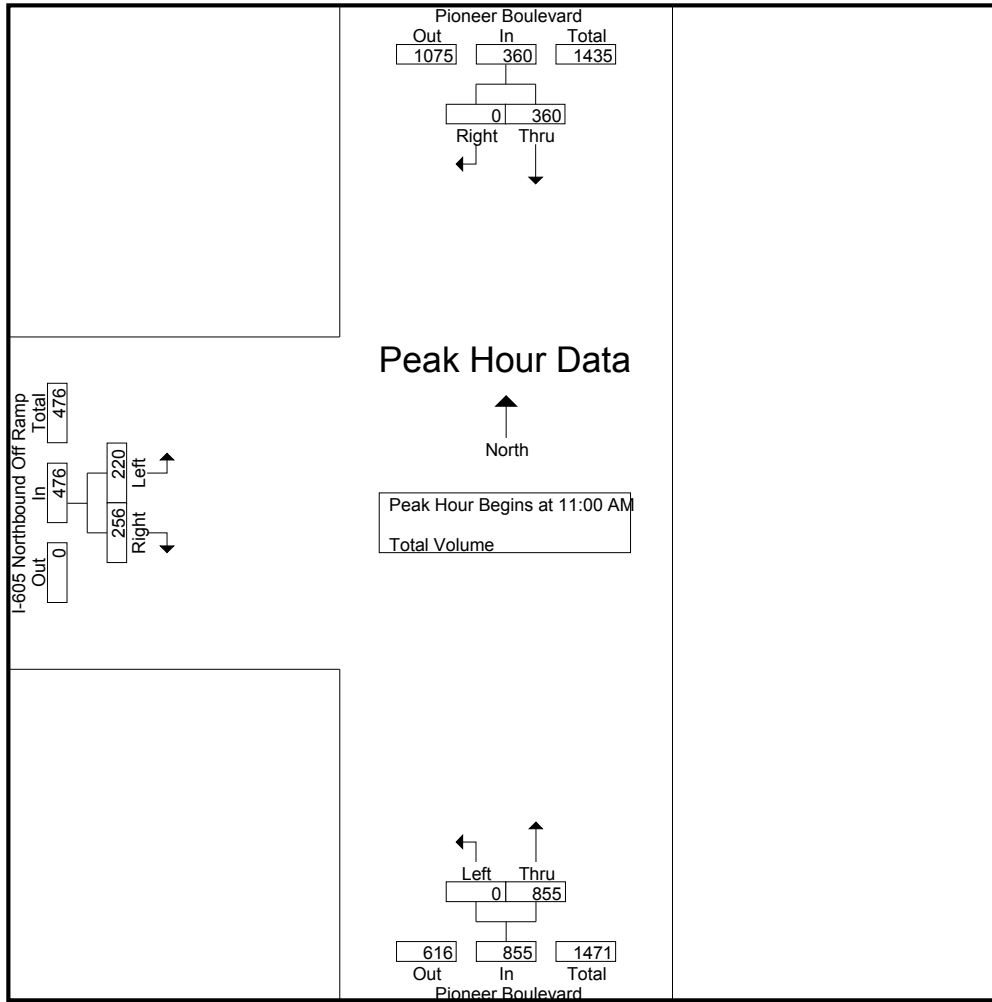
Start Time	Pioneer Boulevard Southbound			Pioneer Boulevard Northbound			I-605 Northbound Off Ramp Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
11:00 AM	<b>96</b>	0	<b>96</b>	0	221	221	53	57	110	427
11:15 AM	77	0	77	0	<b>232</b>	<b>232</b>	<b>58</b>	<b>76</b>	<b>134</b>	<b>443</b>
11:30 AM	95	0	95	0	186	186	52	71	123	404
11:45 AM	92	0	92	0	216	216	57	52	109	417
Total Volume	360	0	360	0	855	855	220	256	476	1691
% App. Total	100	0		0	100		46.2	53.8		
PHF	.938	.000	.938	.000	.921	.921	.948	.842	.888	.954

Peak Hour Analysis From 08:00 AM to 11:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 11:00 AM

City of Whittier  
 N/S: Pioneer Boulevard  
 E/W: I-605 Northbound Off Ramp  
 Weather: Clear

File Name : 08\_WTR\_Pioneer\_605N Off SAT  
 Site Code : 04519342  
 Start Date : 5/11/2019  
 Page No : 2



Peak Hour Analysis From 08:00 AM to 11:45 AM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	11:00 AM			10:30 AM			10:45 AM		
+0 mins.	<b>96</b>	0	<b>96</b>	0	224	224	<b>58</b>	<b>84</b>	<b>142</b>
+15 mins.	77	0	77	0	183	183	53	57	110
+30 mins.	95	0	95	0	221	221	58	76	134
+45 mins.	92	0	92	0	<b>232</b>	<b>232</b>	52	71	123
Total Volume	360	0	360	0	860	860	221	288	509
% App. Total	100	0		0	100		43.4	56.6	
PHF	.938	.000	.938	.000	.927	.927	.953	.857	.896

City of Whittier  
 N/S: Pioneer Boulevard  
 E/W: Slauson Avenue  
 Weather: Clear

File Name : 09\_WTR\_Pioneer\_Slauson AM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
 Page No : 1

Groups Printed- Total Volume

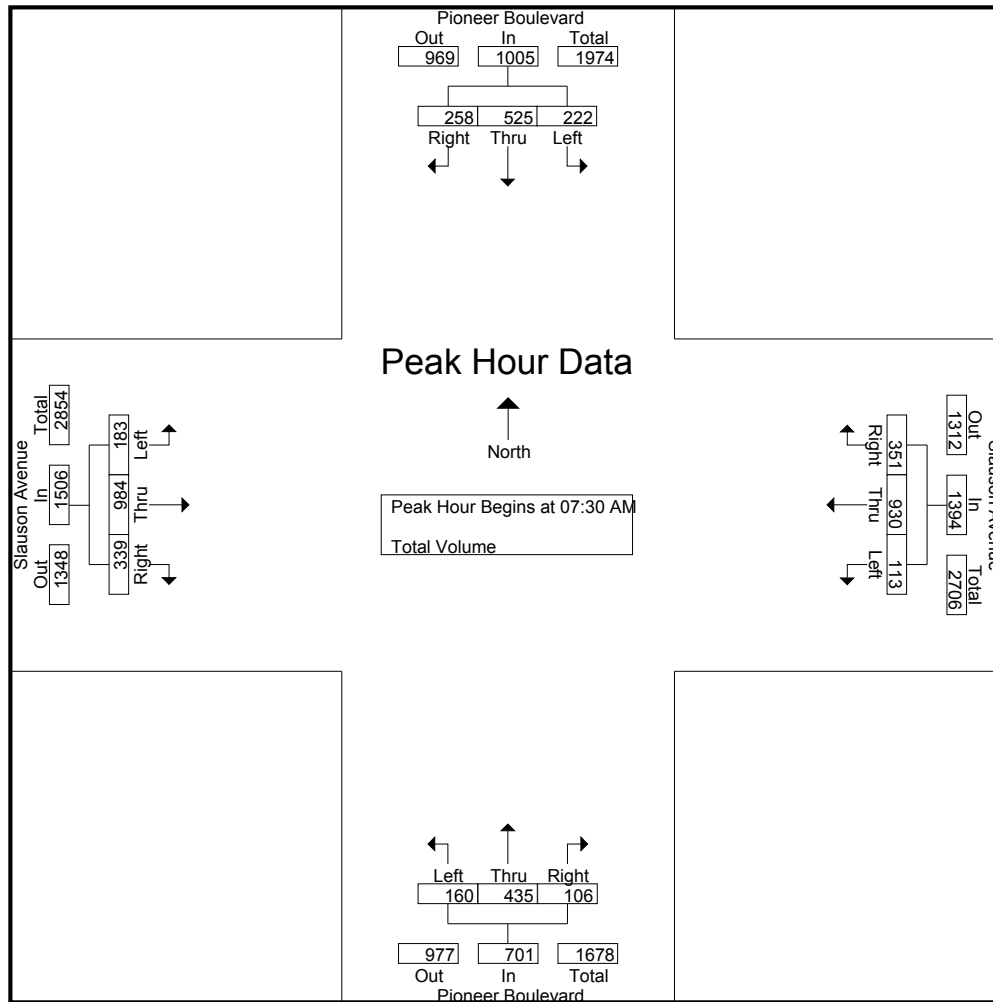
Start Time	Pioneer Boulevard Southbound				Slauson Avenue Westbound				Pioneer Boulevard Northbound				Slauson Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	48	86	54	188	24	240	73	337	28	79	13	120	47	200	85	332	977
07:15 AM	54	110	58	222	18	261	83	362	37	81	18	136	33	188	98	319	1039
07:30 AM	52	134	73	259	19	252	96	367	40	91	21	152	48	263	86	397	1175
07:45 AM	55	191	76	322	38	226	105	369	49	121	33	203	41	263	88	392	1286
Total	209	521	261	991	99	979	357	1435	154	372	85	611	169	914	357	1440	4477
08:00 AM	59	105	49	213	37	225	87	349	29	111	25	165	43	223	94	360	1087
08:15 AM	56	95	60	211	19	227	63	309	42	112	27	181	51	235	71	357	1058
08:30 AM	39	92	40	171	22	184	59	265	29	67	18	114	44	205	70	319	869
08:45 AM	46	63	33	142	20	153	56	229	35	70	17	122	36	198	85	319	812
Total	200	355	182	737	98	789	265	1152	135	360	87	582	174	861	320	1355	3826
Grand Total	409	876	443	1728	197	1768	622	2587	289	732	172	1193	343	1775	677	2795	8303
Apprch %	23.7	50.7	25.6		7.6	68.3	24		24.2	61.4	14.4		12.3	63.5	24.2		
Total %	4.9	10.6	5.3	20.8	2.4	21.3	7.5	31.2	3.5	8.8	2.1	14.4	4.1	21.4	8.2	33.7	

Start Time	Pioneer Boulevard Southbound				Slauson Avenue Westbound				Pioneer Boulevard Northbound				Slauson Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	52	134	73	259	19	<b>252</b>	96	367	40	91	21	152	48	<b>263</b>	86	<b>397</b>	1175
07:45 AM	55	<b>191</b>	<b>76</b>	<b>322</b>	<b>38</b>	226	<b>105</b>	<b>369</b>	<b>49</b>	<b>121</b>	<b>33</b>	<b>203</b>	41	263	88	392	<b>1286</b>
08:00 AM	<b>59</b>	105	49	213	37	225	87	349	29	111	25	165	43	223	<b>94</b>	360	1087
08:15 AM	56	95	60	211	19	227	63	309	42	112	27	181	<b>51</b>	235	71	357	1058
Total Volume	222	525	258	1005	113	930	351	1394	160	435	106	701	183	984	339	1506	4606
% App. Total	22.1	52.2	25.7		8.1	66.7	25.2		22.8	62.1	15.1		12.2	65.3	22.5		
PHF	.941	.687	.849	.780	.743	.923	.836	.944	.816	.899	.803	.863	.897	.935	.902	.948	.895



City of Whittier  
 N/S: Pioneer Boulevard  
 E/W: Slauson Avenue  
 Weather: Clear

File Name : 09\_WTR\_Pioneer\_Slauson AM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:30 AM				07:30 AM			
+0 mins.	54	110	58	222	18	<b>261</b>	83	362	40	91	21	152	48	<b>263</b>	86	<b>397</b>
+15 mins.	52	134	73	259	19	252	96	367	<b>49</b>	<b>121</b>	<b>33</b>	<b>203</b>	41	263	88	392
+30 mins.	55	<b>191</b>	<b>76</b>	<b>322</b>	<b>38</b>	226	<b>105</b>	<b>369</b>	29	111	25	165	43	223	<b>94</b>	360
+45 mins.	<b>59</b>	105	49	213	37	225	87	349	42	112	27	181	<b>51</b>	235	71	357
Total Volume	220	540	256	1016	112	964	371	1447	160	435	106	701	183	984	339	1506
% App. Total	21.7	53.1	25.2		7.7	66.6	25.6		22.8	62.1	15.1		12.2	65.3	22.5	
PHF	.932	.707	.842	.789	.737	.923	.883	.980	.816	.899	.803	.863	.897	.935	.902	.948

City of Whittier  
 N/S: Pioneer Boulevard  
 E/W: Slauson Avenue  
 Weather: Clear

File Name : 09\_WTR\_Pioneer\_Slauson PM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
 Page No : 1

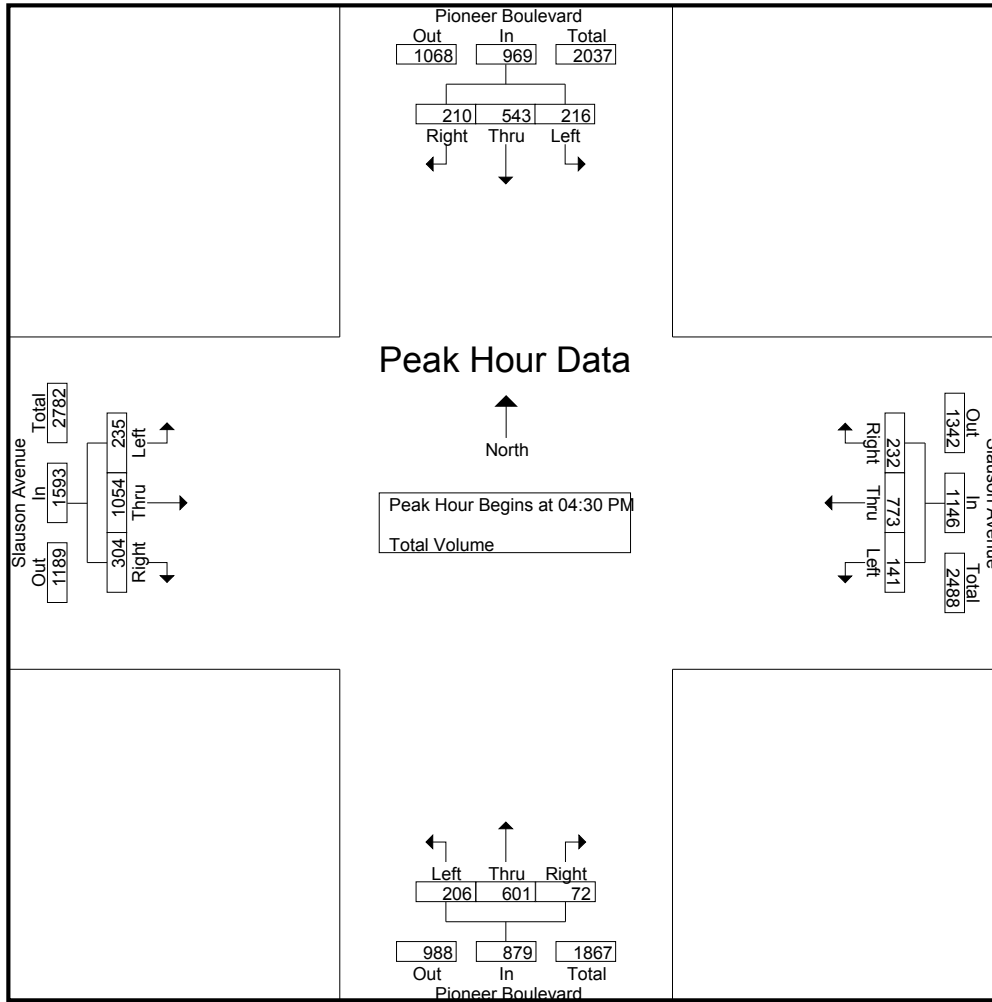
Groups Printed- Total Volume

Start Time	Pioneer Boulevard Southbound				Slauson Avenue Westbound				Pioneer Boulevard Northbound				Slauson Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	36	111	32	179	31	181	56	268	50	154	15	219	55	245	67	367	1033
04:15 PM	45	134	47	226	34	205	62	301	50	142	15	207	53	249	67	369	1103
04:30 PM	52	120	57	229	36	190	56	282	47	142	23	212	58	262	68	388	1111
04:45 PM	69	158	48	275	39	187	74	300	49	150	14	213	61	260	82	403	1191
Total	202	523	184	909	140	763	248	1151	196	588	67	851	227	1016	284	1527	4438
05:00 PM	48	123	48	219	33	209	57	299	44	159	14	217	64	283	73	420	1155
05:15 PM	47	142	57	246	33	187	45	265	66	150	21	237	52	249	81	382	1130
05:30 PM	40	133	46	219	28	157	41	226	39	151	18	208	62	290	79	431	1084
05:45 PM	48	109	46	203	27	168	45	240	32	125	21	178	65	261	85	411	1032
Total	183	507	197	887	121	721	188	1030	181	585	74	840	243	1083	318	1644	4401
Grand Total	385	1030	381	1796	261	1484	436	2181	377	1173	141	1691	470	2099	602	3171	8839
Apprch %	21.4	57.3	21.2		12	68	20		22.3	69.4	8.3		14.8	66.2	19		
Total %	4.4	11.7	4.3	20.3	3	16.8	4.9	24.7	4.3	13.3	1.6	19.1	5.3	23.7	6.8	35.9	

Start Time	Pioneer Boulevard Southbound				Slauson Avenue Westbound				Pioneer Boulevard Northbound				Slauson Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	52	120	<b>57</b>	229	36	190	56	282	47	142	<b>23</b>	212	58	262	68	388	1111
04:45 PM	<b>69</b>	<b>158</b>	48	<b>275</b>	<b>39</b>	187	<b>74</b>	<b>300</b>	49	150	14	213	61	260	<b>82</b>	403	<b>1191</b>
05:00 PM	48	123	48	219	33	<b>209</b>	57	299	44	<b>159</b>	14	217	<b>64</b>	<b>283</b>	73	<b>420</b>	1155
05:15 PM	47	142	57	246	33	187	45	265	<b>66</b>	150	21	<b>237</b>	52	249	81	382	1130
Total Volume	216	543	210	969	141	773	232	1146	206	601	72	879	235	1054	304	1593	4587
% App. Total	22.3	56	21.7		12.3	67.5	20.2		23.4	68.4	8.2		14.8	66.2	19.1		
PHF	.783	.859	.921	.881	.904	.925	.784	.955	.780	.945	.783	.927	.918	.931	.927	.948	.963

City of Whittier  
 N/S: Pioneer Boulevard  
 E/W: Slauson Avenue  
 Weather: Clear

File Name : 09\_WTR\_Pioneer\_Slauson PM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	04:30 PM				04:15 PM				04:30 PM				05:00 PM			
+0 mins.	52	120	57	229	34	205	62	301	47	142	23	212	64	283	73	420
+15 mins.	69	158	48	275	36	190	56	282	49	150	14	213	52	249	81	382
+30 mins.	48	123	48	219	39	187	74	300	44	159	14	217	62	290	79	431
+45 mins.	47	142	57	246	33	209	57	299	66	150	21	237	65	261	85	411
Total Volume	216	543	210	969	142	791	249	1182	206	601	72	879	243	1083	318	1644
% App. Total	22.3	56	21.7		12	66.9	21.1		23.4	68.4	8.2		14.8	65.9	19.3	
PHF	.783	.859	.921	.881	.910	.946	.841	.982	.780	.945	.783	.927	.935	.934	.935	.954

City of Whittier  
 N/S: Pioneer Boulevard  
 E/W: Slauson Avenue  
 Weather: Clear

File Name : 09\_WTR\_Pioneer\_Slauson SAT  
 Site Code : 04519342  
 Start Date : 5/11/2019  
 Page No : 1

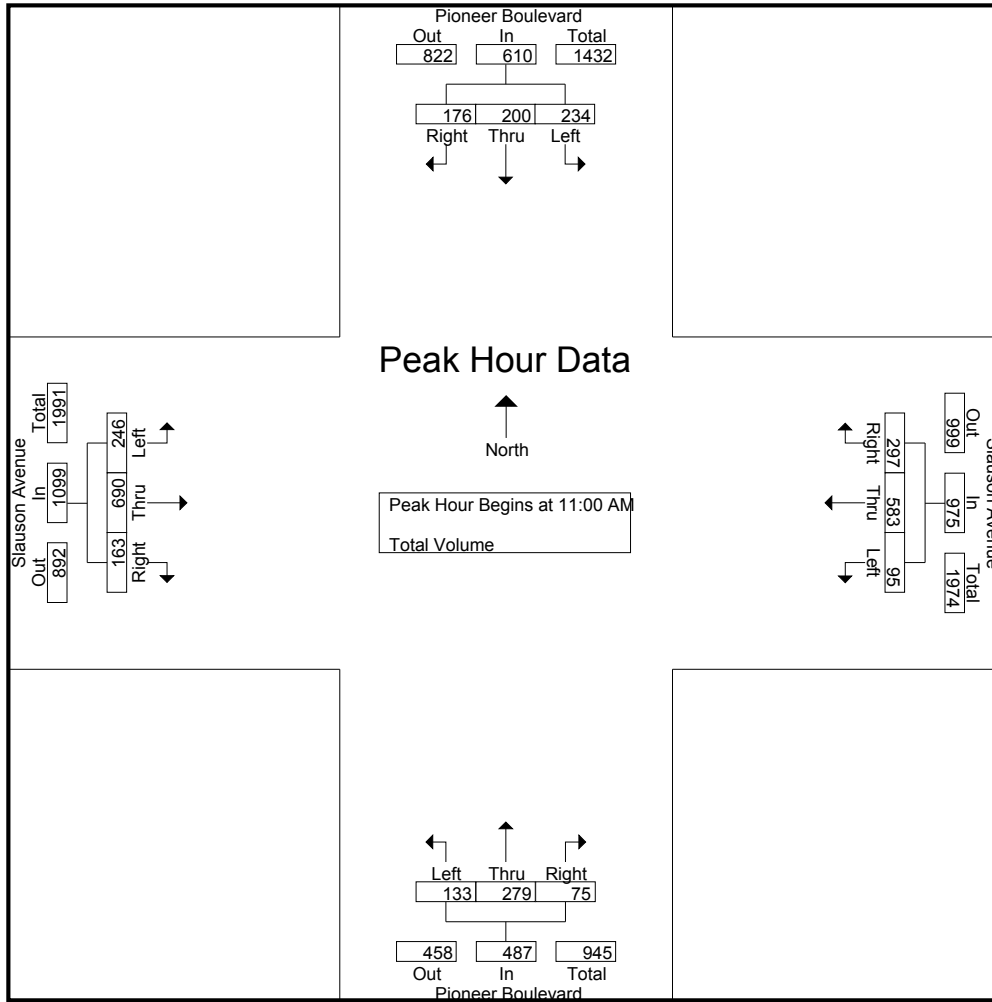
Groups Printed- Total Volume

Start Time	Pioneer Boulevard Southbound				Slauson Avenue Westbound				Pioneer Boulevard Northbound				Slauson Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
08:00 AM	26	22	28	76	11	82	56	149	19	43	11	73	45	98	38	181	479
08:15 AM	49	32	39	120	17	97	57	171	23	63	10	96	51	100	33	184	571
08:30 AM	38	29	30	97	17	89	62	168	27	47	11	85	38	147	26	211	561
08:45 AM	49	27	38	114	20	94	56	170	25	61	6	92	43	141	25	209	585
Total	162	110	135	407	65	362	231	658	94	214	38	346	177	486	122	785	2196
09:00 AM	39	38	37	114	21	113	63	197	26	51	18	95	58	156	29	243	649
09:15 AM	43	48	41	132	18	78	48	144	20	62	17	99	40	125	20	185	560
09:30 AM	46	33	48	127	19	118	62	199	24	58	15	97	56	160	32	248	671
09:45 AM	58	55	30	143	22	113	83	218	26	67	18	111	44	174	29	247	719
Total	186	174	156	516	80	422	256	758	96	238	68	402	198	615	110	923	2599
10:00 AM	47	43	44	134	24	120	84	228	28	57	11	96	57	176	57	290	748
10:15 AM	50	80	42	172	22	121	56	199	33	79	15	127	47	177	82	306	804
10:30 AM	42	51	48	141	19	115	75	209	24	70	12	106	73	159	47	279	735
10:45 AM	55	62	48	165	22	135	55	212	31	87	10	128	53	176	32	261	766
Total	194	236	182	612	87	491	270	848	116	293	48	457	230	688	218	1136	3053
11:00 AM	53	46	42	141	29	157	68	254	29	73	20	122	71	153	33	257	774
11:15 AM	64	47	53	164	24	148	78	250	36	85	20	141	62	153	41	256	811
11:30 AM	55	49	41	145	22	152	76	250	32	52	18	102	55	205	44	304	801
11:45 AM	62	58	40	160	20	126	75	221	36	69	17	122	58	179	45	282	785
Total	234	200	176	610	95	583	297	975	133	279	75	487	246	690	163	1099	3171
Grand Total	776	720	649	2145	327	1858	1054	3239	439	1024	229	1692	851	2479	613	3943	11019
Apprch %	36.2	33.6	30.3		10.1	57.4	32.5		25.9	60.5	13.5		21.6	62.9	15.5		
Total %	7	6.5	5.9	19.5	3	16.9	9.6	29.4	4	9.3	2.1	15.4	7.7	22.5	5.6	35.8	

Start Time	Pioneer Boulevard Southbound				Slauson Avenue Westbound				Pioneer Boulevard Northbound				Slauson Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 08:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:00 AM																	
11:00 AM	53	46	42	141	<b>29</b>	<b>157</b>	<b>68</b>	<b>254</b>	29	73	<b>20</b>	122	<b>71</b>	153	33	257	774
11:15 AM	<b>64</b>	47	<b>53</b>	<b>164</b>	24	148	<b>78</b>	<b>250</b>	<b>36</b>	<b>85</b>	20	<b>141</b>	62	153	41	256	<b>811</b>
11:30 AM	55	49	41	145	22	152	76	250	32	52	18	102	55	<b>205</b>	44	<b>304</b>	801
11:45 AM	62	<b>58</b>	40	160	20	126	75	221	36	69	17	122	58	179	<b>45</b>	282	785
Total Volume	234	200	176	610	95	583	297	975	133	279	75	487	246	690	163	1099	3171
% App. Total	38.4	32.8	28.9		9.7	59.8	30.5		27.3	57.3	15.4		22.4	62.8	14.8		
PHF	.914	.862	.830	.930	.819	.928	.952	.960	.924	.821	.938	.863	.866	.841	.906	.904	.977

City of Whittier  
 N/S: Pioneer Boulevard  
 E/W: Slauson Avenue  
 Weather: Clear

File Name : 09\_WTR\_Pioneer\_Slauson SAT  
 Site Code : 04519342  
 Start Date : 5/11/2019  
 Page No : 2



Peak Hour Analysis From 08:00 AM to 11:45 AM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	10:15 AM				11:00 AM				10:30 AM				10:00 AM			
+0 mins.	50	<b>80</b>	42	<b>172</b>	<b>29</b>	<b>157</b>	68	<b>254</b>	24	70	12	106	57	176	57	290
+15 mins.	42	51	<b>48</b>	141	24	148	<b>78</b>	250	31	<b>87</b>	10	128	47	<b>177</b>	<b>82</b>	<b>306</b>
+30 mins.	<b>55</b>	62	48	165	22	152	76	250	29	73	<b>20</b>	122	<b>73</b>	159	47	279
+45 mins.	53	46	42	141	20	126	75	221	<b>36</b>	85	20	<b>141</b>	53	176	32	261
Total Volume	200	239	180	619	95	583	297	975	120	315	62	497	230	688	218	1136
% App. Total	32.3	38.6	29.1		9.7	59.8	30.5		24.1	63.4	12.5		20.2	60.6	19.2	
PHF	.909	.747	.938	.900	.819	.928	.952	.960	.833	.905	.775	.881	.788	.972	.665	.928

City of Whittier  
 N/S: Millergrove Drive  
 E/W: Washington Boulevard Feeder  
 Weather: Clear

File Name : 10\_WTR\_Millergrove\_Washington Feeder AM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
 Page No : 1

Groups Printed- Total Volume

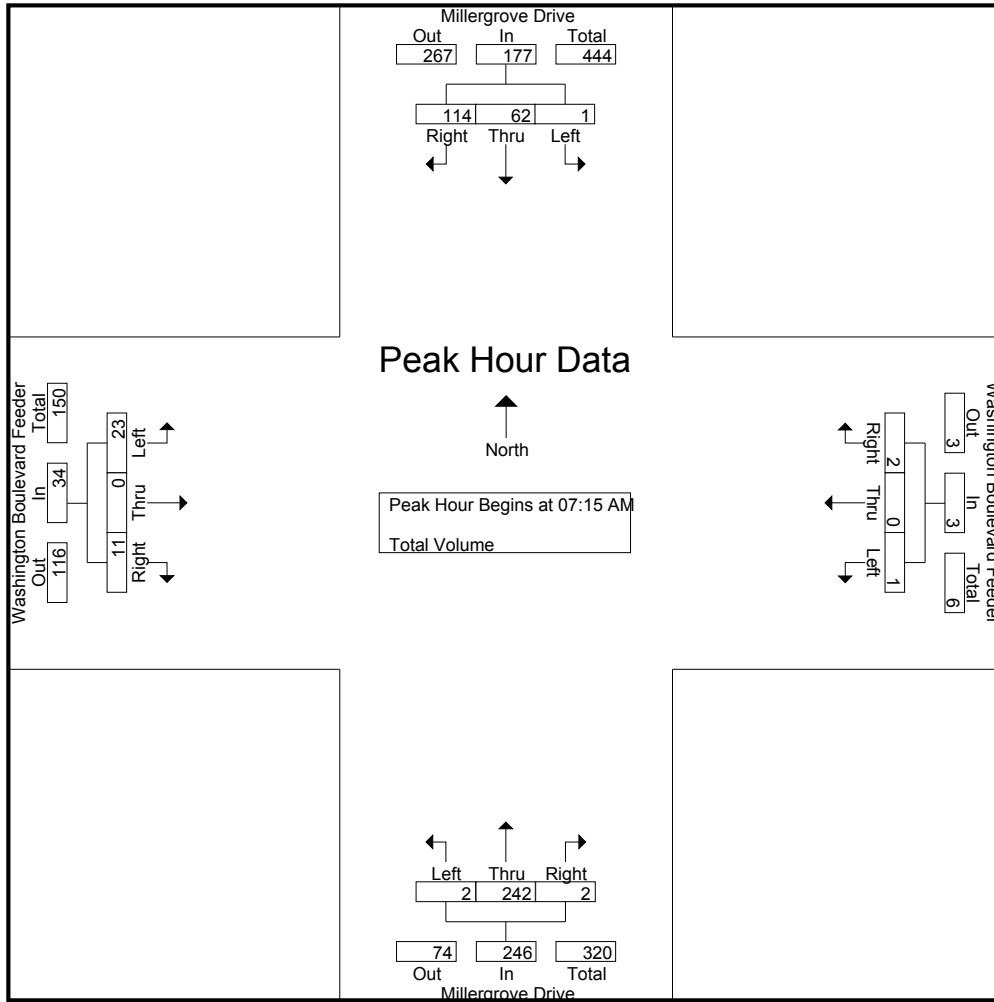
Start Time	Millergrove Drive Southbound				Washington Boulevard Feeder Westbound				Millergrove Drive Northbound				Washington Boulevard Feeder Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	11	20	31	0	0	0	0	1	43	1	45	4	0	1	5	81
07:15 AM	0	14	12	26	0	0	0	0	1	32	0	33	4	0	0	4	63
07:30 AM	0	17	12	29	0	0	0	0	0	36	0	36	5	0	2	7	72
07:45 AM	0	21	51	72	1	0	1	2	1	94	1	96	8	0	5	13	183
Total	0	63	95	158	1	0	1	2	3	205	2	210	21	0	8	29	399
08:00 AM	1	10	39	50	0	0	1	1	0	80	1	81	6	0	4	10	142
08:15 AM	0	4	10	14	0	0	0	0	0	25	0	25	9	0	1	10	49
08:30 AM	0	4	9	13	0	0	0	0	0	17	0	17	7	0	0	7	37
08:45 AM	0	4	1	5	0	0	2	2	1	11	0	12	3	0	2	5	24
Total	1	22	59	82	0	0	3	3	1	133	1	135	25	0	7	32	252
Grand Total	1	85	154	240	1	0	4	5	4	338	3	345	46	0	15	61	651
Apprch %	0.4	35.4	64.2		20	0	80		1.2	98	0.9		75.4	0	24.6		
Total %	0.2	13.1	23.7	36.9	0.2	0	0.6	0.8	0.6	51.9	0.5	53	7.1	0	2.3	9.4	

Start Time	Millergrove Drive Southbound				Washington Boulevard Feeder Westbound				Millergrove Drive Northbound				Washington Boulevard Feeder Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:15 AM	0	14	12	26	0	0	0	0	1	32	0	33	4	0	0	4	63
07:30 AM	0	17	12	29	0	0	0	0	0	36	0	36	5	0	2	7	72
07:45 AM	0	21	51	72	1	0	1	2	1	94	1	96	8	0	5	13	183
08:00 AM	1	10	39	50	0	0	1	1	0	80	1	81	6	0	4	10	142
Total Volume	1	62	114	177	1	0	2	3	2	242	2	246	23	0	11	34	460
% App. Total	0.6	35	64.4		33.3	0	66.7		0.8	98.4	0.8		67.6	0	32.4		
PHF	.250	.738	.559	.615	.250	.000	.500	.375	.500	.644	.500	.641	.719	.000	.550	.654	.628

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 07:15 AM

City of Whittier  
 N/S: Millergrove Drive  
 E/W: Washington Boulevard Feeder  
 Weather: Clear

File Name : 10\_WTR\_Millergrove\_Washington Feeder AM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:30 AM			
+0 mins.	0	14	12	26	0	0	0	0	1	32	0	33	5	0	2	7
+15 mins.	0	17	12	29	0	0	0	0	0	36	0	36	8	0	5	13
+30 mins.	0	21	51	72	1	0	1	2	1	94	1	96	6	0	4	10
+45 mins.	1	10	39	50	0	0	1	1	0	80	1	81	9	0	1	10
Total Volume	1	62	114	177	1	0	2	3	2	242	2	246	28	0	12	40
% App. Total	0.6	35	64.4		33.3	0	66.7		0.8	98.4	0.8		70	0	30	
PHF	.250	.738	.559	.615	.250	.000	.500	.375	.500	.644	.500	.641	.778	.000	.600	.769

City of Whittier  
 N/S: Millergrove Drive  
 E/W: Washington Boulevard Feeder  
 Weather: Clear

File Name : 10\_WTR\_Millergrove\_Washington Feeder PM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
 Page No : 1

Groups Printed- Total Volume

Start Time	Millergrove Drive Southbound				Washington Boulevard Feeder Westbound				Millergrove Drive Northbound				Washington Boulevard Feeder Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	7	6	13	0	0	0	0	0	20	0	20	10	0	0	10	43
04:15 PM	0	11	5	16	0	0	0	0	0	10	1	11	6	0	1	7	34
04:30 PM	0	12	7	19	0	0	1	1	0	24	1	25	7	0	0	7	52
04:45 PM	0	8	8	16	0	0	1	1	0	27	0	27	7	0	0	7	51
Total	0	38	26	64	0	0	2	2	0	81	2	83	30	0	1	31	180
05:00 PM	0	7	1	8	0	0	0	0	0	18	0	18	7	0	0	7	33
05:15 PM	1	5	9	15	0	0	3	3	0	20	0	20	6	0	2	8	46
05:30 PM	0	14	10	24	0	0	0	0	0	22	0	22	8	1	1	10	56
05:45 PM	0	14	6	20	0	0	2	2	0	23	0	23	7	0	1	8	53
Total	1	40	26	67	0	0	5	5	0	83	0	83	28	1	4	33	188
Grand Total	1	78	52	131	0	0	7	7	0	164	2	166	58	1	5	64	368
Apprch %	0.8	59.5	39.7		0	0	100		0	98.8	1.2		90.6	1.6	7.8		
Total %	0.3	21.2	14.1	35.6	0	0	1.9	1.9	0	44.6	0.5	45.1	15.8	0.3	1.4	17.4	

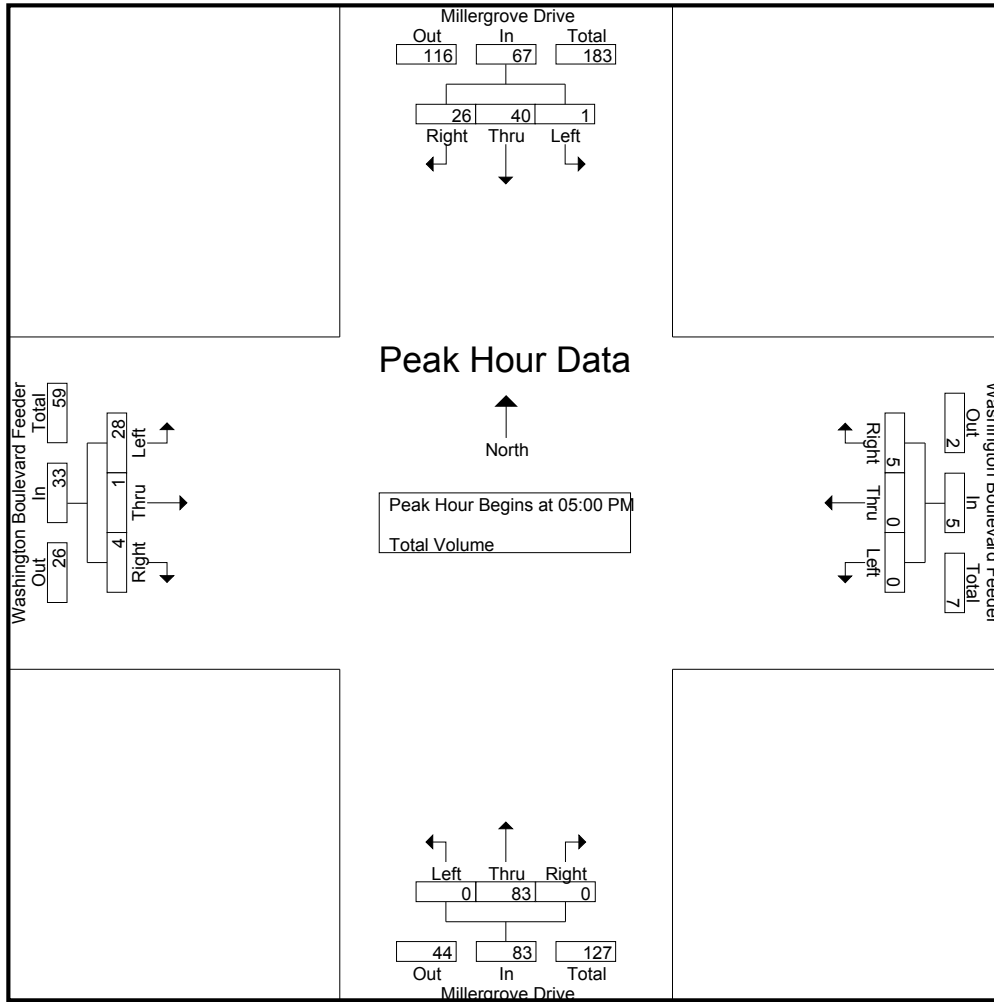
Start Time	Millergrove Drive Southbound				Washington Boulevard Feeder Westbound				Millergrove Drive Northbound				Washington Boulevard Feeder Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
05:00 PM	0	7	1	8	0	0	0	0	0	18	0	18	7	0	0	7	33
05:15 PM	1	5	9	15	0	0	3	3	0	20	0	20	6	0	2	8	46
05:30 PM	0	14	10	24	0	0	0	0	0	22	0	22	8	1	1	10	56
05:45 PM	0	14	6	20	0	0	2	2	0	23	0	23	7	0	1	8	53
Total Volume	1	40	26	67	0	0	5	5	0	83	0	83	28	1	4	33	188
% App. Total	1.5	59.7	38.8		0	0	100		0	100	0		84.8	3	12.1		
PHF	.250	.714	.650	.698	.000	.000	.417	.417	.000	.902	.000	.902	.875	.250	.500	.825	.839

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1  
 Peak Hour for Entire Intersection Begins at 05:00 PM



City of Whittier  
 N/S: Millergrove Drive  
 E/W: Washington Boulevard Feeder  
 Weather: Clear

File Name : 10\_WTR\_Millergrove\_Washington Feeder PM  
 Site Code : 04519342  
 Start Date : 5/9/2019  
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	05:00 PM				04:30 PM				04:30 PM				05:00 PM			
+0 mins.	0	7	1	8	0	0	1	1	0	24	1	25	7	0	0	7
+15 mins.	1	5	9	15	0	0	1	1	0	27	0	27	6	0	2	8
+30 mins.	0	14	10	24	0	0	0	0	0	18	0	18	8	1	1	10
+45 mins.	0	14	6	20	0	0	3	3	0	20	0	20	7	0	1	8
Total Volume	1	40	26	67	0	0	5	5	0	89	1	90	28	1	4	33
% App. Total	1.5	59.7	38.8		0	0	100		0	98.9	1.1		84.8	3	12.1	
PHF	.250	.714	.650	.698	.000	.000	.417	.417	.000	.824	.250	.833	.875	.250	.500	.825

City of Whittier  
 N/S: Millergrove Drive  
 E/W: Washington Boulevard Feeder  
 Weather: Clear

File Name : 10\_WTR\_Millergrove\_Washington Feeder SAT  
 Site Code : 04519342  
 Start Date : 5/11/2019  
 Page No : 1

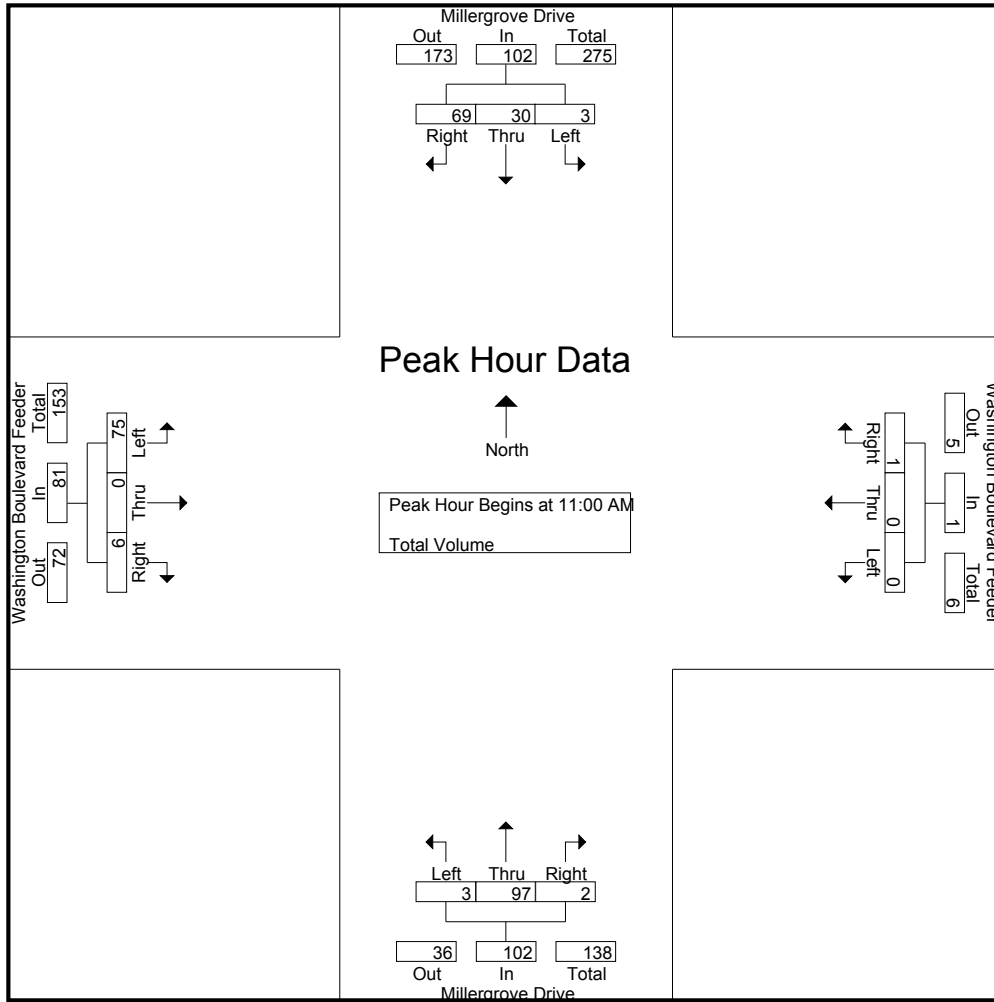
Groups Printed- Total Volume

Start Time	Millergrove Drive Southbound				Washington Boulevard Feeder Westbound				Millergrove Drive Northbound				Washington Boulevard Feeder Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
08:00 AM	0	3	17	20	0	0	4	4	0	31	0	31	8	1	1	10	65
08:15 AM	0	6	13	19	0	0	0	0	0	21	1	22	13	0	2	15	56
08:30 AM	0	13	10	23	0	0	1	1	0	22	0	22	21	0	0	21	67
08:45 AM	0	5	13	18	0	0	3	3	1	24	0	25	16	0	0	16	62
Total	0	27	53	80	0	0	8	8	1	98	1	100	58	1	3	62	250
09:00 AM	0	9	12	21	1	0	3	4	2	18	0	20	18	0	1	19	64
09:15 AM	0	13	9	22	0	0	0	0	1	12	0	13	17	0	3	20	55
09:30 AM	0	6	10	16	0	0	3	3	0	19	0	19	16	0	1	17	55
09:45 AM	1	6	7	14	0	0	0	0	0	16	0	16	20	0	1	21	51
Total	1	34	38	73	1	0	6	7	3	65	0	68	71	0	6	77	225
10:00 AM	0	7	15	22	0	0	0	0	2	21	0	23	16	0	6	22	67
10:15 AM	0	10	14	24	0	0	1	1	0	14	0	14	22	0	1	23	62
10:30 AM	0	7	14	21	0	0	1	1	0	25	0	25	20	0	0	20	67
10:45 AM	1	13	13	27	0	0	1	1	1	20	0	21	20	0	0	20	69
Total	1	37	56	94	0	0	3	3	3	80	0	83	78	0	7	85	265
11:00 AM	1	4	11	16	0	0	0	0	0	17	0	17	18	0	1	19	52
11:15 AM	0	6	20	26	0	0	0	0	2	24	0	26	18	0	2	20	72
11:30 AM	0	12	20	32	0	0	0	0	1	23	0	24	23	0	0	23	79
11:45 AM	2	8	18	28	0	0	1	1	0	33	2	35	16	0	3	19	83
Total	3	30	69	102	0	0	1	1	3	97	2	102	75	0	6	81	286
Grand Total	5	128	216	349	1	0	18	19	10	340	3	353	282	1	22	305	1026
Apprch %	1.4	36.7	61.9		5.3	0	94.7		2.8	96.3	0.8		92.5	0.3	7.2		
Total %	0.5	12.5	21.1	34	0.1	0	1.8	1.9	1	33.1	0.3	34.4	27.5	0.1	2.1	29.7	

Start Time	Millergrove Drive Southbound				Washington Boulevard Feeder Westbound				Millergrove Drive Northbound				Washington Boulevard Feeder Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 08:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:00 AM																	
11:00 AM	1	4	11	16	0	0	0	0	0	17	0	17	18	0	1	19	52
11:15 AM	0	6	20	26	0	0	0	0	2	24	0	26	18	0	2	20	72
11:30 AM	0	12	20	32	0	0	0	0	1	23	0	24	23	0	0	23	79
11:45 AM	2	8	18	28	0	0	1	1	0	33	2	35	16	0	3	19	83
Total Volume	3	30	69	102	0	0	1	1	3	97	2	102	75	0	6	81	286
% App. Total	2.9	29.4	67.6		0	0	100		2.9	95.1	2		92.6	0	7.4		
PHF	.375	.625	.863	.797	.000	.000	.250	.250	.375	.735	.250	.729	.815	.000	.500	.880	.861

City of Whittier  
 N/S: Millergrove Drive  
 E/W: Washington Boulevard Feeder  
 Weather: Clear

File Name : 10\_WTR\_Millergrove\_Washington Feeder SAT  
 Site Code : 04519342  
 Start Date : 5/11/2019  
 Page No : 2



Peak Hour Analysis From 08:00 AM to 11:45 AM - Peak 1 of 1  
 Peak Hour for Each Approach Begins at:

	11:00 AM				08:45 AM				11:00 AM				09:45 AM			
+0 mins.	1	4	11	16	0	0	3	3	0	17	0	17	20	0	1	21
+15 mins.	0	6	20	26	1	0	3	4	2	24	0	26	16	0	6	22
+30 mins.	0	12	20	32	0	0	0	0	1	23	0	24	22	0	1	23
+45 mins.	2	8	18	28	0	0	3	3	0	33	2	35	20	0	0	20
Total Volume	3	30	69	102	1	0	9	10	3	97	2	102	78	0	8	86
% App. Total	2.9	29.4	67.6		10	0	90		2.9	95.1	2		90.7	0	9.3	
PHF	.375	.625	.863	.797	.250	.000	.750	.625	.375	.735	.250	.729	.886	.000	.333	.935

## Appendix D

## Intersection Capacity Utilization Level of Service (LOS) Worksheet

<b>PROJECT:</b>		Whittier Aquatic Facility									
<b>SCENARIO:</b>		Existing									
<b>INTERSECTION:</b>		1. Seragosa St. / I-605 NB On-Ramp / N. Pioneer Blvd.									
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR			
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	
NBL	0	1600	7	0.0044	1600	11	0.0069	1600	14	0.0088	
NBT	1	1600	316	0.2019	1600	361	0.2325	1600	214	0.1425	
NBR	1	1600	227	0.1419	1600	481	0.3006	1600	205	0.1281	
SBL	N/A		N/A			N/A			N/A		
SBT	N/A		N/A			N/A			N/A		
SBR	N/A		N/A			N/A			N/A		
EBL	0	1600	15	0.0094	1600	7	0.0044	1600	7	0.0044	
EBT	1	1600	421	0.2725	1600	318	0.1988	1600	300	0.1919	
EBR	1	1600	304	0.19	1600	273	0.1706	1600	133	0.0831	
WBL	1	1600	347	0.2169	1600	243	0.1519	1600	213	0.1331	
WBT	1	1600	21	0.0131	1600	29	0.0181	1600	21	0.0131	
WBR	1	1600	491	0.3069	1600	389	0.2431	1600	268	0.1675	
N/S Movements:				0.20			0.30			0.14	
E/W Movements:				0.49			0.35			0.33	
Yellow Clearance:				0.10			0.10			0.10	
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.79</b>				<b>0.75</b>			
<b>LEVEL OF SERVICE (LOS):</b>				<b>C</b>				<b>C</b>			

## Intersection Capacity Utilization Level of Service (LOS) Worksheet

<b>PROJECT:</b>		Whittier Aquatic Facility									
<b>SCENARIO:</b>		Existing									
<b>INTERSECTION:</b>		2. I-605 NB Off-Ramp / N. Pioneer Blvd.									
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR			
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	
NBL	0	1600	0	0	1600	0	0	1600	0	0	
NBT	2	3200	442	0.1381	3200	634	0.1981	1600	321	0.2006	
NBR	0	1600	0	0	0	0	0	1600	0	0	
SBL	0	1600	0	0	1600	0	0	1600	0	0	
SBT	2	3200	662	0.2069	3200	519	0.1622	1600	340	0.2125	
SBR	0	0	0	0	0	0	0	1600	0	0	
EBL	1	1600	70	0.0438	1600	249	0.1556	1600	112	0.07	
EBT	0	0	0	0	0	0	0	1600	0	0.07	
EBR	1	1600	223	0.1394	1600	278	0.1738	1600	248	0.155	
WBL	N/A		N/A			N/A			N/A		
WBT	N/A		N/A			N/A			N/A		
WBR	N/A		N/A			N/A			N/A		
N/S Movements:				0.21			0.20			0.21	
E/W Movements:				0.14			0.17			0.16	
Yellow Clearance:				0.10			0.10			0.10	
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.45</b>				<b>0.47</b>			
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>				<b>A</b>			

## Intersection Capacity Utilization Level of Service (LOS) Worksheet

<b>PROJECT:</b> Whittier Aquatic Facility <b>SCENARIO:</b> Existing <b>INTERSECTION:</b> 3. N. Pioneer Blvd. / Washington Blvd.											
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR			
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	
NBL	1	1600	217	0.1356	1600	199	0.1244	1600	183	0.1144	
NBT	2	3200	264	0.1803	3200	411	0.2191	3200	93	0.1178	
NBR	0	0	313	0	0	290	0	0	284	0	
SBL	1	1600	181	0.1131	1600	114	0.0713	1600	116	0.0725	
SBT	2	3200	323	0.2291	3200	315	0.2116	3200	107	0.1241	
SBR	0	0	410	0	0	362	0	1600	290	0	
EBL	1	1600	80	0.05	1600	148	0.0925	1600	109	0.0681	
EBT	3	4800	794	0.2427	4800	1151	0.3208	4800	643	0.1879	
EBR	0	1600	371	0	1600	389	0	1600	259	0	
WBL	1	1600	189	0.1181	1600	178	0.1113	1600	173	0.1081	
WBT	3	4800	1426	0.319	4800	1130	0.2527	4800	921	0.2133	
WBR	0	1600	105	0	1600	83	0	1600	103	0	
N/S Movements:				0.36			0.34			0.24	
E/W Movements:				0.37			0.43			0.30	
Yellow Clearance:				0.10			0.10			0.10	
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.83</b>	<b>0.87</b>				<b>0.63</b>		
<b>LEVEL OF SERVICE (LOS):</b>				<b>D</b>	<b>D</b>				<b>B</b>		

## Intersection Capacity Utilization Level of Service (LOS) Worksheet

<b>PROJECT:</b>		Whittier Aquatic Facility									
<b>SCENARIO:</b>		Existing									
<b>INTERSECTION:</b>		4. Millergrove Dr. / Washington Blvd.									
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR			
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	
NBL	0	1600	127	0.0794	1600	47	0.0294	1600	60	0.0375	
NBT	1	1600	0	0.1675	1600	0	0.075	1600	0	0.1106	
NBR	0	0	141	0	0	73	0	0	117	0	
SBL	N/A		N/A			N/A			N/A		
SBT	N/A		N/A			N/A			N/A		
SBR	N/A		N/A			N/A			N/A		
EBL	0	1600	0	0	1600	0	0	1600	0	0	
EBT	3	4800	1194	0.2525	4800	1485	0.3121	4800	1069	0.2265	
EBR	0	1600	18	0	1600	13	0	1600	18	0	
WBL	1	1600	160	0.1	1600	52	0.0325	1600	88	0.055	
WBT	3	4800	1542	0.3213	4800	1338	0.2788	4800	1273	0.2652	
WBR	0	1600	0	0	1600	0	0	1600	0	0	
N/S Movements:				0.17			0.08			0.11	
E/W Movements:				0.35			0.34			0.28	
Yellow Clearance:				0.10			0.10			0.10	
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.62</b>					<b>0.52</b>		
<b>LEVEL OF SERVICE (LOS):</b>				<b>B</b>					<b>A</b>		



## Intersection Capacity Utilization Level of Service (LOS) Worksheet

<b>PROJECT:</b>		Whittier Aquatic Facility									
<b>SCENARIO:</b>		Existing									
<b>INTERSECTION:</b>		5. Norwalk Blvd. / Washington Blvd.									
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR			
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	
NBL	1	1600	209	0.1306	1600	228	0.1425	1600	219	0.1369	
NBT	2	3200	471	0.1563	3200	825	0.2756	3200	365	0.1356	
NBR	0	0	29	0	0	57	0	0	69	0	
SBL	1	1600	215	0.1344	1600	196	0.1225	1600	248	0.155	
SBT	2	3200	642	0.2703	3200	553	0.1997	3200	240	0.1109	
SBR	0	0	223	0	0	86	0	1600	115	0	
EBL	1	1600	125	0.0781	1600	153	0.0956	1600	144	0.09	
EBT	2	3200	935	0.2922	3200	1107	0.3459	3200	896	0.28	
EBR	1	1600	261	0.1631	1600	263	0.1644	1600	143	0.0894	
WBL	1	1600	59	0.0369	1600	83	0.0519	1600	98	0.0613	
WBT	3	4800	1224	0.2808	4800	1086	0.2625	4800	1051	0.255	
WBR	0	1600	124	0	1600	174	0	1600	173	0	
N/S Movements:					0.40			0.29			
E/W Movements:					0.36			0.35			
Yellow Clearance:					0.10			0.10			
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.86</b>					<b>0.90</b>	<b>0.74</b>	
<b>LEVEL OF SERVICE (LOS):</b>				<b>D</b>					<b>D</b>	<b>C</b>	

## Intersection Capacity Utilization Level of Service (LOS) Worksheet

PROJECT:		Whittier Aquatic Facility									
SCENARIO:		Existing									
INTERSECTION:		6. Millergrove Dr. / Washington Blvd. (Frontage Road)									
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR			
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	
NBL	0	1600	2	0.0013	1600	0	0	1600	3	0.0019	
NBT	1	1600	242	0.1538	1600	83	0.0519	1600	97	0.0638	
NBR	0	0	2	0	0	0	0	0	2	0	
SBL	0	1600	1	0.0006	1600	1	0.0006	1600	3	0.0019	
SBT	1	1600	62	0.1106	1600	40	0.0419	1600	30	0.0638	
SBR	0	0	114	0	0	26	0	1600	69	0	
EBL	0	1600	23	0.0144	1600	28	0.0175	1600	75	0.0469	
EBT	1	1600	0	0.0213	1600	1	0.0206	1600	0	0.0506	
EBR	0	1600	11	0	1600	4	0	1600	6	0	
WBL	0	1600	1	0.0006	1600	0	0	1600	0	0	
WBT	1	1600	0	0.0019	1600	0	0.0031	1600	0	0.0006	
WBR	0	1600	2	0	1600	5	0	1600	1	0	
N/S Movements:				0.15			0.05			0.07	
E/W Movements:				0.02			0.02			0.05	
Yellow Clearance:				0.10			0.10			0.10	
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.28</b>					<b>0.17</b>		
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>					<b>A</b>		

## Intersection Capacity Utilization Level of Service (LOS) Worksheet

<b>PROJECT:</b>		Whittier Aquatic Facility									
<b>SCENARIO:</b>		Existing									
<b>INTERSECTION:</b>		7. Danby Ave. / Project Driveway 1									
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR			
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	
NBL	0	1600	54	0.0338	1600	8	0.005	1600	25	0.0156	
NBT	1	1600	8	0.0388	1600	7	0.0094	1600	12	0.0231	
NBR	0	0	0	0	0	0	0	0	0	0	
SBL	0	1600	0	0	1600	0	0	1600	0	0	
SBT	1	1600	143	0.1125	1600	53	0.0356	1600	65	0.0694	
SBR	0	0	37	0	0	4	0	1600	46	0	
EBL	0	1600	3	0.0019	1600	7	0.0044	1600	36	0.0225	
EBT	1	1600	0	0.0406	1600	0	0.0288	1600	0	0.0469	
EBR	0	1600	62	0	1600	39	0	1600	39	0	
WBL	N/A		N/A			N/A			N/A		
WBT	N/A		N/A			N/A			N/A		
WBR	N/A		N/A			N/A			N/A		
N/S Movements:				0.15			0.04			0.09	
E/W Movements:				0.04			0.03			0.05	
Yellow Clearance:				0.10			0.10			0.10	
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.29</b>				<b>0.17</b>			
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>				<b>A</b>			

## Intersection Capacity Utilization Level of Service (LOS) Worksheet

<b>PROJECT:</b>		Whittier Aquatic Facility									
<b>SCENARIO:</b>		Existing									
<b>INTERSECTION:</b>		8. N. Pioneer Blvd. / Project Driveway 2									
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR			
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	
NBL	0	1600	0	0	1600	0	0	1600	0	0	
NBT	2	3200	738	0.2538	3200	857	0.2741	3200	591	0.1903	
NBR	0	0	74	0	0	20	0	0	18	0	
SBL	0	1600	0	0	1600	0	0	1600	0	0	
SBT	2	3200	863	0.2697	3200	918	0.2881	3200	529	0.1675	
SBR	0	0	0	0	0	4	0	1600	7	0	
EBL	0	1600	0	0	1600	0	0	1600	0	0	
EBT	1	1600	0	0.0025	1600	0	0.0113	1600	0	0.0219	
EBR	0	1600	4	0	1600	18	0	1600	35	0	
WBL	0	1600	0	0	1600	0	0	1600	0	0	
WBT	1	1600	0	0.04	1600	0	0.0125	1600	0	0.0363	
WBR	0	1600	64	0	1600	20	0	1600	58	0	
N/S Movements:				0.27			0.29			0.19	
E/W Movements:				0.04			0.01			0.04	
Yellow Clearance:				0.10			0.10			0.10	
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.41</b>				<b>0.40</b>			
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>				<b>A</b>			

## Intersection Capacity Utilization Level of Service (LOS) Worksheet

<b>PROJECT:</b>		Whittier Aquatic Facility									
<b>SCENARIO:</b>		Existing									
<b>INTERSECTION:</b>		9. N. Pioneer Blvd. / I-605 NB Off-Ramp									
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR			
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	
NBL	0	1600	0	0	1600	0	0	1600	0	0	
NBT	2	3200	954	0.2981	3200	1066	0.3331	3200	855	0.2672	
NBR	0	0	0	0	0	0	0	0	0	0	
SBL	0	1600	0	0	1600	0	0	1600	0	0	
SBT	2	3200	685	0.2141	3200	700	0.2188	3200	360	0.1125	
SBR	0	0	0	0	0	0	0	1600	0	0	
EBL	1	1600	210	0.1313	1600	191	0.1194	1600	220	0.1375	
EBT	0	0	0	0	0	0	0	0	0	0	
EBR	1	1600	320	0.2	1600	250	0.1563	1600	256	0.16	
WBL	N/A		N/A			N/A			N/A		
WBT	N/A		N/A			N/A			N/A		
WBR	N/A		N/A			N/A			N/A		
N/S Movements:				0.30			0.33			0.27	
E/W Movements:				0.20			0.16			0.16	
Yellow Clearance:				0.10			0.10			0.10	
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.60</b>				<b>0.59</b>			
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>				<b>A</b>			

## Appendix E

## Intersection Capacity Utilization Level of Service (LOS) Worksheet

<b>PROJECT:</b>		Whittier Aquatic Facility									
<b>SCENARIO:</b>		Existing + Construction									
<b>INTERSECTION:</b>		1. Seragosa St. / I-605 NB On-Ramp / N. Pioneer Blvd.									
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR			
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	
NBL	0	1600	7	0.0044	1600	11	0.0069			N/A	
NBT	1	1600	319	0.2038	1600	371	0.2388			N/A	
NBR	1	1600	227	0.1419	1600	481	0.3006			N/A	
SBL	N/A		N/A			N/A				N/A	
SBT	N/A		N/A			N/A				N/A	
SBR	N/A		N/A			N/A				N/A	
EBL	0	1600	15	0.0094	1600	7	0.0044			N/A	
EBT	1	1600	421	0.2725	1600	318	0.1988			N/A	
EBR	1	1600	309	0.1931	1600	274	0.1713			N/A	
WBL	1	1600	347	0.2169	1600	243	0.1519			N/A	
WBT	1	1600	21	0.0131	1600	29	0.0181			N/A	
WBR	1	1600	491	0.3069	1600	389	0.2431			N/A	
N/S Movements:				0.20			0.30			0.00	
E/W Movements:				0.49			0.35			0.00	
Yellow Clearance:				0.10			0.10			0.10	
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.79</b>				<b>0.75</b>	<b>N/A</b>		
<b>LEVEL OF SERVICE (LOS):</b>				<b>C</b>				<b>C</b>			

## Intersection Capacity Utilization Level of Service (LOS) Worksheet

<b>PROJECT:</b>		Whittier Aquatic Facility									
<b>SCENARIO:</b>		Existing + Construction									
<b>INTERSECTION:</b>		2. I-605 NB Off-Ramp / N. Pioneer Blvd.									
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR			
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	
NBL	0	1600	0	0	1600	0	0	N/A			
NBT	2	3200	445	0.1391	3200	644	0.2013	N/A			
NBR	0	1600	0	0	0	0	0	N/A			
SBL	0	1600	0	0	1600	0	0	N/A			
SBT	2	3200	667	0.2084	3200	520	0.1625	N/A			
SBR	0	0	0	0	0	0	0	N/A			
EBL	1	1600	70	0.0438	1600	249	0.1556	N/A			
EBT	0	0	0	0	0	0	0	N/A			
EBR	1	1600	223	0.1394	1600	278	0.1738	N/A			
WBL	N/A		N/A			N/A		N/A			
WBT	N/A		N/A			N/A		N/A			
WBR	N/A		N/A			N/A		N/A			
N/S Movements:				0.21			0.20			0.00	
E/W Movements:				0.14			0.17			0.00	
Yellow Clearance:				0.10			0.10			0.10	
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.45</b>				<b>0.48</b>	<b>N/A</b>		
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>				<b>A</b>	<b>N/A</b>		



## Intersection Capacity Utilization Level of Service (LOS) Worksheet

<b>PROJECT:</b>		Whittier Aquatic Facility									
<b>SCENARIO:</b>		Existing + Construction									
<b>INTERSECTION:</b>		3. N. Pioneer Blvd. / Washington Blvd.									
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR			
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	
NBL	1	1600	220	0.1375	1600	208	0.13			N/A	
NBT	2	3200	266	0.1809	3200	419	0.2216			N/A	
NBR	0	0	313	0	0	290	0			N/A	
SBL	1	1600	186	0.1163	1600	119	0.0744			N/A	
SBT	2	3200	323	0.2291	3200	315	0.2116			N/A	
SBR	0	0	410	0	0	362	0			N/A	
EBL	1	1600	80	0.05	1600	148	0.0925			N/A	
EBT	3	4800	799	0.2438	4800	1152	0.321			N/A	
EBR	0	1600	371	0	1600	389	0			N/A	
WBL	1	1600	190	0.1188	1600	178	0.1113			N/A	
WBT	3	4800	1427	0.3192	4800	1132	0.2535			N/A	
WBR	0	1600	105	0	1600	85	0			N/A	
N/S Movements:				0.37			0.34			0.00	
E/W Movements:				0.37			0.43			0.00	
Yellow Clearance:				0.10			0.10			0.10	
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.84</b>				<b>0.87</b>	<b>N/A</b>		
<b>LEVEL OF SERVICE (LOS):</b>				<b>D</b>				<b>D</b>			

## Intersection Capacity Utilization Level of Service (LOS) Worksheet

<b>PROJECT:</b>		Whittier Aquatic Facility									
<b>SCENARIO:</b>		Existing + Construction									
<b>INTERSECTION:</b>		4. Millergrove Dr. / Washington Blvd.									
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR			
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	
NBL	0	1600	128	0.08	1600	52	0.0325			N/A	
NBT	1	1600	0	0.1681	1600	0	0.0788			N/A	
NBR	0	0	141	0	0	74	0			N/A	
SBL	N/A		N/A			N/A				N/A	
SBT	N/A		N/A			N/A				N/A	
SBR	N/A		N/A			N/A				N/A	
EBL	0	1600	0	0	1600	0	0			N/A	
EBT	3	4800	1194	0.2544	4800	1485	0.3127			N/A	
EBR	0	1600	27	0	1600	16	0			N/A	
WBL	1	1600	162	0.1013	1600	53	0.0331			N/A	
WBT	3	4800	1542	0.3213	4800	1338	0.2788			N/A	
WBR	0	1600	0	0	1600	0	0			N/A	
N/S Movements:				0.17			0.08			0.00	
E/W Movements:				0.36			0.35			0.00	
Yellow Clearance:				0.10			0.10			0.10	
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.62</b>				<b>0.52</b>	<b>N/A</b>		
<b>LEVEL OF SERVICE (LOS):</b>				<b>B</b>				<b>A</b>			

## Intersection Capacity Utilization Level of Service (LOS) Worksheet

<b>PROJECT:</b>		Whittier Aquatic Facility								
<b>SCENARIO:</b>		Existing + Construction								
<b>INTERSECTION:</b>		5. Norwalk Blvd. / Washington Blvd.								
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR		
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C
NBL	1	1600	209	0.1306	1600	228	0.1425			N/A
NBT	2	3200	471	0.1563	3200	825	0.2756			N/A
NBR	0	0	29	0	0	57	0			N/A
SBL	1	1600	215	0.1344	1600	196	0.1225			N/A
SBT	2	3200	642	0.2703	3200	553	0.1997			N/A
SBR	0	0	223	0	0	86	0			N/A
EBL	1	1600	125	0.0781	1600	153	0.0956			N/A
EBT	2	3200	935	0.2922	3200	1108	0.3463			N/A
EBR	1	1600	261	0.1631	1600	263	0.1644			N/A
WBL	1	1600	59	0.0369	1600	83	0.0519			N/A
WBT	3	4800	1226	0.2813	4800	1087	0.2627			N/A
WBR	0	1600	124	0	1600	174	0			N/A
N/S Movements:				0.40			0.40			0.00
E/W Movements:				0.36			0.40			0.00
Yellow Clearance:				0.10			0.10			0.10
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.86</b>				<b>0.90</b>	<b>N/A</b>	
<b>LEVEL OF SERVICE (LOS):</b>				<b>D</b>				<b>D</b>		

## Intersection Capacity Utilization Level of Service (LOS) Worksheet

<b>PROJECT:</b>		Whittier Aquatic Facility									
<b>SCENARIO:</b>		Existing + Construction									
<b>INTERSECTION:</b>		6. Millergrove Dr. / Washington Blvd. (Frontage Road)									
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR			
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	
NBL	0	1600	2	0.0013	1600	0	0			N/A	
NBT	1	1600	242	0.1538	1600	83	0.0519			N/A	
NBR	0	0	2	0	0	0	0			N/A	
SBL	0	1600	1	0.0006	1600	1	0.0006			N/A	
SBT	1	1600	62	0.1181	1600	40	0.0444			N/A	
SBR	0	0	126	0	0	30	0			N/A	
EBL	0	1600	25	0.0156	1600	34	0.0213			N/A	
EBT	1	1600	0	0.0225	1600	1	0.0244			N/A	
EBR	0	1600	11	0	1600	4	0			N/A	
WBL	0	1600	1	0.0006	1600	0	0			N/A	
WBT	1	1600	0	0.0019	1600	0	0.0031			N/A	
WBR	0	1600	2	0	1600	5	0			N/A	
N/S Movements:				0.15			0.05			0.00	
E/W Movements:				0.02			0.02			0.00	
Yellow Clearance:				0.10			0.10			0.10	
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.28</b>				<b>0.18</b>	<b>N/A</b>		
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>				<b>A</b>			

## Intersection Capacity Utilization Level of Service (LOS) Worksheet

<b>PROJECT:</b>		Whittier Aquatic Facility									
<b>SCENARIO:</b>		Existing + Construction									
<b>INTERSECTION:</b>		7. Danby Ave. / Project Driveway 1									
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR			
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	
NBL	0	1600	54	0.0338	1600	8	0.005			N/A	
NBT	1	1600	8	0.0388	1600	7	0.0094			N/A	
NBR	0	0	0	0	0	0	0			N/A	
SBL	0	1600	0	0	1600	0	0			N/A	
SBT	1	1600	143	0.12	1600	53	0.0381			N/A	
SBR	0	0	49	0	0	8	0			N/A	
EBL	0	1600	5	0.0031	1600	13	0.0081			N/A	
EBT	1	1600	0	0.0419	1600	0	0.0325			N/A	
EBR	0	1600	62	0	1600	39	0			N/A	
WBL	N/A		N/A			N/A				N/A	
WBT	N/A		N/A			N/A				N/A	
WBR	N/A		N/A			N/A				N/A	
N/S Movements:				0.15			0.04			0.00	
E/W Movements:				0.04			0.03			0.00	
Yellow Clearance:				0.10			0.10			0.10	
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.30</b>				<b>0.18</b>	<b>N/A</b>		
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>				<b>A</b>	<b>N/A</b>		

## Intersection Capacity Utilization Level of Service (LOS) Worksheet

<b>PROJECT:</b>		Whittier Aquatic Facility								
<b>SCENARIO:</b>		Existing + Construction								
<b>INTERSECTION:</b>		8. N. Pioneer Blvd. / Project Driveway 2								
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR		
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C
NBL	0	1600	0	0	1600	0	0			N/A
NBT	2	3200	738	0.2575	3200	857	0.2753			N/A
NBR	0	0	86	0	0	24	0			N/A
SBL	0	1600	0	0	1600	0	0			N/A
SBT	2	3200	863	0.2697	3200	918	0.2881			N/A
SBR	0	0	0	0	0	4	0			N/A
EBL	0	1600	0	0	1600	0	0			N/A
EBT	1	1600	0	0.0025	1600	0	0.0113			N/A
EBR	0	1600	4	0	1600	18	0			N/A
WBL	0	1600	0	0	1600	0	0			N/A
WBT	1	1600	0	0.0431	1600	0	0.0231			N/A
WBR	0	1600	69	0	1600	37	0			N/A
N/S Movements:				0.27			0.29			0.00
E/W Movements:				0.04			0.02			0.00
Yellow Clearance:				0.10			0.10			0.10
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.41</b>				<b>0.41</b>	<b>N/A</b>	
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>				<b>A</b>		

## Intersection Capacity Utilization Level of Service (LOS) Worksheet

<b>PROJECT:</b>		Whittier Aquatic Facility									
<b>SCENARIO:</b>		Existing + Construction									
<b>INTERSECTION:</b>		9. N. Pioneer Blvd. / I-605 NB Off-Ramp									
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR			
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	
NBL	0	1600	0	0	1600	0	0			N/A	
NBT	2	3200	956	0.2988	3200	1067	0.3334			N/A	
NBR	0	0	0	0	0	0	0			N/A	
SBL	0	1600	0	0	1600	0	0			N/A	
SBT	2	3200	685	0.2141	3200	700	0.2188			N/A	
SBR	0	0	0	0	0	0	0			N/A	
EBL	1	1600	219	0.1369	1600	194	0.1213			N/A	
EBT	0	0	0	0	0	0	0			N/A	
EBR	1	1600	320	0.2	1600	250	0.1563			N/A	
WBL	N/A		N/A			N/A				N/A	
WBT	N/A		N/A			N/A				N/A	
WBR	N/A		N/A			N/A				N/A	
N/S Movements:				0.30			0.33			0.00	
E/W Movements:				0.20			0.16			0.00	
Yellow Clearance:				0.10			0.10			0.10	
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.60</b>				<b>0.59</b>	<b>N/A</b>		
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>				<b>A</b>			

## Appendix F



## Intersection Capacity Utilization Level of Service (LOS) Worksheet

<b>PROJECT:</b>		Whittier Aquatic Facility									
<b>SCENARIO:</b>		Existing + Project									
<b>INTERSECTION:</b>		1. Seragosa St. / I-605 NB On-Ramp / N. Pioneer Blvd.									
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR			
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	
NBL	0	1600	7	0.0044	1600	11	0.0069	1600	14	0.0088	
NBT	1	1600	324	0.2069	1600	377	0.2425	1600	220	0.1463	
NBR	1	1600	227	0.1419	1600	481	0.3006	1600	205	0.1281	
SBL	N/A		N/A			N/A			N/A		
SBT	N/A		N/A			N/A			N/A		
SBR	N/A		N/A			N/A			N/A		
EBL	0	1600	15	0.0094	1600	7	0.0044	1600	7	0.0044	
EBT	1	1600	421	0.2725	1600	318	0.1988	1600	300	0.1919	
EBR	1	1600	311	0.1944	1600	279	0.1744	1600	136	0.085	
WBL	1	1600	347	0.2169	1600	243	0.1519	1600	213	0.1331	
WBT	1	1600	21	0.0131	1600	29	0.0181	1600	21	0.0131	
WBR	1	1600	491	0.3069	1600	389	0.2431	1600	268	0.1675	
N/S Movements:				0.21			0.30			0.15	
E/W Movements:				0.49			0.35			0.33	
Yellow Clearance:				0.10			0.10			0.10	
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.80</b>					<b>0.75</b>		
<b>LEVEL OF SERVICE (LOS):</b>				<b>C</b>					<b>C</b>		

## Intersection Capacity Utilization Level of Service (LOS) Worksheet

<b>PROJECT:</b>		Whittier Aquatic Facility									
<b>SCENARIO:</b>		Existing + Project									
<b>INTERSECTION:</b>		2. I-605 NB Off-Ramp / N. Pioneer Blvd.									
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR			
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	
NBL	0	1600	0	0	1600	0	0	1600	0	0	
NBT	2	3200	450	0.1406	3200	650	0.2031	1600	327	0.2044	
NBR	0	1600	0	0	0	0	0	1600	0	0	
SBL	0	1600	0	0	1600	0	0	1600	0	0	
SBT	2	3200	669	0.2091	3200	525	0.1641	1600	343	0.2144	
SBR	0	0	0	0	0	0	0	1600	0	0	
EBL	1	1600	70	0.0438	1600	249	0.1556	1600	112	0.07	
EBT	0	0	0	0	0	0	0	1600	0	0.07	
EBR	1	1600	223	0.1394	1600	278	0.1738	1600	248	0.155	
WBL	N/A		N/A			N/A			N/A		
WBT	N/A		N/A			N/A			N/A		
WBR	N/A		N/A			N/A			N/A		
N/S Movements:				0.21			0.20			0.21	
E/W Movements:				0.14			0.17			0.16	
Yellow Clearance:				0.10			0.10			0.10	
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.45</b>				<b>0.48</b>			
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>				<b>A</b>			

## Intersection Capacity Utilization Level of Service (LOS) Worksheet

<b>PROJECT:</b>		Whittier Aquatic Facility									
<b>SCENARIO:</b>		Existing + Project									
<b>INTERSECTION:</b>		3. N. Pioneer Blvd. / Washington Blvd.									
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR			
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	
NBL	1	1600	224	0.14	1600	213	0.1331	1600	189	0.1181	
NBT	2	3200	270	0.1822	3200	423	0.2228	3200	98	0.1194	
NBR	0	0	313	0	0	290	0	0	284	0	
SBL	1	1600	188	0.1175	1600	120	0.075	1600	119	0.0744	
SBT	2	3200	323	0.2291	3200	315	0.2116	3200	107	0.1241	
SBR	0	0	410	0	0	362	0	1600	290	0	
EBL	1	1600	80	0.05	1600	148	0.0925	1600	109	0.0681	
EBT	3	4800	801	0.2442	4800	1157	0.3221	4800	646	0.1885	
EBR	0	1600	371	0	1600	389	0	1600	259	0	
WBL	1	1600	189	0.1181	1600	178	0.1113	1600	173	0.1081	
WBT	3	4800	1428	0.3198	4800	1134	0.2544	4800	922	0.2138	
WBR	0	1600	107	0	1600	87	0	1600	104	0	
N/S Movements:					0.37			0.34			
E/W Movements:					0.37			0.43			
Yellow Clearance:					0.10			0.10			
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.84</b>					<b>0.88</b>		
<b>LEVEL OF SERVICE (LOS):</b>				<b>D</b>					<b>D</b>	<b>B</b>	

## Intersection Capacity Utilization Level of Service (LOS) Worksheet

<b>PROJECT:</b>		Whittier Aquatic Facility									
<b>SCENARIO:</b>		Existing + Project									
<b>INTERSECTION:</b>		4. Millergrove Dr. / Washington Blvd.									
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR			
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	
NBL	0	1600	130	0.0813	1600	54	0.0338	1600	63	0.0394	
NBT	1	1600	0	0.17	1600	0	0.0806	1600	0	0.1131	
NBR	0	0	142	0	0	75	0	0	118	0	
SBL	N/A		N/A			N/A			N/A		
SBT	N/A		N/A			N/A			N/A		
SBR	N/A		N/A			N/A			N/A		
EBL	0	1600	0	0	1600	0	0	1600	0	0	
EBT	3	4800	1194	0.2552	4800	1485	0.3146	4800	1069	0.2277	
EBR	0	1600	31	0	1600	25	0	1600	24	0	
WBL	1	1600	163	0.1019	1600	55	0.0344	1600	90	0.0563	
WBT	3	4800	1542	0.3213	4800	1338	0.2788	4800	1273	0.2652	
WBR	0	1600	0	0	1600	0	0	1600	0	0	
N/S Movements:				0.17			0.08			0.11	
E/W Movements:				0.36			0.35			0.28	
Yellow Clearance:				0.10			0.10			0.10	
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.63</b>	<b>0.53</b>				<b>0.50</b>		
<b>LEVEL OF SERVICE (LOS):</b>				<b>B</b>	<b>A</b>				<b>A</b>		

## Intersection Capacity Utilization Level of Service (LOS) Worksheet

<b>PROJECT:</b>		Whittier Aquatic Facility									
<b>SCENARIO:</b>		Existing + Project									
<b>INTERSECTION:</b>		5. Norwalk Blvd. / Washington Blvd.									
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR			
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	
NBL	1	1600	209	0.1306	1600	228	0.1425	1600	219	0.1369	
NBT	2	3200	471	0.1563	3200	825	0.2756	3200	365	0.1356	
NBR	0	0	29	0	0	57	0	0	69	0	
SBL	1	1600	215	0.1344	1600	196	0.1225	1600	248	0.155	
SBT	2	3200	642	0.2703	3200	553	0.1997	3200	240	0.1109	
SBR	0	0	223	0	0	86	0	1600	115	0	
EBL	1	1600	125	0.0781	1600	153	0.0956	1600	144	0.09	
EBT	2	3200	936	0.2925	3200	1109	0.3466	3200	897	0.2803	
EBR	1	1600	261	0.1631	1600	263	0.1644	1600	143	0.0894	
WBL	1	1600	59	0.0369	1600	83	0.0519	1600	98	0.0613	
WBT	3	4800	1227	0.2815	4800	1089	0.2631	4800	1053	0.2554	
WBR	0	1600	124	0	1600	174	0	1600	173	0	
N/S Movements:					0.40			0.29			
E/W Movements:					0.36			0.35			
Yellow Clearance:					0.10			0.10			
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.86</b>				<b>0.90</b>	<b>0.74</b>		
<b>LEVEL OF SERVICE (LOS):</b>				<b>D</b>				<b>D</b>	<b>C</b>		

## Intersection Capacity Utilization Level of Service (LOS) Worksheet

<b>PROJECT:</b>		Whittier Aquatic Facility									
<b>SCENARIO:</b>		Existing + Project									
<b>INTERSECTION:</b>		6. Millergrove Dr. / Washington Blvd. (Frontage Road)									
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR			
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	
NBL	0	1600	2	0.0013	1600	0	0	1600	3	0.0019	
NBT	1	1600	242	0.1538	1600	83	0.0519	1600	97	0.0638	
NBR	0	0	2	0	0	0	0	0	2	0	
SBL	0	1600	1	0.0006	1600	1	0.0006	1600	3	0.0019	
SBT	1	1600	62	0.1213	1600	40	0.0519	1600	30	0.0688	
SBR	0	0	131	0	0	42	0	1600	77	0	
EBL	0	1600	27	0.0169	1600	37	0.0231	1600	79	0.0494	
EBT	1	1600	0	0.0238	1600	1	0.0263	1600	0	0.0531	
EBR	0	1600	11	0	1600	4	0	1600	6	0	
WBL	0	1600	1	0.0006	1600	0	0	1600	0	0	
WBT	1	1600	0	0.0019	1600	0	0.0031	1600	0	0.0006	
WBR	0	1600	2	0	1600	5	0	1600	1	0	
N/S Movements:				0.15			0.05			0.07	
E/W Movements:				0.02			0.03			0.05	
Yellow Clearance:				0.10			0.10			0.10	
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.28</b>					<b>0.18</b>		
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>					<b>A</b>		

## Intersection Capacity Utilization Level of Service (LOS) Worksheet

<b>PROJECT:</b>		Whittier Aquatic Facility									
<b>SCENARIO:</b>		Existing + Project									
<b>INTERSECTION:</b>		7. Danby Ave. / Project Driveway 1									
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR			
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	
NBL	0	1600	54	0.0338	1600	8	0.005	1600	25	0.0156	
NBT	1	1600	8	0.0388	1600	7	0.0094	1600	12	0.0231	
NBR	0	0	0	0	0	0	0	0	0	0	
SBL	0	1600	0	0	1600	0	0	1600	0	0	
SBT	1	1600	143	0.1231	1600	53	0.0456	1600	65	0.0744	
SBR	0	0	54	0	0	20	0	1600	54	0	
EBL	0	1600	7	0.0044	1600	16	0.01	1600	40	0.025	
EBT	1	1600	0	0.0431	1600	0	0.0344	1600	0	0.0494	
EBR	0	1600	62	0	1600	39	0	1600	39	0	
WBL	N/A		N/A			N/A			N/A		
WBT	N/A		N/A			N/A			N/A		
WBR	N/A		N/A			N/A			N/A		
N/S Movements:				0.16			0.05			0.09	
E/W Movements:				0.04			0.03			0.05	
Yellow Clearance:				0.10			0.10			0.10	
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.30</b>				<b>0.19</b>			
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>				<b>A</b>			

## Intersection Capacity Utilization Level of Service (LOS) Worksheet

<b>PROJECT:</b>		Whittier Aquatic Facility									
<b>SCENARIO:</b>		Existing + Project									
<b>INTERSECTION:</b>		8. N. Pioneer Blvd. / Project Driveway 2									
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR			
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	
NBL	0	1600	0	0	1600	0	0	1600	0	0	
NBT	2	3200	738	0.2591	3200	857	0.2791	3200	591	0.1928	
NBR	0	0	91	0	0	36	0	0	26	0	
SBL	0	1600	0	0	1600	0	0	1600	0	0	
SBT	2	3200	863	0.2697	3200	918	0.2881	3200	529	0.1675	
SBR	0	0	0	0	0	4	0	1600	7	0	
EBL	0	1600	0	0	1600	0	0	1600	0	0	
EBT	1	1600	0	0.0025	1600	0	0.0113	1600	0	0.0219	
EBR	0	1600	4	0	1600	18	0	1600	35	0	
WBL	0	1600	0	0	1600	0	0	1600	0	0	
WBT	1	1600	0	0.0481	1600	0	0.0288	1600	0	0.0431	
WBR	0	1600	77	0	1600	46	0	1600	69	0	
N/S Movements:					0.27			0.29			
E/W Movements:					0.05			0.03			
Yellow Clearance:					0.10			0.10			
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.42</b>				<b>0.42</b>			
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>				<b>A</b>			



## Intersection Capacity Utilization Level of Service (LOS) Worksheet

<b>PROJECT:</b>		Whittier Aquatic Facility									
<b>SCENARIO:</b>		Existing + Project									
<b>INTERSECTION:</b>		9. N. Pioneer Blvd. / I-605 NB Off-Ramp									
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR			
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	
NBL	0	1600	0	0	1600	0	0	1600	0	0	
NBT	2	3200	957	0.2991	3200	1069	0.3341	3200	857	0.2678	
NBR	0	0	0	0	0	0	0	0	0	0	
SBL	0	1600	0	0	1600	0	0	1600	0	0	
SBT	2	3200	685	0.2141	3200	700	0.2188	3200	360	0.1125	
SBR	0	0	0	0	0	0	0	1600	0	0	
EBL	1	1600	223	0.1394	1600	203	0.1269	1600	226	0.1413	
EBT	0	0	0	0	0	0	0	0	0	0	
EBR	1	1600	320	0.2	1600	250	0.1563	1600	256	0.16	
WBL	N/A		N/A			N/A			N/A		
WBT	N/A		N/A			N/A			N/A		
WBR	N/A		N/A			N/A			N/A		
N/S Movements:				0.30			0.33			0.27	
E/W Movements:				0.20			0.16			0.16	
Yellow Clearance:				0.10			0.10			0.10	
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.60</b>				<b>0.59</b>			
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>				<b>A</b>			

## Appendix G

## Intersection Capacity Utilization Level of Service (LOS) Worksheet

<b>PROJECT:</b>		Whittier Aquatic Facility									
<b>SCENARIO:</b>		Existing + Project + Cumulative									
<b>INTERSECTION:</b>		1. Seragosa St. / I-605 NB On-Ramp / N. Pioneer Blvd.									
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR			
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	
NBL	0	1600	7	0.0044	1600	11	0.0069	1600	14	0.0088	
NBT	1	1600	324	0.2069	1600	377	0.2425	1600	220	0.1463	
NBR	1	1600	227	0.1419	1600	481	0.3006	1600	205	0.1281	
SBL	N/A		N/A			N/A			N/A		
SBT	N/A		N/A			N/A			N/A		
SBR	N/A		N/A			N/A			N/A		
EBL	0	1600	15	0.0094	1600	7	0.0044	1600	7	0.0044	
EBT	1	1600	421	0.2725	1600	318	0.1988	1600	300	0.1919	
EBR	1	1600	311	0.1944	1600	279	0.1744	1600	136	0.085	
WBL	1	1600	347	0.2169	1600	243	0.1519	1600	213	0.1331	
WBT	1	1600	21	0.0131	1600	29	0.0181	1600	21	0.0131	
WBR	1	1600	491	0.3069	1600	389	0.2431	1600	268	0.1675	
N/S Movements:				0.21			0.30			0.15	
E/W Movements:				0.49			0.35			0.33	
Yellow Clearance:				0.10			0.10			0.10	
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.80</b>					<b>0.75</b>		
<b>LEVEL OF SERVICE (LOS):</b>				<b>C</b>					<b>C</b>		

## Intersection Capacity Utilization Level of Service (LOS) Worksheet

<b>PROJECT:</b>		Whittier Aquatic Facility									
<b>SCENARIO:</b>		Existing + Project + Cumulative									
<b>INTERSECTION:</b>		2. I-605 NB Off-Ramp / N. Pioneer Blvd.									
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR			
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	
NBL	0	1600	0	0	1600	0	0	1600	0	0	
NBT	2	3200	450	0.1406	3200	650	0.2031	1600	327	0.2044	
NBR	0	1600	0	0	0	0	0	1600	0	0	
SBL	0	1600	0	0	1600	0	0	1600	0	0	
SBT	2	3200	669	0.2091	3200	525	0.1641	1600	343	0.2144	
SBR	0	0	0	0	0	0	0	1600	0	0	
EBL	1	1600	70	0.0438	1600	249	0.1556	1600	112	0.07	
EBT	0	0	0	0	0	0	0	1600	0	0.07	
EBR	1	1600	223	0.1394	1600	278	0.1738	1600	248	0.155	
WBL	N/A		N/A			N/A			N/A		
WBT	N/A		N/A			N/A			N/A		
WBR	N/A		N/A			N/A			N/A		
N/S Movements:				0.21			0.20			0.21	
E/W Movements:				0.14			0.17			0.16	
Yellow Clearance:				0.10			0.10			0.10	
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.45</b>				<b>0.48</b>			
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>				<b>A</b>			

## Intersection Capacity Utilization Level of Service (LOS) Worksheet

<b>PROJECT:</b>		Whittier Aquatic Facility									
<b>SCENARIO:</b>		Existing + Project + Cumulative									
<b>INTERSECTION:</b>		3. N. Pioneer Blvd. / Washington Blvd.									
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR			
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	
NBL	1	1600	224	0.14	1600	213	0.1331	1600	189	0.1181	
NBT	2	3200	270	0.1825	3200	423	0.2231	3200	98	0.1197	
NBR	0	0	314	0	0	291	0	0	285	0	
SBL	1	1600	188	0.1175	1600	120	0.075	1600	119	0.0744	
SBT	2	3200	323	0.2291	3200	315	0.2116	3200	107	0.1241	
SBR	0	0	410	0	0	362	0	1600	290	0	
EBL	1	1600	80	0.05	1600	148	0.0925	1600	109	0.0681	
EBT	3	4800	808	0.2456	4800	1179	0.3267	4800	668	0.1931	
EBR	0	1600	371	0	1600	389	0	1600	259	0	
WBL	1	1600	189	0.1181	1600	178	0.1113	1600	174	0.1088	
WBT	3	4800	1442	0.3227	4800	1152	0.2581	4800	942	0.2179	
WBR	0	1600	107	0	1600	87	0	1600	104	0	
N/S Movements:					0.37			0.34			
E/W Movements:					0.37			0.44			
Yellow Clearance:					0.10			0.10			
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.84</b>					<b>0.88</b>		
<b>LEVEL OF SERVICE (LOS):</b>				<b>D</b>					<b>D</b>	<b>B</b>	

## Intersection Capacity Utilization Level of Service (LOS) Worksheet

<b>PROJECT:</b>		Whittier Aquatic Facility									
<b>SCENARIO:</b>		Existing + Project + Cumulative									
<b>INTERSECTION:</b>		4. Millergrove Dr. / Washington Blvd.									
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR			
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	
NBL	0	1600	130	0.0813	1600	54	0.0338	1600	63	0.0394	
NBT	1	1600	0	0.17	1600	0	0.0806	1600	0	0.1131	
NBR	0	0	142	0	0	75	0	0	118	0	
SBL	N/A		N/A			N/A			N/A		
SBT	N/A		N/A			N/A			N/A		
SBR	N/A		N/A			N/A			N/A		
EBL	0	1600	0	0	1600	0	0	1600	0	0	
EBT	3	4800	1202	0.2569	4800	1508	0.3194	4800	1092	0.2325	
EBR	0	1600	31	0	1600	25	0	1600	24	0	
WBL	1	1600	163	0.1019	1600	55	0.0344	1600	90	0.0563	
WBT	3	4800	1556	0.3242	4800	1357	0.2827	4800	1294	0.2696	
WBR	0	1600	0	0	1600	0	0	1600	0	0	
N/S Movements:				0.17			0.08			0.11	
E/W Movements:				0.36			0.35			0.29	
Yellow Clearance:				0.10			0.10			0.10	
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.63</b>					<b>0.53</b>		
<b>LEVEL OF SERVICE (LOS):</b>				<b>B</b>					<b>A</b>		

## Intersection Capacity Utilization Level of Service (LOS) Worksheet

<b>PROJECT:</b>		Whittier Aquatic Facility									
<b>SCENARIO:</b>		Existing + Project + Cumulative									
<b>INTERSECTION:</b>		5. Norwalk Blvd. / Washington Blvd.									
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR			
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	
NBL	1	1600	209	0.1306	1600	228	0.1425	1600	219	0.1369	
NBT	2	3200	471	0.1563	3200	825	0.2756	3200	365	0.1356	
NBR	0	0	29	0	0	57	0	0	69	0	
SBL	1	1600	215	0.1344	1600	196	0.1225	1600	248	0.155	
SBT	2	3200	642	0.2703	3200	553	0.1997	3200	240	0.1109	
SBR	0	0	223	0	0	86	0	1600	115	0	
EBL	1	1600	125	0.0781	1600	153	0.0956	1600	144	0.09	
EBT	2	3200	944	0.295	3200	1132	0.3538	3200	920	0.2875	
EBR	1	1600	261	0.1631	1600	263	0.1644	1600	143	0.0894	
WBL	1	1600	59	0.0369	1600	83	0.0519	1600	98	0.0613	
WBT	3	4800	1241	0.2844	4800	1108	0.2671	4800	1074	0.2598	
WBR	0	1600	124	0	1600	174	0	1600	173	0	
N/S Movements:				0.40			0.40			0.29	
E/W Movements:				0.36			0.41			0.35	
Yellow Clearance:				0.10			0.10			0.10	
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.86</b>					<b>0.90</b>		
<b>LEVEL OF SERVICE (LOS):</b>				<b>D</b>					<b>D</b>		

## Intersection Capacity Utilization Level of Service (LOS) Worksheet

PROJECT:		Whittier Aquatic Facility									
SCENARIO:		Existing + Project + Cumulative									
INTERSECTION:		6. Millergrove Dr. / Washington Blvd. (Frontage Road)									
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR			
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	
NBL	0	1600	2	0.0013	1600	0	0	1600	3	0.0019	
NBT	1	1600	242	0.1538	1600	83	0.0519	1600	97	0.0638	
NBR	0	0	2	0	0	0	0	0	2	0	
SBL	0	1600	1	0.0006	1600	1	0.0006	1600	3	0.0019	
SBT	1	1600	62	0.1213	1600	40	0.0519	1600	30	0.0688	
SBR	0	0	131	0	0	42	0	1600	77	0	
EBL	0	1600	27	0.0169	1600	37	0.0231	1600	79	0.0494	
EBT	1	1600	0	0.0238	1600	1	0.0263	1600	0	0.0531	
EBR	0	1600	11	0	1600	4	0	1600	6	0	
WBL	0	1600	1	0.0006	1600	0	0	1600	0	0	
WBT	1	1600	0	0.0019	1600	0	0.0031	1600	0	0.0006	
WBR	0	1600	2	0	1600	5	0	1600	1	0	
N/S Movements:				0.15			0.05			0.07	
E/W Movements:				0.02			0.03			0.05	
Yellow Clearance:				0.10			0.10			0.10	
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.28</b>					<b>0.18</b>		
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>					<b>A</b>		



## Intersection Capacity Utilization Level of Service (LOS) Worksheet

<b>PROJECT:</b>		Whittier Aquatic Facility									
<b>SCENARIO:</b>		Existing + Project + Cumulative									
<b>INTERSECTION:</b>		7. Danby Ave. / Project Driveway 1									
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR			
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	
NBL	0	1600	54	0.0338	1600	8	0.005	1600	25	0.0156	
NBT	1	1600	8	0.0388	1600	7	0.0094	1600	12	0.0231	
NBR	0	0	0	0	0	0	0	0	0	0	
SBL	0	1600	0	0	1600	0	0	1600	0	0	
SBT	1	1600	143	0.1231	1600	53	0.0456	1600	65	0.0744	
SBR	0	0	54	0	0	20	0	1600	54	0	
EBL	0	1600	7	0.0044	1600	16	0.01	1600	40	0.025	
EBT	1	1600	0	0.0431	1600	0	0.0344	1600	0	0.0494	
EBR	0	1600	62	0	1600	39	0	1600	39	0	
WBL	N/A		N/A			N/A			N/A		
WBT	N/A		N/A			N/A			N/A		
WBR	N/A		N/A			N/A			N/A		
N/S Movements:				0.16			0.05			0.09	
E/W Movements:				0.04			0.03			0.05	
Yellow Clearance:				0.10			0.10			0.10	
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.30</b>				<b>0.19</b>			
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>				<b>A</b>			

## Intersection Capacity Utilization Level of Service (LOS) Worksheet

<b>PROJECT:</b>		Whittier Aquatic Facility									
<b>SCENARIO:</b>		Existing + Project + Cumulative									
<b>INTERSECTION:</b>		8. N. Pioneer Blvd. / Project Driveway 2									
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR			
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	
NBL	0	1600	0	0	1600	0	0	1600	0	0	
NBT	2	3200	739	0.2594	3200	858	0.2794	3200	592	0.1931	
NBR	0	0	91	0	0	36	0	0	26	0	
SBL	0	1600	0	0	1600	0	0	1600	0	0	
SBT	2	3200	863	0.2697	3200	919	0.2884	3200	530	0.1678	
SBR	0	0	0	0	0	4	0	1600	7	0	
EBL	0	1600	0	0	1600	0	0	1600	0	0	
EBT	1	1600	0	0.0025	1600	0	0.0113	1600	0	0.0219	
EBR	0	1600	4	0	1600	18	0	1600	35	0	
WBL	0	1600	0	0	1600	0	0	1600	0	0	
WBT	1	1600	0	0.0481	1600	0	0.0288	1600	0	0.0431	
WBR	0	1600	77	0	1600	46	0	1600	69	0	
N/S Movements:					0.27			0.29			
E/W Movements:					0.05			0.03			
Yellow Clearance:					0.10			0.10			
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.42</b>				<b>0.42</b>			
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>				<b>A</b>			

## Intersection Capacity Utilization Level of Service (LOS) Worksheet

<b>PROJECT:</b>		Whittier Aquatic Facility									
<b>SCENARIO:</b>		Existing + Project + Cumulative									
<b>INTERSECTION:</b>		9. N. Pioneer Blvd. / I-605 NB Off-Ramp									
MOVEMENT	LANES	AM PEAK HOUR			PM PEAK HOUR			SATURDAY PEAK HOUR			
		CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	CAPACITY	VOLUME	V/C	
NBL	0	1600	0	0	1600	0	0	1600	0	0	
NBT	2	3200	958	0.2994	3200	1070	0.3344	3200	858	0.2681	
NBR	0	0	0	0	0	0	0	0	0	0	
SBL	0	1600	0	0	1600	0	0	1600	0	0	
SBT	2	3200	685	0.2141	3200	701	0.2191	3200	361	0.1128	
SBR	0	0	0	0	0	0	0	1600	0	0	
EBL	1	1600	223	0.1394	1600	203	0.1269	1600	226	0.1413	
EBT	0	0	0	0	0	0	0	0	0	0	
EBR	1	1600	320	0.2	1600	250	0.1563	1600	256	0.16	
WBL	N/A		N/A			N/A			N/A		
WBT	N/A		N/A			N/A			N/A		
WBR	N/A		N/A			N/A			N/A		
N/S Movements:				0.30			0.33			0.27	
E/W Movements:				0.20			0.16			0.16	
Yellow Clearance:				0.10			0.10			0.10	
<b>Intersection Capacity Utilization (ICU) V/C:</b>				<b>0.60</b>				<b>0.59</b>			
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>				<b>A</b>			

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