

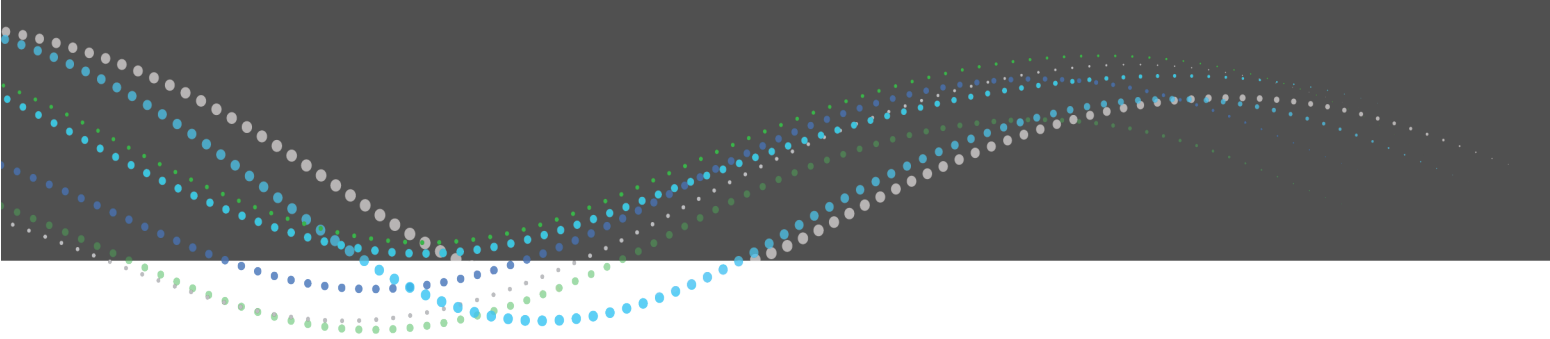
Appendix L2 Traffic Impact Analysis

Appendices

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Irwindale Gateway Specific Plan Traffic Impact Analysis Draft Report | v2.0



December 19, 2023

Submitted to:



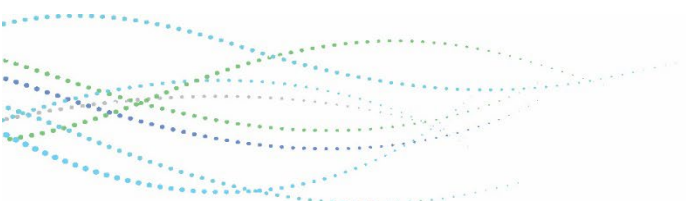
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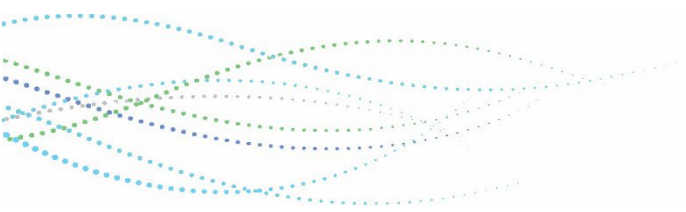




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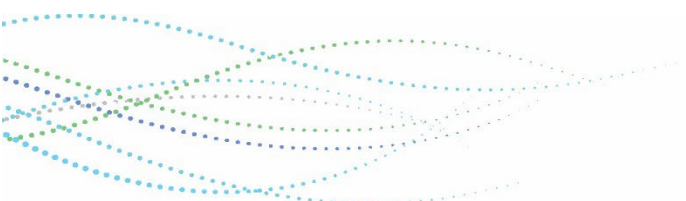
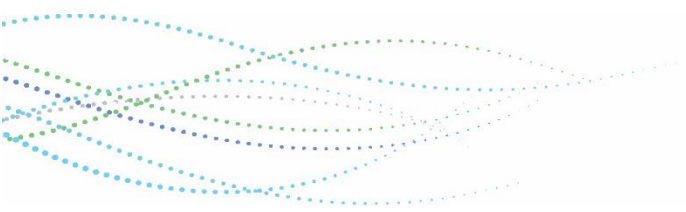




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1.0 INTRODUCTION

This traffic impact analysis was prepared for the proposed Irwindale Gateway Specific Plan project (referred to herein as “the project”) located at 13620 Live Oak Lane in the City of Irwindale. This project impact analysis was prepared to provide a summary of existing and future traffic operations in the study area, and analysis of potential traffic impacts caused by project-generated traffic. The methodologies used for this traffic impact analysis were developed in accordance with current traffic study guidelines and policies; City of Irwindale’s *Transportation Impact Analysis Guidelines* and the California Department of Transportation’s (Caltrans) *Guide for the Preparation of Traffic Impact Studies*.

1.1 Project Description

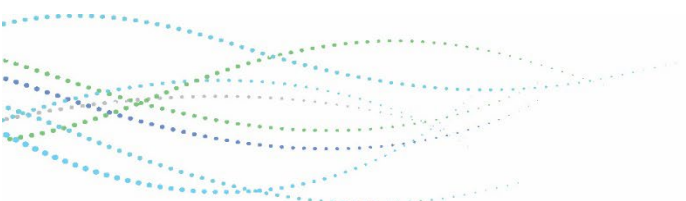
The project site is located at 13620 Live Oak Lane in the City of Irwindale. The project site is bordered by Interstate 605 (I-605) to the west, Live Oak Lane to the north and east, and Live Oak Avenue to the south. The Irwindale Gateway Specific Plan is a proposed development of an industrial logistics, distribution center, associated parking, and loading docks. The project site is currently a vacant lot that is used for a variety of industrial and commercial uses, as well as stockpiled materials and debris.

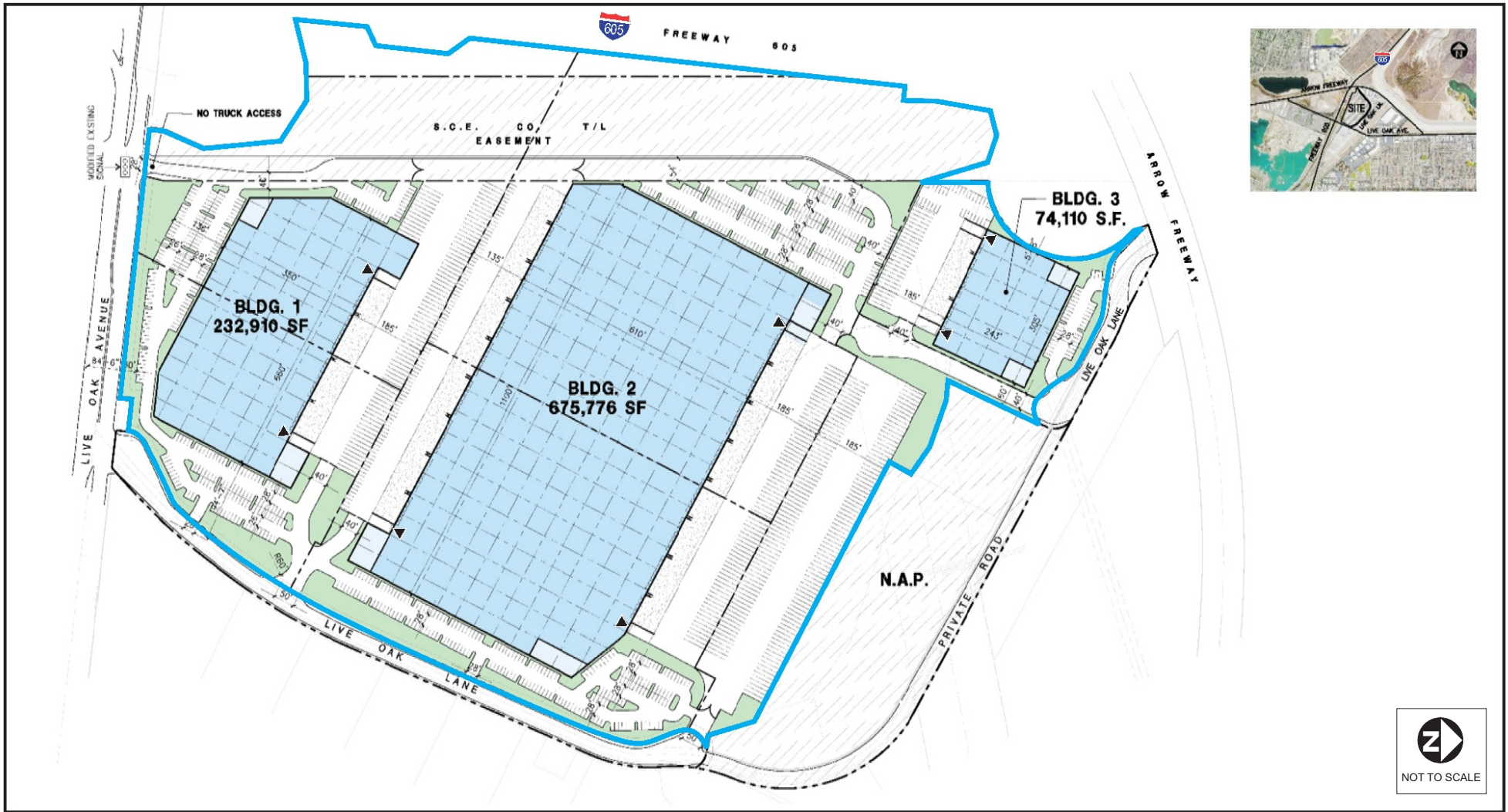
The proposed project proposes two (2) options for the proposed project site plan. The following two options are:

Option 1 – The proposed project would redevelop the project site with three new industrial buildings providing 997,796 square feet of building space – 954,796 square feet of warehouse space and 43,000 square feet of office space. A variety of general warehousing and manufacturing tenants could be accommodated in the three buildings. The proposed project would include a total of 918 standard vehicle parking spaces and 346 trailer parking spaces. In addition, the proposed project would also include approximately 253,736 square feet (5.8 acres) of landscaping.

Option 2 – The proposed project would include two industrial building providing of 704,070 square feet of building space – 668,070 square feet of warehouse space, 36,000 square feet of office space, and a 400-megawatt battery energy storage system (BESS) on approximately 16 acres. The preliminary design for the BESS includes 890 metal enclosures (712 containers and 178 augmentation containers) measuring 8’ – 10’ high by 29’ – 11” long by 5’ – 5” wide, housing lithium-ion batteries, 100 power conversion systems and medium voltage transformers, and one substation. Batteries could be double stacked, which would require a higher metal enclosure but take up less space. In addition, the parking for this option would include a total of 617 standard vehicle spaces and 257 trailer spaces, and landscaping would cover 185,782 square feet (4.3 acres).

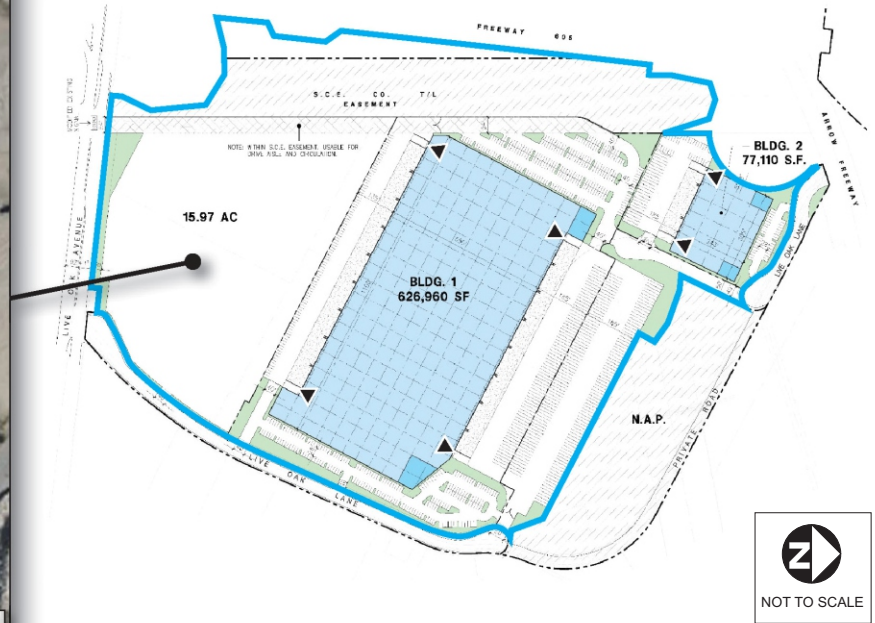
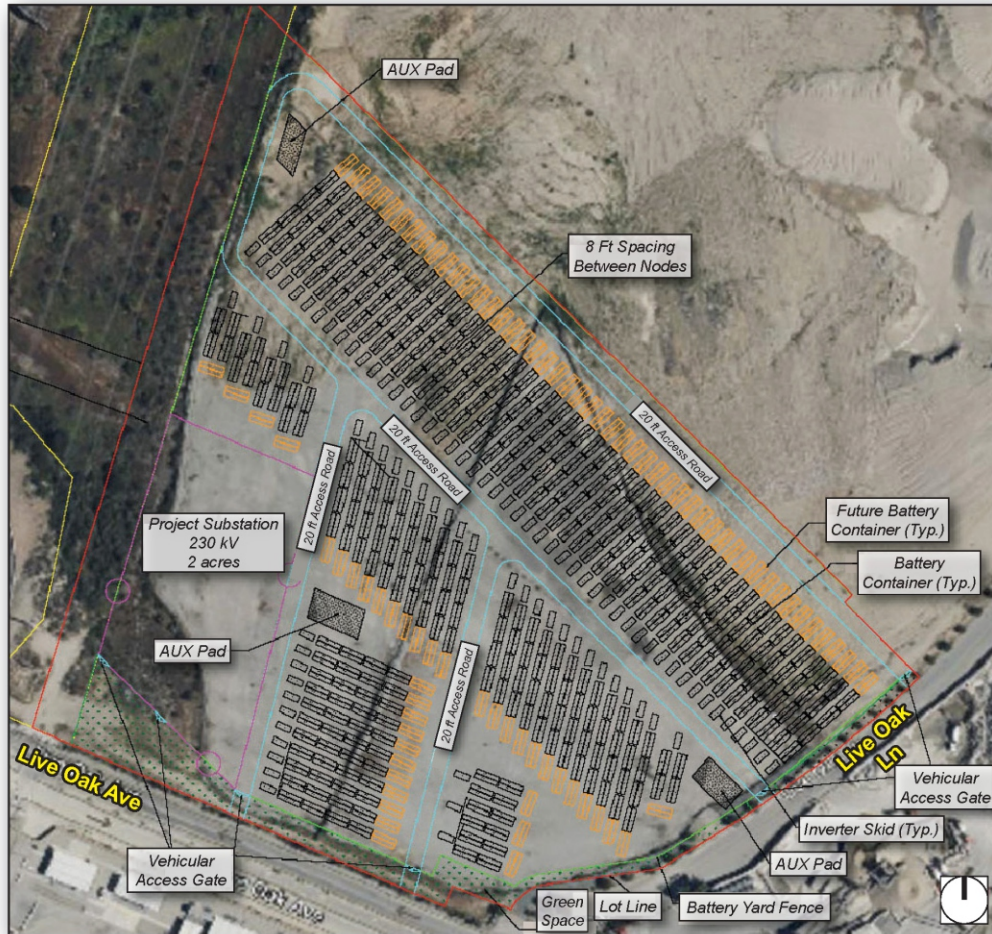
Figure 1-1 illustrates the proposed Option 1 project site plan and **Figure 1-2** illustrates the proposed Option 2 project site plan. The land uses in the vicinity of the site include the Edison Rio Honda Substation to the south, an industrial business park (under construction) for the Park at Live Oak Specific Plan to the west, Kare Youth League Irwindale sports and recreation facility and Santa Fe Flood Control Basin to the north, and industrial buildings and the San Gabriel River to the east.





— Project Site Boundary
 Potential Office
 Warehouse
 ▼ Drive Thru Door

Battery Energy Storage System (BESS) Layout



Note: This is a conceptual plan. It is based on preliminary information which is not fully verified and may be incomplete. It is meant as a comparative aid in examining alternative development strategies and any quantities indicated are subject to revision as more reliable information becomes available.

- Project Site Boundary
- Potential Office with 2nd Floor
- Warehouse
- ▼ Drive Thru Door



1.2 Project Driveways and Onside Circulation

The Project is served by two access points. Four Project driveways are located along Live Oak Lane which connects to Live Oak Avenue at an unsignalized intersection to the south of the Project site. Two Project driveways provide access to Live Oak Lane on the north side of the Project site which provides access to Arrow Highway at an unsignalized right-in-right out intersection. An internal driveway system connects the parcels within the site.

1.3 Study Area

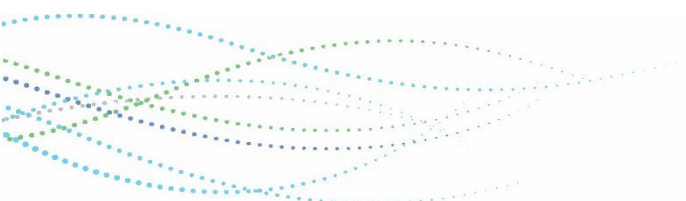
The proposed study identified the following nineteen (19) intersections and six (6) roadway segments for the analysis:

1.3.1 Intersections

1. Live Oak Avenue at Arrow Highway (West)
2. Live Oak Avenue at Speedway Drive*
3. Live Oak Avenue at Spanish Oak Drive
4. Live Oak Avenue at I-605 Southbound On-Ramp
5. Live Oak Avenue at I-605 Northbound Off-Ramps
6. Live Oak Avenue at Graham Road
7. Live Oak Avenue at Live Oak Lane
8. Live Oak Avenue at Rivergrade Road
9. Live Oak Avenue at Stewart Avenue
10. Live Oak Ave at Baldwin Park Blvd
11. Arrow Highway at Live Oak Avenue (East)
12. Arrow Highway at Rivergrade Road
13. Arrow Highway at San Gabriel River Trail
14. Arrow Highway at I-605 Northbound On-Ramp (Westbound)
15. Arrow Highway at Live Oak Lane
16. Arrow Highway at I-605 Northbound On-Ramp (Eastbound)
17. Arrow Highway at I-605 Southbound Off-Ramp
18. Arrow Highway at Avenida Barbosa/ Spanish Oak Drive
19. Arrow Highway at Valley Oak Lane*

The study intersections were selected based on the City of Irwindale's *Impact Analysis Guidelines* that require analysis of intersection locations in which the proposed project is anticipated to contribute 50 or more peak hour trips. The study intersections were approved by the City of Irwindale.

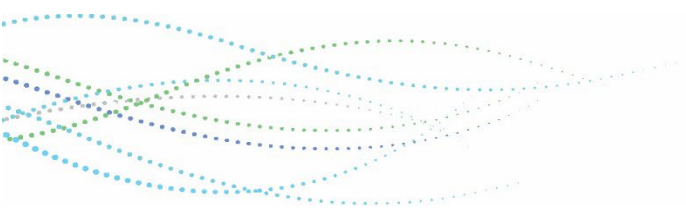
Per the City's request, the intersections with an asterisk (*) have been included in the study. It must be noted that these locations are currently undergoing construction. The location of the project site and the study intersections are illustrated in **Figure 1-3**.





1.3.2 Roadway Segments

1. Arrow Highway east of Live Oak Ave
2. Live Oak Ave between Arrow Highway and I-605 (east side)
3. Arrow Highway between Arrow Highway and I-605 (east side)
4. Live Oak Ave between Arrow Highway and I-605 (west side)
5. Arrow Highway between Arrow Highway and I-605 (west side)
6. Arrow Highway west of Live Oak Ave







1.4 Surrounding Projects

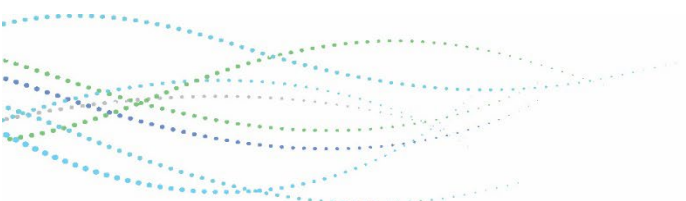
There is one project identified in the vicinity of the proposed project, which would impact the study intersections. The Park at Live Oak Specific Plan will include a mix of land uses, such as commercial, industrial, and business parks. The development is currently undergoing construction, which is located west of the proposed project.

1.5 Study Periods

Traffic operations were evaluated for each of the following scenarios during the weekday AM (7:00AM – 9:00AM) and PM (4:00PM – 6:00PM) peak hours during typical weekday conditions:

- Baseline Conditions;
- Buildout Year (2028) Without Project Conditions;
- Buildout Year (2028) With Project Conditions;
- Horizon Year (2040) Without Project Conditions; and
- Horizon Year (2040) With Project Conditions.

The baseline conditions represent the current traffic operations in the study area in Year 2023. Based on information provided by the project applicant, the Buildout Year for the project would be 2028 and Horizon Year would be 2040. Buildout Year and Horizon Year Without Project conditions assume completion of all surrounding projects in addition to the ambient growths. Buildout Year and Horizon Year With Project conditions assume full completion of the project. The study area and study periods were confirmed by City staff.





2.0 ENVIRONMENTAL SETTING

This section presents an overview of the existing roadway network within the study area and the methodology used to determine existing traffic volumes.

2.1 Roadway Configurations

The existing configurations of major roadways within the study area are described below. Roadway classifications and bike facility information is based on the City of Irwindale 2020 General Plan.

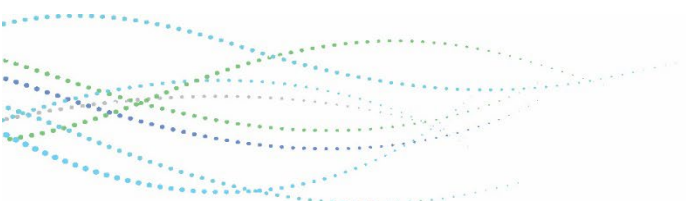
- **Arrow Highway** is a four to six-lane divided secondary highway within the study area, generally oriented in an east-west direction, providing access to Interstate 605. On-street parking is generally prohibited on both sides of the roadway. Arrow Highway is a designated truck route. The roadway's posted speed limit is 45 miles per hour.
- **Live Oak Avenue** is a five-lane divided major roadway, with two travel lanes in the westbound direction and three travel lanes in the eastbound direction within the study area, generally oriented in an east-west direction, providing access to Interstate 605. This roadway is in conjunction with Arrow Highway. Live Oak Avenue is a designated truck route. On-street parking is generally prohibited on both sides of the roadway. The roadway's posted speed limit is 45 miles per hour.
- **Live Oak Lane** is a two-lane undivided collector/private road within the study area, generally oriented in a north-south direction, providing access to the commercial and industrial land uses. On-street parking is generally prohibited on both sides of the roadway. The roadway's posted speed limit is 15 miles per hour.
- **Rivergrade Road** is a four-lane undivided local street within the study area, generally oriented in an east-west direction. On-street parking is generally prohibited on both sides of the roadway. The roadway's posted speed limit is 35 miles per hour.

2.2 Bicycle and Pedestrian Conditions

San Gabriel River Trail runs north/south to the east Project site between Live Oak Lane and Rivergrade Road. The Trail runs under Live Oak Avenue and crosses at an at-grade signalized intersection at Arrow Highway.

There are discontinuous sidewalks along Arrow Highway and Live Oak Avenue. The sidewalk on the south side of Arrow Highway terminates approximately 170 feet to the east of Live Oak Lane.

There is a sidewalk on the north side of Live Oak Avenue from the San Gabriel River Trail to Live Oak Lane and on the south side of Live Oak Avenue from the San Gabriel River Trail to Graham Road. Access to the San Gabriel River Trail is available from the sidewalks on both the north and south sides of Live Oak





Avenue. There is a crosswalk on the east side of the Live Oak Avenue/Graham Road intersections crossing Live Oak Avenue. There is no sidewalk along Live Oak Lane.

2.3 Transit Conditions

The Project site is served by Foothill Transit Line 492 (El Monte Station – Arcadia – El Monte via Arrow Highway). The closest stop is at Steward Avenue and buses have a frequency of every 20 minutes in the morning peak hours and every 30 minutes in the afternoon peak hours.

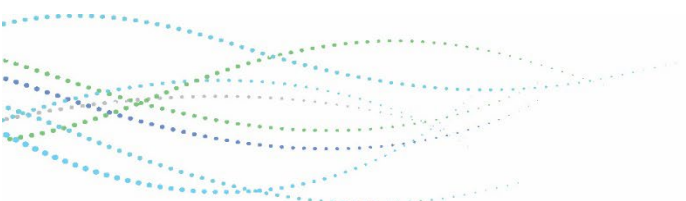
2.4 Existing Traffic Volumes

All existing traffic volumes were collected on a typical weekday, which represents typical traffic with local schools in session, and no holiday-induced changes in traffic patterns. The data collection included truck classification counts (2-axle, 3-axle, and 4+axle). The segment tube count for all six roadway segments were collected for one 24-hour period in March of 2023. The existing AM and PM peak period turning movement counts were also collected in March of 2023 at the intersections below:

- Live Oak Avenue at Arrow Highway (West)
- Live Oak Avenue at Speedway Drive
- Live Oak Avenue at I-605 Southbound On-Ramp
- Live Oak Avenue at I-605 Northbound Off-Ramps
- Live Oak Avenue at Graham Road
- Live Oak Avenue at Live Oak Lane
- Live Oak Avenue at Rivergrade Road
- Live Oak Avenue at Stewart Avenue
- Live Oak Ave at Baldwin Park Blvd
- Arrow Highway at Live Oak Avenue (East)
- Arrow Highway at Rivergrade Road
- Arrow Highway at San Gabriel River Trail
- Arrow Highway at I-605 Northbound On-Ramp (Westbound)
- Arrow Highway at Live Oak Lane
- Arrow Highway at I-605 Northbound On-Ramp (Eastbound)
- Arrow Highway at I-605 Southbound Off-Ramp

Existing AM and PM peak period volumes were adjusted using the surrounding intersections traffic volumes for the intersections listed below:

- Live Oak Avenue at Spanish Oak Drive
- Arrow Highway at Valley Oak Lane
- Arrow Highway at Avenida Barbosa/ Spanish Oak Drive

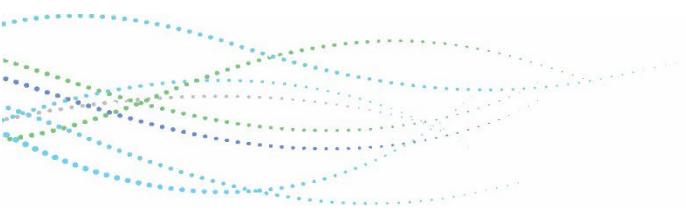


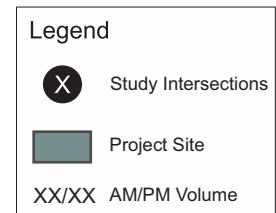
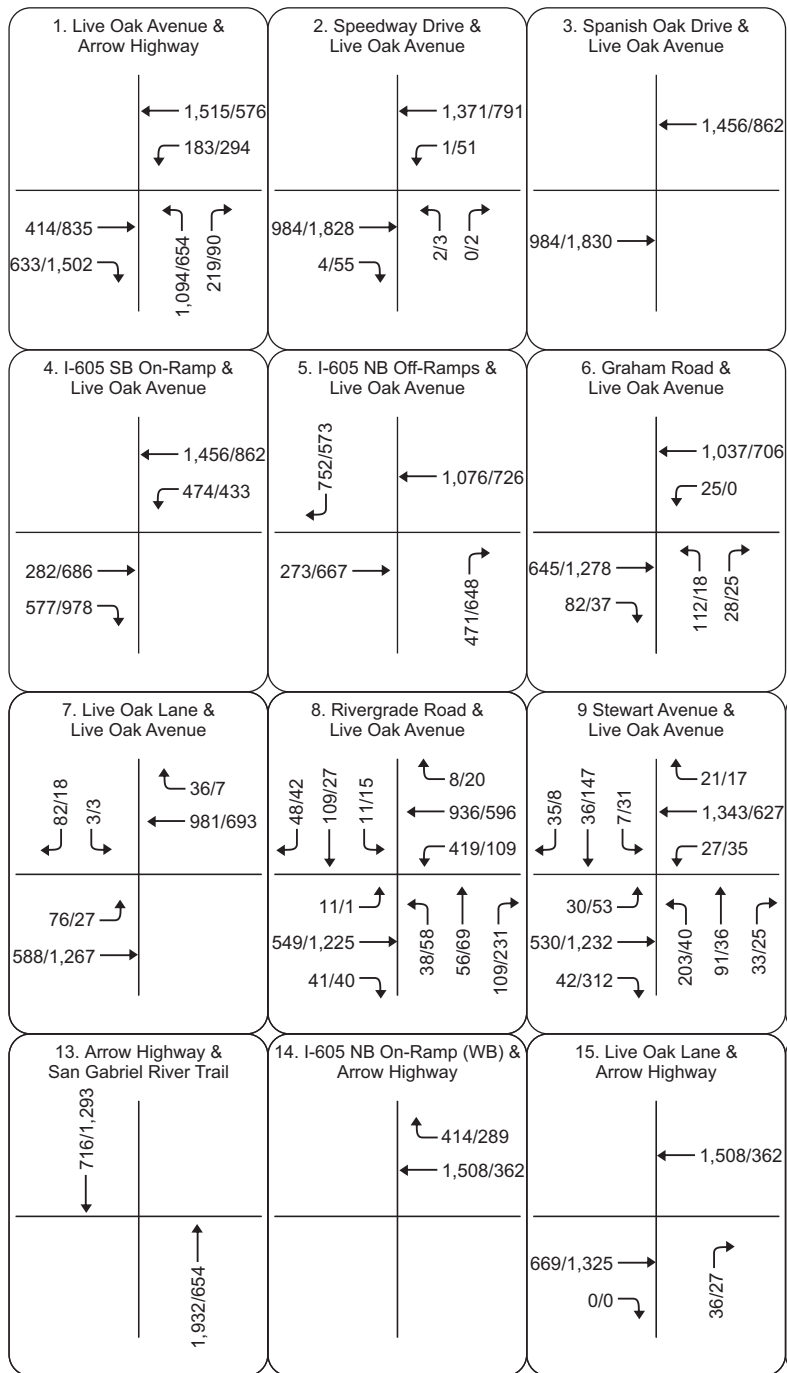


The three (3) intersections mentioned above are currently undergoing construction. The city staff informed Iteris these intersections should be included in the study. The volumes were assumed by using the adjacent intersections to determine the existing AM and PM peak period volumes.

Traffic volumes at these intersections were converted to passenger car equivalent (PCE) volumes. PCE volumes are used to represent the greater impact that trucks have on traffic operations because of their larger size and generally slower acceleration than passenger vehicles. A PCE factor of 1.5 would be used for 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for trucks with 4 or more axles.

Detailed vehicle turning movement data are included in **Appendix A. Figure 2-1** shows the existing peak hour volumes at the study intersections.







3.0 TRAFFIC OPERATIONS ANALYSIS METHODOLOGY

This traffic operations analysis for the study intersections is in accordance with the current City of Irwindale Transportation Impact Analysis Guidelines dated 2021. The quality of traffic operations is characterized using the concept of level of service (LOS). Level of service is defined by a range of grades from A (best) to F (worst). At intersections, LOS “A” represents relatively free operating conditions with little or no delay. LOS “F” is characterized by extremely unstable flow conditions and severe congestion with volumes at or near the design capacity that will result in long queues and delays.

3.1 Intersection Analysis Methodology

The Intersection Capacity Utilization (ICU) methodology will be used to evaluate signalized intersections. This methodology uses a volume-to-capacity (V/C) ratio metric. The Highway Capacity Manual 6th Edition (HCM 6th) methodology will be used to evaluate Caltrans ramp locations and unsignalized intersections. The HCM method defines LOS by the average vehicle delay experienced by all vehicles traveling through the intersection. Traffic operations analysis will be completed using the Synchro 11 software.

Table 3-1 presents a brief description of each LOS letter grade, as well as the range of V/C ratios and delay per vehicle associated with each grade, for the two methods.

Table 3-1: Intersection Level of Service Description

Level Of Service	Description	Signalized Intersection Volume to Capacity (V/C) Ratio	Unsignalized Intersection Delay (seconds per vehicle)
A	Excellent operation. All approaches to the intersection appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation.	0.00-0.60	≤ 10
B	Very good operation. Many drivers begin to feel somewhat restricted within platoons of vehicles. This represents stable flow. An approach to an intersection may occasionally be fully utilized and traffic queues start to form.	>0.60-0.70	>10 and ≤ 15
C	Good operation. Occasionally drivers may have to wait more than 60 seconds, and back-ups may develop behind turning vehicles. Most drivers feel somewhat restricted.	>0.70-0.80	>15 and ≤ 25
D	Fair operation. Cars are sometimes required to wait more than 60 seconds during short peaks. There are no long-standing traffic queues.	>0.80-0.90	>25 and ≤ 35
E	Poor operation. Some long-standing vehicular queues develop on critical approaches to intersections. Delays may be up to several minutes.	>0.90-1.00	>35 and ≤ 50
F	Forced flow. Represents jammed conditions. Backups from locations downstream or on the cross street may restrict or prevent movement of vehicles out of the intersection approach lanes; therefore, volumes carried are not predictable. Potential for stop and go type traffic flow.	> 1.00	>50





By following the LOS policy statements from the City of Irwindale’s General plan, the LOS should not exceed LOS D at all signalized intersections on arterial and collector streets and unsignalized intersections. For Caltrans ramp intersections, the threshold level is LOS E.

3.2 Roadway Analysis Methodology

Roadway segment analysis methodology utilizes the volume-to-capacity (V/C) ratio based on average daily traffic (ADT) and arterial segment daily capacity. **Table 3-2** presents the daily capacity assumptions by roadway facility type based on the City of Irwindale roadway segment daily capacity provided in *Table 4-10 (Roadway Classification Standards)* of the City’s 2020 General Plan Update, and **Table 3-3** presents the associated level of service by the V/C ratio.

Table 3-2: Average Daily Roadway Segment Capacity

Facility Type	Daily Capacity (Vehicles/Day)
Major Highways: 4-6 Lane Divided	40,000 to 53,000
Major Highways: 2-4 Lane Undivided	10,000 to 30,000
Collector Roads: 2-Lane	Up to 10,000
Local Streets: 2-Lane	2,000 or Less

Table 3-3: Roadway Segment Level of Service

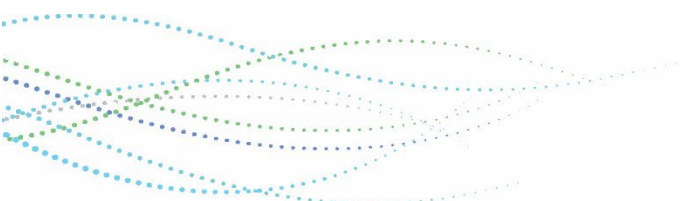
Level Of Service	V/C Ratio
A	≤ 0.600
B	> 0.600 – 0.700
C	> 0.700 – 0.800
D	> 0.800 – 0.900
E	> 0.900 – 1.000
F	> 1.000

3.3 Significant Impact Criteria

The city aims to maintain both intersection and roadway segment to operate at LOS D or better as established by the City’s General Plan. Traffic impact determination for a proposed project is based on the comparison of the intersection LOS between “no project” and “with project” conditions. Should the proposed project cause the study intersection to operate at, or below, LOS D, a significant impact is deemed to occur.

Signalized intersections will require improvements if one of the following conditions is met:

- The addition of project traffic to an intersection result in the degradation of intersection operations from acceptable operations (LOS D or better to unacceptable operations (LOS E or F).





- When a signalized intersection operates at LOS 'E' (as allowed by the General Plan in some locations and for State Highways facilities) or better under existing or future baseline conditions, and the addition of project trips degrades the intersection operations to LOS 'F' or increases the V/C ratio by 0.02 or greater. The project mitigation should bring the facility to operate at LOS 'E', or pre-project conditions at minimum.
- When a signalized intersection operates at LOS 'F' (a violation of the General Plan LOS policy) under existing or future baseline conditions, and the addition of more than 50 peak-hour project trips increases the V/C ratio by 0.02 or greater. The project mitigation should bring the facility to pre-project conditions, which typically are defined as 'existing' conditions.

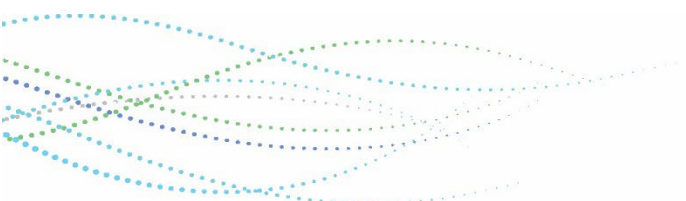
Unsignalized intersections will require improvements if both of the following conditions are met:

- At an unsignalized intersection, when the minor stop-controlled approach operates at LOS 'F' and does not have acceptable operation in terms of total control delay (see C-7 above), and the addition of project trips increases the total control delay to more than 4.0 seconds per vehicle for a single lane approach or 5.0 seconds per vehicle for a multilane approach. The project improvement should bring the facility to operate at LOS 'E' minimum or to bring the total control delay to less than 4.0 seconds per vehicle for a single lane approach or 5.0 seconds per vehicle for a multilane approach at a minimum.
- At an unsignalized intersection, when the minor stop-controlled approach operates at LOS 'F' and does not have an acceptable operation in terms of total control delay, and the addition of more than 50 peak-hour project trips contributes to the continuing operational failure at the minor approach. The project improvement should bring the facility to pre-project, or existing conditions.

If project improvements are required to address impacted locations typically this can be accomplished by meeting the criteria prescribed in the General Plan LOS policies. When operational failures occur under existing or future baseline conditions, the project shall pay its fair share of the improvements necessary to bring the intersection in compliance with the General Plan LOS policies.

The fair share for the project shall be calculated using the traffic volumes that enter an intersection during the most critical peak hour period analyzed. The project fair share calculation is demonstrated below:

- P = Project Fair Share (in percent)
- $T(P)$ = Trips entering the intersection during the critical peak hour generated by the Project (in vehicles per hour)
- $T(E+P)$ = Trips entering the intersection during the critical peak hour under 'Existing + Project' conditions (in vehicle per hour) $P, T(P) / T (E+P)$





4.0 BASELINE CONDITIONS

This section analyzes baseline year traffic conditions. The baseline year of this analysis is 2023.

4.1 Baseline Year Intersection Levels of Service

A level of service analysis was conducted to evaluate existing intersection operations during the weekday AM and PM peak hours. **Table 4-1** summarizes the baseline LOS at the study intersections based on the ICU methodology. **Table 4-2** summarizes the baseline LOS at the study intersections based on the HCM 6th methodology. LOS calculation sheets are provided in **Appendix B**.

Table 4-1: Baseline Conditions Intersection Peak Hour Level of Service – ICU Methodology

Intersection		Control Type*	AM Peak Hour		PM Peak Hour	
			V/C	LOS	V/C	LOS
1	Live Oak Avenue /Arrow Highway (West)	Signalized	0.810	D	0.818	D
2	Live Oak Avenue/Speedway Drive	Signalized	0.567	A	0.620	B
3	Live Oak Avenue/Spanish Oak Drive	N/A	Future Intersection			
6	Live Oak Avenue/Graham Road	Signalized	0.509	A	0.536	A
8	Live Oak Avenue/Rivergrade Road	Signalized	0.676	B	0.741	C
9	Live Oak Avenue/Stewart Avenue	Signalized	0.809	D	0.755	C
10	Live Oak Avenue/Baldwin Park Blvd	Signalized	0.501	A	0.689	B
11	Arrow Highway/ Live Oak Avenue (East)	Signalized	0.674	B	0.650	B
12	Arrow Highway/ Rivergrade Road	Signalized	0.733	C	0.571	A
13	Arrow Highway/ San Gabriel River Trail	Signalized	0.672	B	0.462	A
18	Arrow Highway/ Avenida Barbosa/ Spanish Oak Drive	Signalized	0.777	C	0.554	A
19	Arrow Highway/ Valley Oak Lane	N/A	Future Intersection			

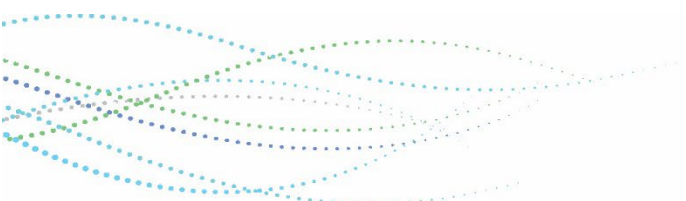
Notes: V/C = Volume to Capacity Ratio, LOS = Level of Service

Table 4-2: Baseline Conditions Intersection Peak Hour Level of Service – HCM 6th Edition Methodology

Intersection		Control Type*	AM Peak Hour		PM Peak Hour	
			Delay (s)	LOS	Delay (s)	LOS
4	Live Oak Avenue/I-605 Southbound On-Ramp	Signalized	4.0	A	7.5	A
5	Live Oak Avenue/I-605 Northbound Off-Ramps	Signalized	1.0	A	1.1	A
7	Live Oak Avenue/Live Oak Lane	TWSC	15.7	C	15.2	C
14	Arrow Highway/ I-605 Northbound On-Ramp (Westbound)	Free	-	-	-	-
15	Arrow Highway/ Live Oak Lane	TWSC	11.0	B	15.4	C
16	Arrow Highway/ I-605 Northbound On-Ramp (Eastbound)	Free	-	-	-	-
17	Arrow Highway/ I-605 Southbound Off-Ramp	Signalized	19.4	B	16.1	B

Notes: LOS = Level of Service; TWSC = two-way stop-controlled

* For TWSC intersections, delay shown represents the worst stop-controlled movement





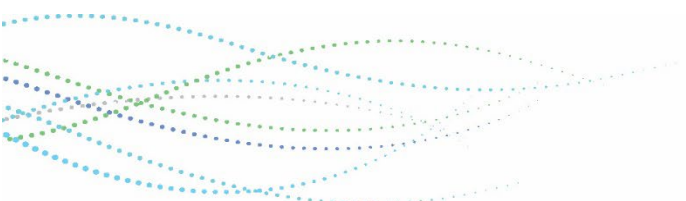
As summarized in **Table 4-1**, the signalized intersections are currently operating at LOS D or better in the baseline conditions. In **Table 4-2**, the Caltrans intersections are currently operating at LOS B or better and the unsignalized intersections are currently operating at LOS C or better in the baseline conditions.

4.2 Baseline Year Roadway Segment Levels of Service

Roadway segment level of service analysis was completed for baseline conditions utilizing Average Daily Traffic (ADT) volumes. **Table 4-3** summarizes the roadway segment capacity, volume-to-capacity (V/C) ratio, and daily LOS. As presented, all roadway segments are currently operating at LOS C or better in the baseline conditions.

Table 4-3: Baseline Roadway Segment Level of Service

	Roadway Segment	Facility Type	Total Capacity (Vehicles/Day)	Existing			
				ADT	V/C	LOS	Deficient (Yes/No)
1	Arrow Highway east of Live Oak Ave	6D	53,000	38,523	0.727	C	No
2	Live Oak Ave between Arrow Highway and I-605 (east side)	4D	40,400	23,753	0.588	A	No
3	Arrow Highway between Arrow Highway and I-605 (east side)	4D	30,000	22,242	0.741	C	No
4	Live Oak Ave between Arrow Highway and I-605 (west side)	5D	46,700	27,456	0.588	A	No
5	Arrow Highway between Arrow Highway and I-605 (west side)	4D	30,000	20,411	0.680	B	No
6	Arrow Highway west of Live Oak Ave	6D	53,000	37,814	0.713	C	No





5.0 PROPOSED PROJECT TRAFFIC

This section of the report defines the vehicular traffic generated by the proposed project in a three-step process including trip generation, trip distribution, and trip assignment. As discussed in the project description, the project is anticipated to propose two options: Option 1 to include three new industrial buildings providing 982,796 square feet of building space – 954,796 square feet of warehouse space and 43,000 square feet of office space and Option 2 to include two industrial buildings providing 704,070 square feet of building space – 668,070 square feet of warehouse space, 36,000 square feet of office space and a 400-megawatt battery energy storage system (BESS) on approximately 16 acres. The project site is currently vacant. The access to the project site will be via Live Oak Avenue and Live Oak Lane and Arrow Highway and Live Oak Lane.

5.1 Project Trip Generation

Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition was used to estimate the project trip generation. The Peak Hour Rate for land use code 150 (Warehousing) was used to estimate trip generation from the warehouse and land use code 710 (General Office Building) was used to estimate trip generation from the office buildings.

The number of trips forecast to be generated by the proposed development was calculated by multiplying the trip generation rates by the proposed number of units and square footage in the project. A passenger car equivalent (PCE) value of 2.0 was applied to all project site truck trips for the traffic analysis—each truck is considered the equivalent of two autos to account for their larger size and slower acceleration and increase braking distances. The result of this calculation is shown in **Table 5-1** for Project Option 1 and **Table 5-2** for Project Option 2.

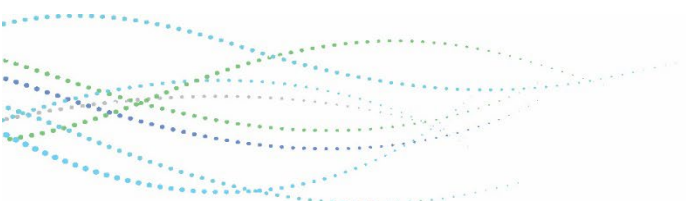




Table 5-1: Project Option 1 Trip Generation

		Land Use Sq Ft		Trucks			Autos			Vehicles			PCE Vehicles		
		Warehouse	Office	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
AM Peak Hr.	BLDG 1	222,910	10,000	2	2	4	57	12	69	59	14	73	61	16	77
	BLDG 2	660,776	30,000	7	6	13	130	26	156	137	32	169	144	38	182
	BLDG 3	71,110	3,000	1	0	1	31	8	39	32	8	40	33	8	41
	Total	954,796	43,000	10	8	18	218	46	264	228	54	282	238	62	300
PM Peak Hr.	BLDG 1	222,910	10,000	3	4	7	16	55	71	19	59	78	22	63	85
	BLDG 2	660,776	30,000	10	10	20	32	122	154	42	132	174	52	142	194
	BLDG 3	71,110	3,000	1	1	2	11	31	42	12	32	44	13	33	46
	Total	954,796	43,000	14	15	29	59	208	267	73	223	296	87	238	325

Source: ITE Trip Generation Manual, 11th Edition.

As shown in **Table 5-1**, Project Option 1 is forecast to generate 300 AM peak hour PCE trips and 325 PM peak hour PCE trips.

Table 5-2: Project Option 2 Trip Generation

		Land Use Sq Ft		Trucks			Autos			Vehicles			PCE Vehicles		
		Warehouse	Office	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
AM Peak Hr.	BLDG 1	222,910	10,000	7	6	13	101	22	123	108	28	136	115	34	149
	BLDG 2	660,776	15,000	1	0	1	31	8	39	32	8	40	33	8	41
	Total	954,796	28,000	8	6	14	132	30	162	140	36	176	148	42	190
PM Peak Hr.	BLDG 1	222,910	10,000	10	10	20	26	94	120	36	104	140	46	114	160
	BLDG 2	660,776	15,000	1	1	2	11	31	42	12	32	44	13	33	46
	Total	954,796	28,000	11	11	22	37	125	162	48	136	184	59	147	206

Source: ITE Trip Generation Manual, 11th Edition.

As shown in **Table 5-2**, Project Option 2 is forecast to generate 184 AM peak hour PCE trips and 206 PM peak hour PCE trips.

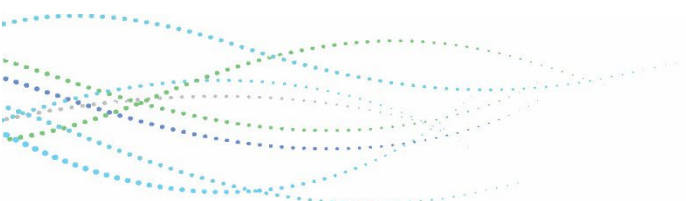


5.2 Project Trip Distribution and Assignment

Trip distribution assumptions are used to determine the origin and destination of new vehicle trips associated with the Project. The trip distribution was forecast using the Southern California Association of Governments (SCAG) travel demand model. A select link model scenario was generated to show the distribution of the traffic analysis zones located in the study area. Plots of the auto and truck distributions from the study area were used to estimate the future project distribution by vehicle type.

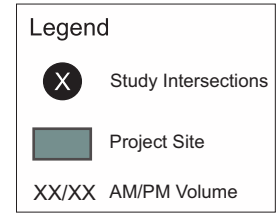
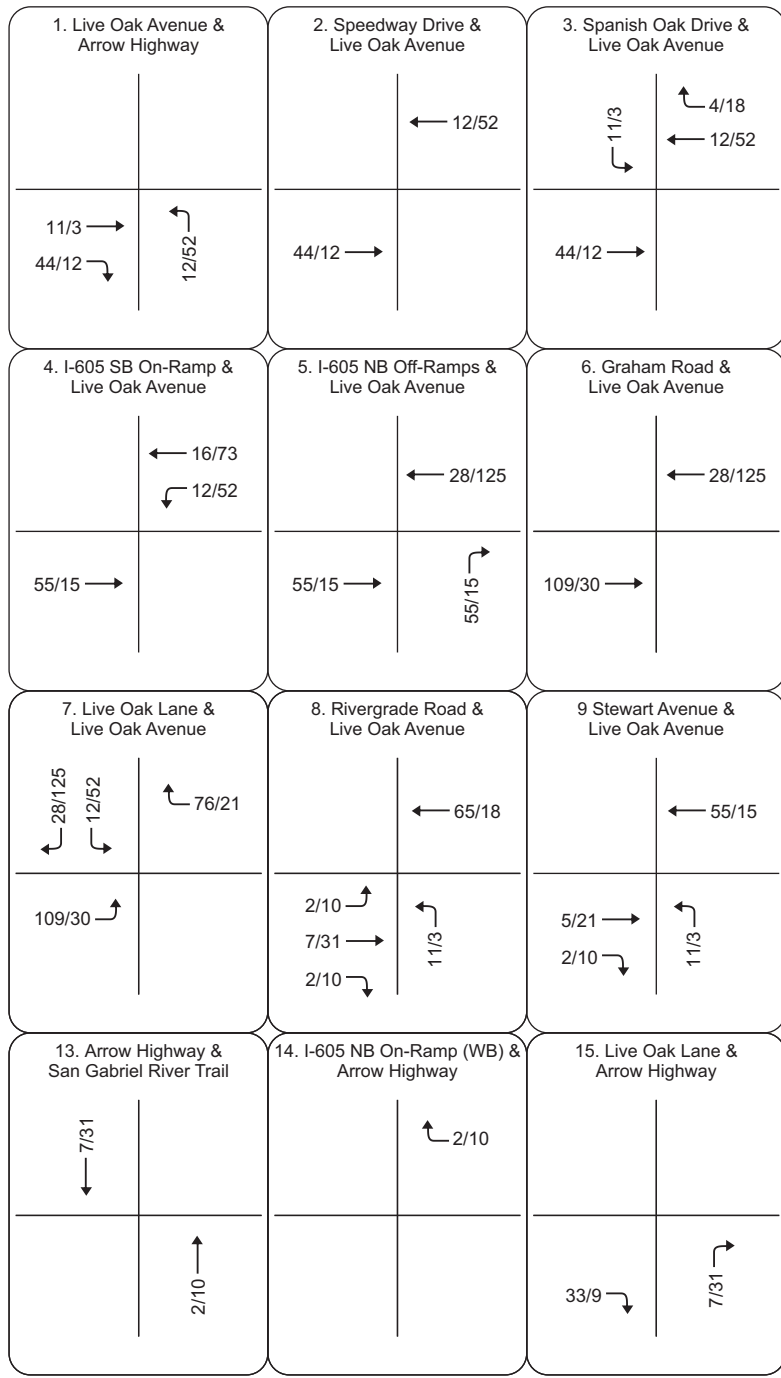
The Project trip distribution is shown in **Figure 5-1** for autos and in **Figure 5-2** for trucks. The new trips generated by the project are then assigned to the surrounding roadway system based on the distribution patterns to estimate the project-related peak-hour traffic at each of the study intersections.

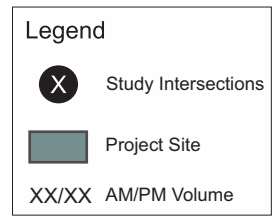
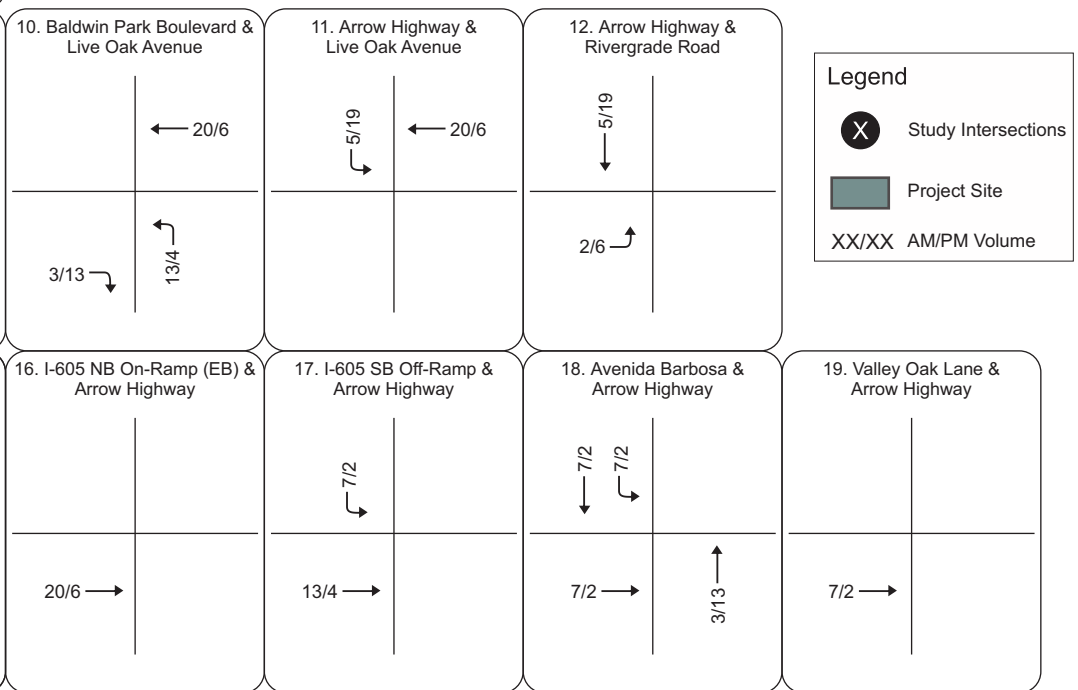
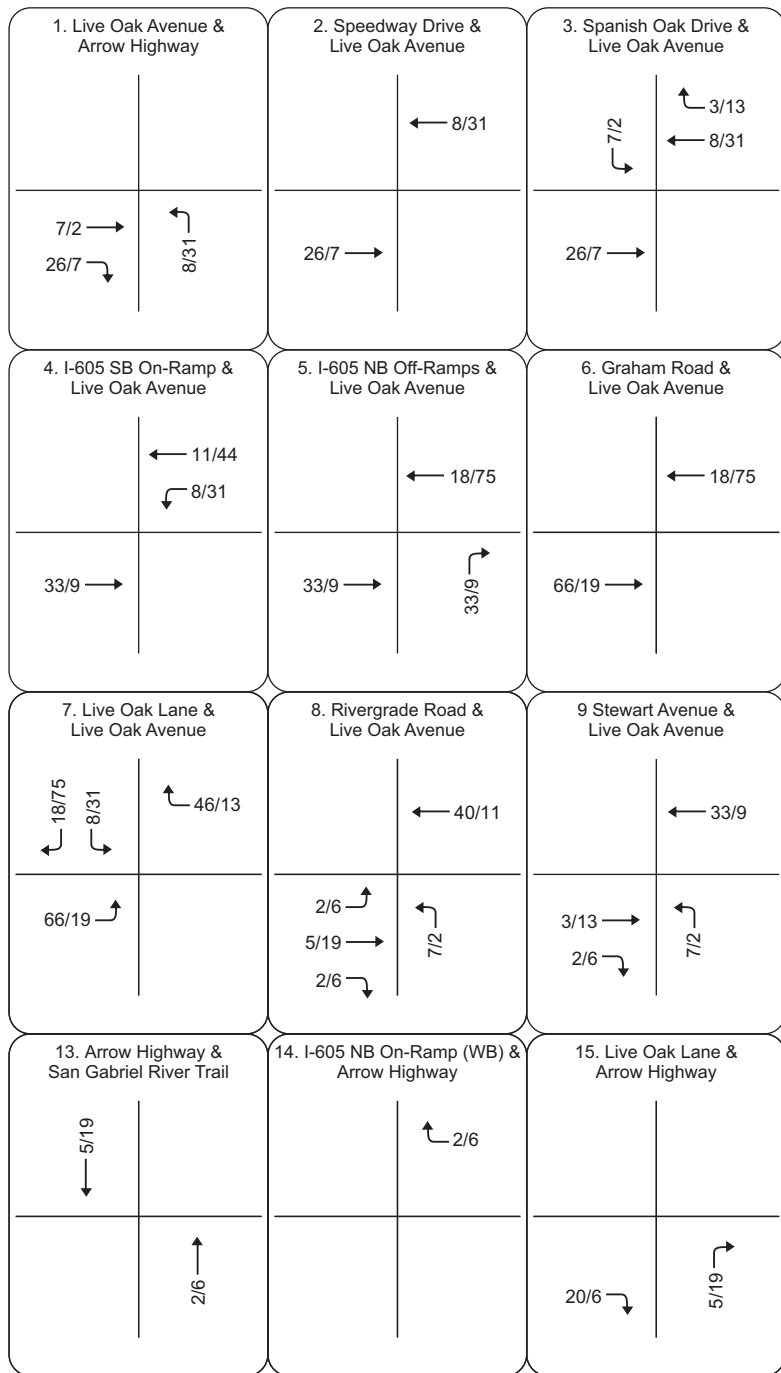
Figure 5-3 and **Figure 5-4** illustrate the proposed project auto trip assignment for Project Option 1 and Project Option 2, respectively, onto the roadway network during the AM and PM peak. **Figure 5-5** and **Figure 5-6** illustrate the proposed project truck trip assignment for Project Option 1 and Project Option 2, respectively, onto the roadway network during the AM and PM peak.

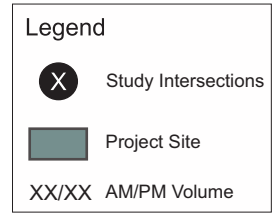
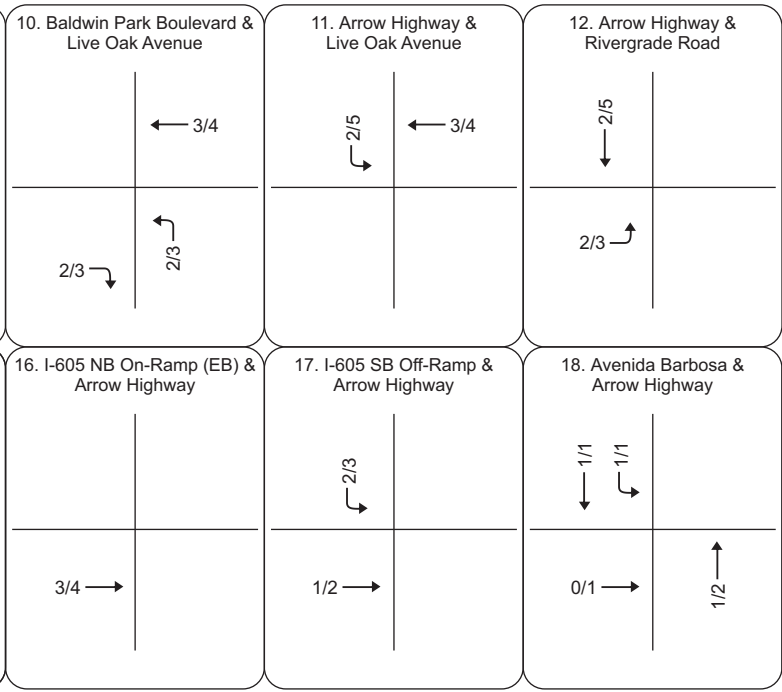
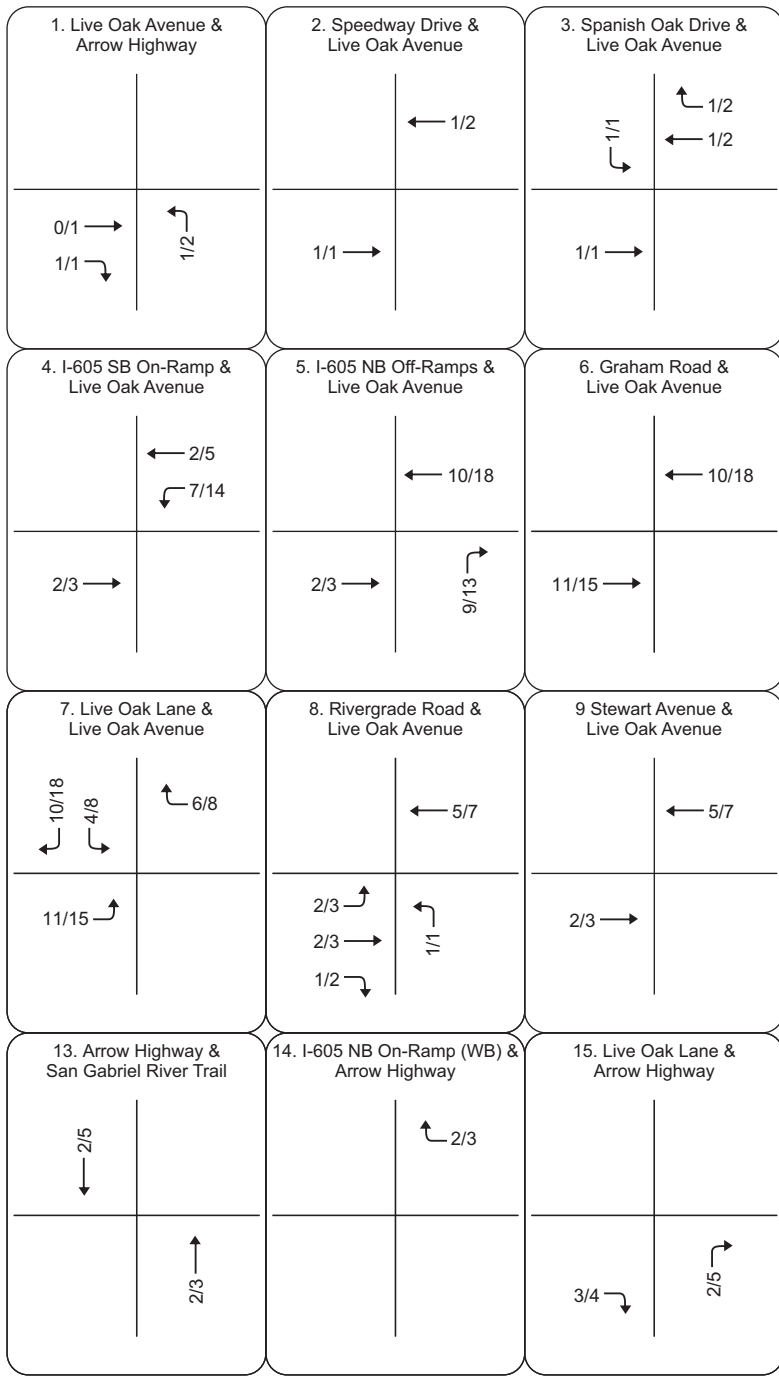


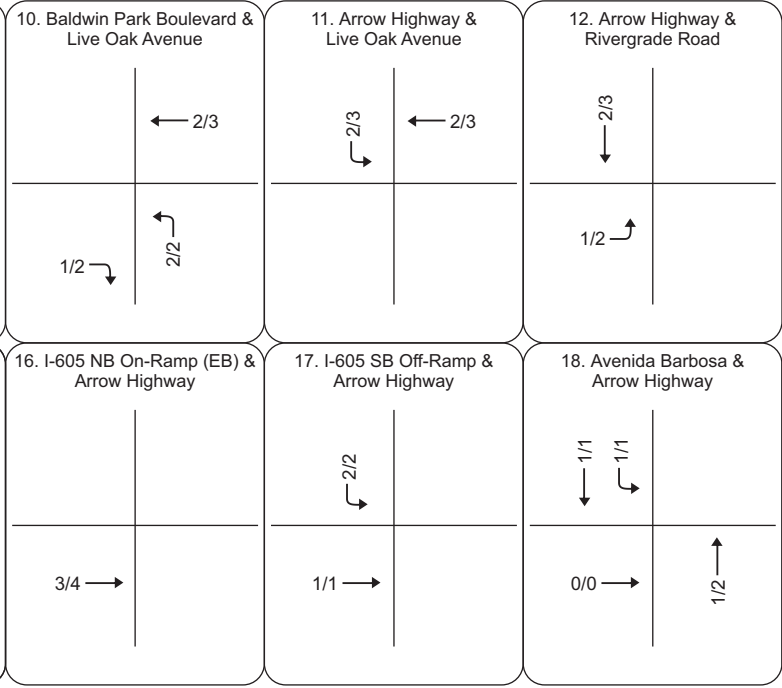
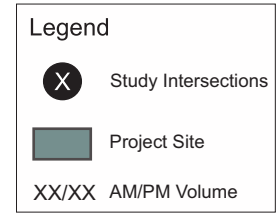
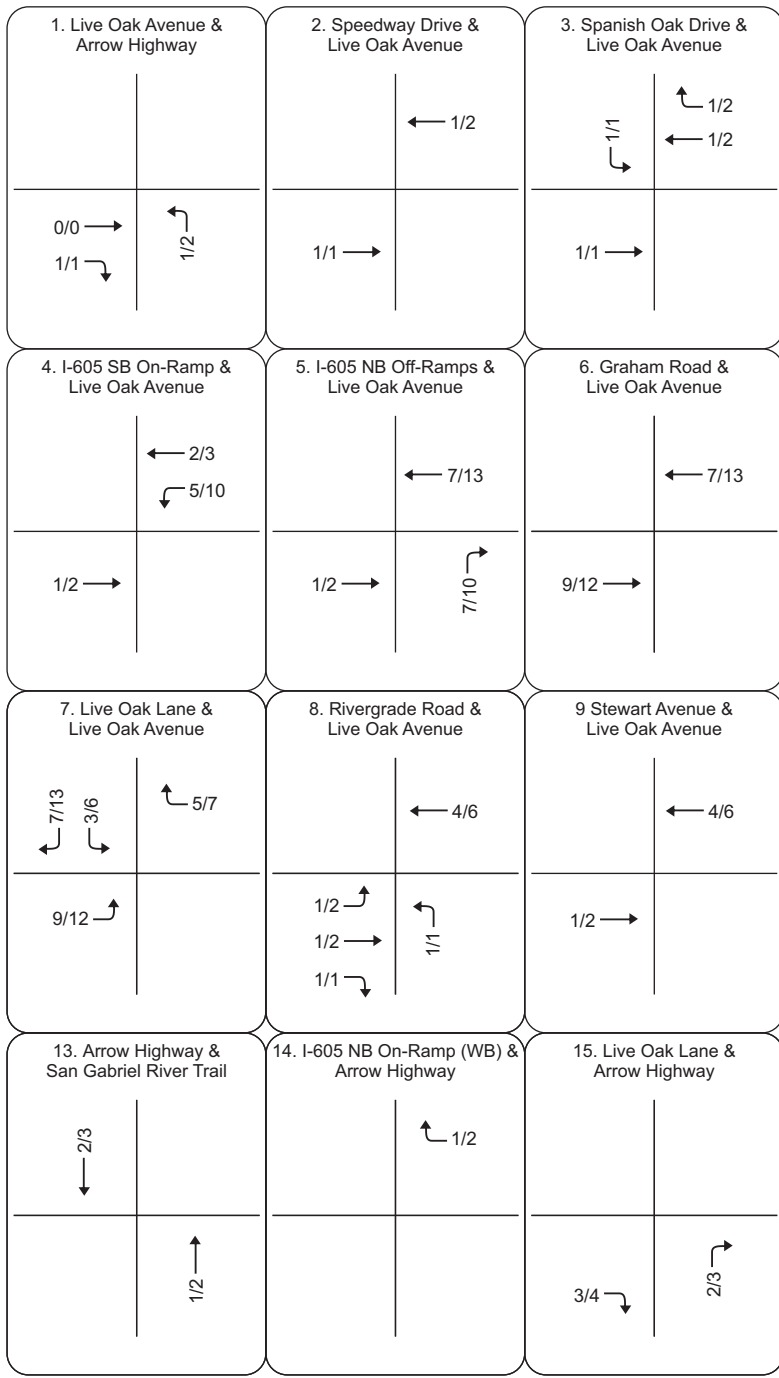












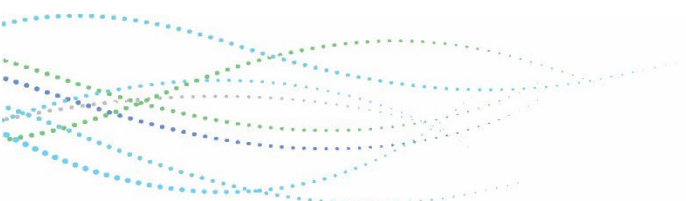


5.3 Project Bicycle and Pedestrian Conditions

The Proposed Project does not propose alterations to bicycle and pedestrian conditions. Project roadways will be constructed in accordance with City engineering standards including the City's Active Transportation Guidelines (January 2021). Both Arrow Highway and Live Oak Avenue are Bicycle Priority Corridors in the City's Active Transportation Plan. The Project would not impact proposed new bicycle facilities along the roadways.

5.4 Project Transit Conditions

The Proposed Project does not propose alterations to public transportation conditions.





6.0 BUILDOUT YEAR (2028) ANALYSIS

This section presents the summary of the AM and PM peak hour traffic operation conditions in the study area for the Buildout Year With and Without Project. The Buildout Year for the full development of the proposed project is assumed to be 2028. The baseline traffic for the Buildout Year (2028) was developed by considering traffic increases due to the Irwindale Gateway Specific Plan development and ambient traffic growth in the study area that will occur due to general population, employment, and warehousing/office growth. An ambient annual growth rate of 16.9 percent was assumed along the arterial streets and 2.8 percent was assumed at the freeway ramps.

The Buildout Year (2028) With Project will include an analysis for Project Option 1 and Project Option 2.

6.1 Buildout Year (2028) Without Project Intersection Levels of Service

A level of service analysis was conducted to evaluate the Buildout Year (2028) Without Project intersection operations during the AM and PM peak hours at the study intersections. **Figure 6-1** illustrates the Buildout Year (2028) Without Project conditions turning movement counts at the study intersections. **Table 6-1** summarizes the level of service results at the study intersections, which are based on the ICU V/C-based method at signalized intersections. **Table 6-2** summarizes the level of service results at the study intersections, which are based on the HCM 6th Edition delay-based method at Caltrans and unsignalized intersections. A detailed Synchro 11 level of service calculation sheets are included in **Appendix B**.

**Table 6-1: Buildout Year (2028) Without Project Analysis
 Intersection Peak Hour Level of Service – ICU Methodology**

Intersection		Control Type	AM Peak Hour		PM Peak Hour	
			V/C	LOS	V/C	LOS
1	Live Oak Avenue /Arrow Highway (West)	Signalized	0.759	C	0.750	C
2	Live Oak Avenue/Speedway Drive	Signalized	0.643	B	0.804	D
3	Live Oak Avenue/Spanish Oak Drive	Signalized	0.553	A	0.730	C
6	Live Oak Avenue/Graham Road	Signalized	0.567	A	0.607	B
8	Live Oak Avenue/Rivergrade Road	Signalized	0.706	C	0.809	D
9	Live Oak Avenue/Stewart Avenue	Signalized	0.734	C	0.794	C
10	Live Oak Avenue/Baldwin Park Blvd	Signalized	0.573	A	0.779	C
11	Arrow Highway/ Live Oak Avenue (East)	Signalized	0.758	C	0.674	B
12	Arrow Highway/ Rivergrade Road	Signalized	0.812	D	0.571	A
13	Arrow Highway/ San Gabriel River Trail	Signalized	0.779	C	0.533	A
18	Arrow Highway/ Avenida Barbosa/ Spanish Oak Drive	Signalized	0.884	D	0.668	B
19	Arrow Highway/ Valley Oak Lane	Signalized	0.590	A	0.415	A

Notes: V/C = Volume to Capacity Ratio, LOS = level of service

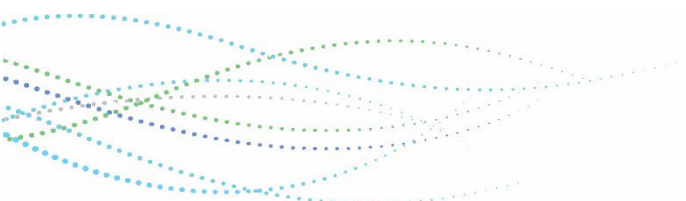




Table 6-2: Buildout Year (2028) Without Project Analysis
Intersection Peak Hour Level of Service – HCM 6th Edition Methodology

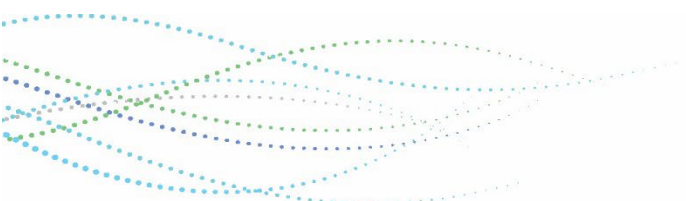
Intersection		Control Type*	AM Peak Hour		PM Peak Hour	
			Delay (s)	LOS	Delay (s)	LOS
4	Live Oak Avenue/I-605 Southbound On-Ramp	Signalized	4.5	A	7.1	A
5	Live Oak Avenue/I-605 Northbound Off-Ramps	Signalized	1.0	A	1.2	A
7	Live Oak Avenue/Live Oak Lane	TWSC	18.5	C	18.2	C
14	Arrow Highway/ I-605 Northbound On-Ramp (Westbound)	Free	-	-	-	-
15	Arrow Highway/ Live Oak Lane	TWSC	11.6	B	17.7	C
16	Arrow Highway/ I-605 Northbound On-Ramp (Eastbound)	Free	-	-	-	-
17	Arrow Highway/ I-605 Southbound Off-Ramp	Signalized	25.8	C	18.4	B

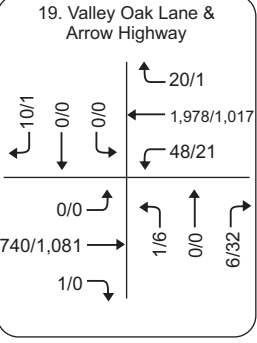
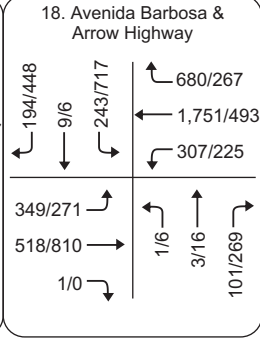
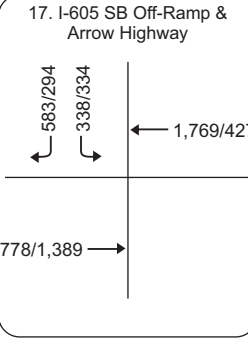
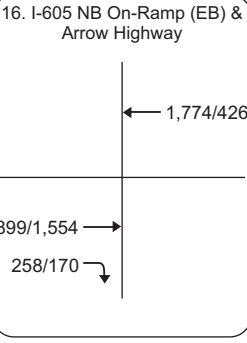
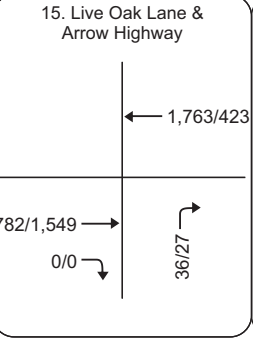
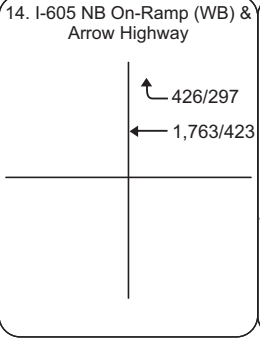
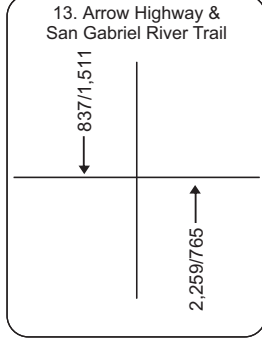
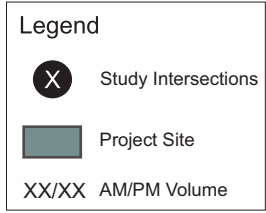
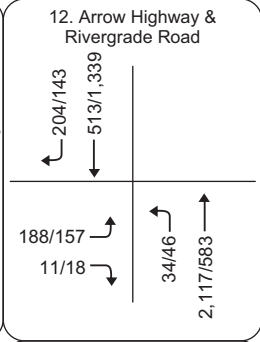
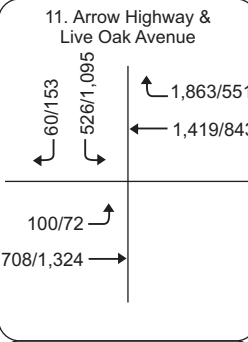
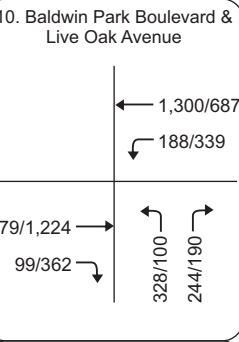
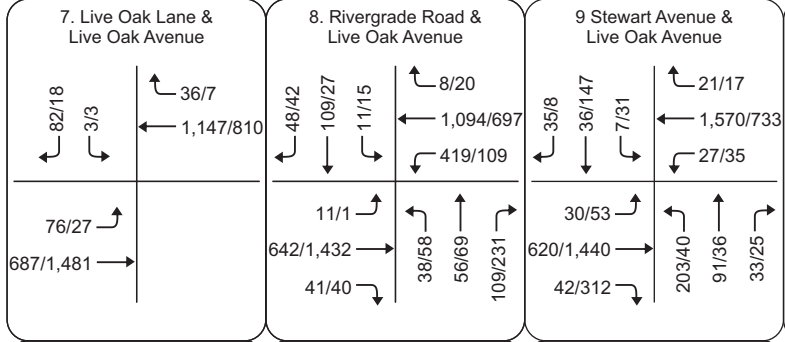
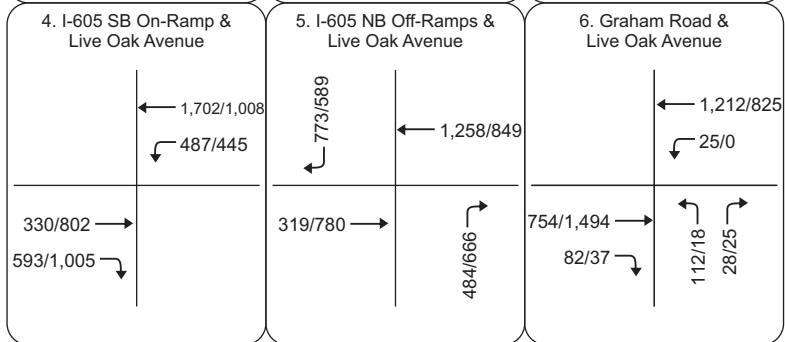
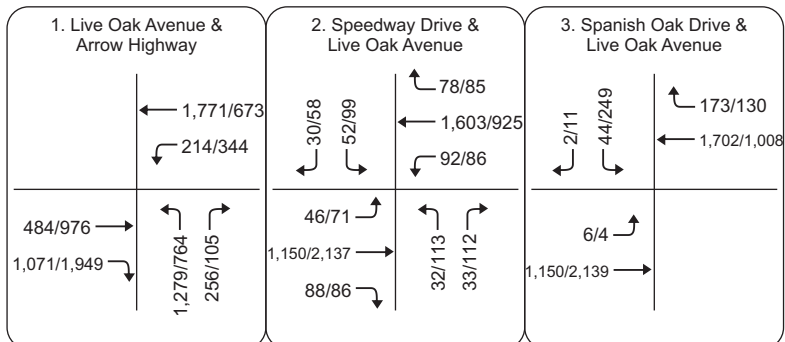
Notes: LOS = level of service; TWSC = two-way stop-controlled

* For TWSC intersections, delay shown represents the worst stop-controlled movement

As summarized in **Table 6-1**, the signalized intersections would continue to operate at LOS D or better in the Buildout Year (2028) Without Project scenario.

As summarized in **Table 6-2**, the Caltrans intersections would operate at LOS C or better during the AM peak hour and continue to operate at LOS B or better during the PM peak hour. The unsignalized intersections would continue to operate at LOS C or better during the AM and PM peak hours in the Buildout Year (2028) Without Project scenario.







6.2 Buildout Year (2028) With Project Intersection Levels of Service: Project Option 1

Buildout Year (2028) With Project scenario assume completion of the proposed project and assignment of the project generated trips into the study area in addition to the traffic volumes forecasted in the Buildout Year (2028) Without Project scenario. A level of service analysis was conducted to evaluate the Buildout Year (2028) With Project intersection operations during the AM and PM peak hours at the study intersections for Project Option 1. **Figure 6-2** illustrates the Buildout Year (2028) With Project scenario turning movement counts at the study intersections for Project Option 1. **Table 6-3** summarizes the level of service results at the study intersections, which are based on the ICU V/C-based method at signalized intersections and HCM 6th Edition delay-based method at Caltrans and unsignalized intersections. A detailed Synchro 11 level of service calculation sheets are included in **Appendix B**.

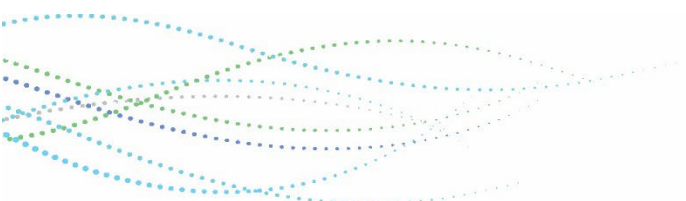




Table 6-3: Buildout Year (2028) With Project – Project Option 1 Intersection Peak Hour Level of Service

Intersection		Control Type*	Buildout Year (2028) Without Project				Buildout Year (2028) With Project: Project Option 1				Impact Determination			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay Difference	Impact (Yes or No)?	V/C or Delay Difference	Impact (Yes or No)?
1	Live Oak Avenue /Arrow Highway (West)	Signalized	0.759	C	0.750	C	0.761	C	0.762	C	0.002	No	0.012	No
2	Live Oak Avenue/Speedway Drive	Signalized	0.643	B	0.804	D	0.646	B	0.807	D	0.003	No	0.003	No
3	Live Oak Avenue/Spanish Oak Drive	Signalized	0.553	A	0.730	C	0.557	A	0.735	C	0.004	No	0.005	No
4	Live Oak Avenue/I-605 Southbound On-Ramp	Signalized	4.5	A	7.1	A	4.8	A	8.2	A	0.3	No	1.1	No
5	Live Oak Avenue/I-605 Northbound Off-Ramps	Signalized	1.0	A	1.2	A	0.9	A	1.1	A	-0.1	No	-0.1	No
6	Live Oak Avenue/Graham Road	Signalized	0.567	A	0.607	B	0.579	A	0.621	B	0.012	No	0.014	No
7	Live Oak Avenue/Live Oak Lane	TWSC	18.7	C	18.4	C	137.4	F	206.4	F	118.70.	Yes	188.0	Yes
8	Live Oak Avenue/Rivergrade Road	Signalized	0.706	C	0.809	D	0.718	C	0.823	D	0.012	No	0.014	No
9	Live Oak Avenue/Stewart Avenue	Signalized	0.734	C	0.794	C	0.755	C	0.796	C	0.021	No	0.002	No
10	Live Oak Avenue/Baldwin Park Blvd	Signalized	0.573	A	0.779	C	0.590	A	0.779	C	0.017	No	0.000	No
11	Arrow Highway/ Live Oak Avenue (East)	Signalized	0.758	C	0.674	B	0.772	C	0.685	B	0.014	No	0.011	No
12	Arrow Highway/ Rivergrade Road	Signalized	0.812	D	0.571	A	0.835	D	0.571	A	0.023	No	0.000	No
13	Arrow Highway/ San Gabriel River Trail	Signalized	0.779	C	0.533	A	0.780	C	0.544	A	0.001	No	0.011	No
14	Arrow Highway/ I-605 Northbound On-Ramp (WB)	Free	-	-	-	-	-	-	-	-	-	No	-	No
15	Arrow Highway/ Live Oak Lane	TWSC	11.7	B	17.9	C	12.0	B	19.7	C	0.3	No	1.8	No
16	Arrow Highway/ I-605 Northbound On-Ramp (EB)	Free	-	-	-	-	-	-	-	-	-	No	-	No
17	Arrow Highway/ I-605 Southbound Off-Ramp	Signalized	25.8	C	18.4	B	27.7	C	18.7	B	1.9	No	0.3	No
18	Arrow Highway/ Avenida Barbosa/ Spanish Oak Drive	Signalized	0.884	D	0.668	B	0.884	D	0.670	B	0	No	0.002	No
19	Arrow Highway/ Valley Oak Lane	Signalized	0.590	A	0.415	A	0.590	A	0.416	A	0.000	No	0.001	No

Notes: V/C = Volume to Capacity Ratio, LOS = Level of Service; TWSC = two-way stop-controlled
 * For TWSC intersections, delay shown represents the worst stop-controlled movement



As summarized in **Table 6-3**, the intersections would operate at LOS D or better in the Buildout Year (2028) With Project scenario for Project Option 1, except at the following intersections:

- #7. Live Oak Avenue and Live Oak Lane – AM and PM Peak Hours (LOS F)

The unsignalized intersection at Live Oak Avenue and Live Oak Lane would have a significant impact in the Buildout Year (2028) With Project scenario for Project Option 1. The delay has increased significantly due to an increase in traffic volumes generated by the project. This intersection is an access point to the proposed project development; therefore, mitigation measures will be recommended to alleviate the delay.

In addition, as summarized in **Table 6-3**, the Caltrans intersections would continue to operate at LOS C or better during the AM peak hour and operate at LOS B or better during the PM peak hour in the Buildout Year (2028) With Project scenario for Project Option 1.

6.3 Buildout Year (2028) With Project - Project Option 1: Mitigation Measures

As discussed in the *Significant Impact Criteria* section, the city aims to maintain the intersection to operate at LOS D or better as established by the City’s General Plan. In **Table 6-3**, a comparison of the intersection LOS between “Without Project” and “With Project” conditions were shown to determine if the proposed project were to cause a traffic impact to the study intersections.

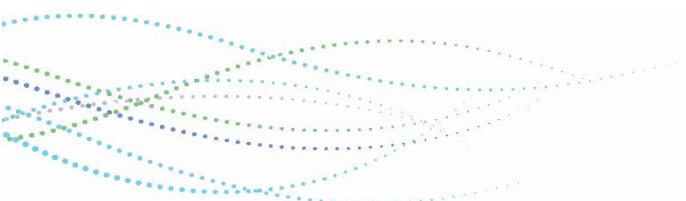
During Buildout Year (2028) With Project scenario for Project Option 1, the unsignalized intersection at Live Oak Avenue and Live Oak Lane is anticipated to operate at LOS F during both the AM and PM peak hours, which is an unacceptable operation.

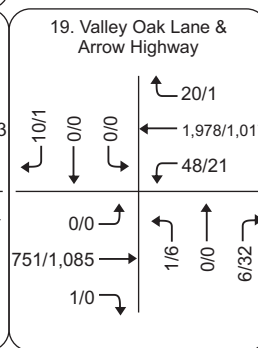
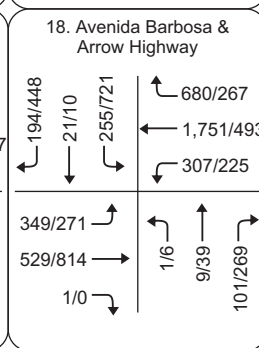
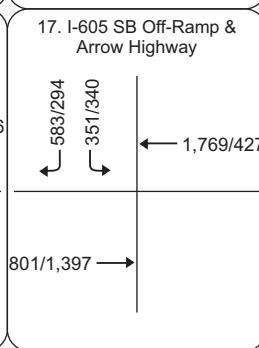
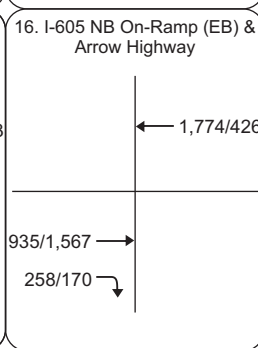
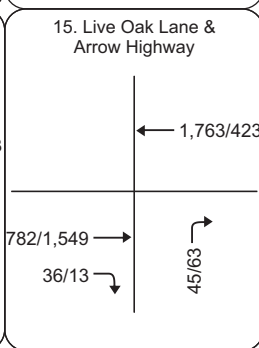
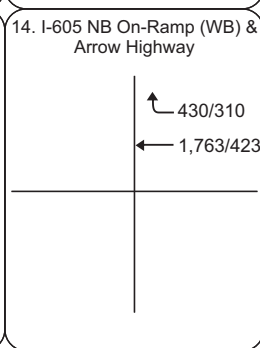
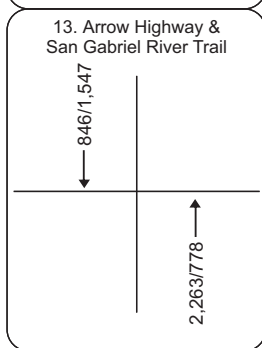
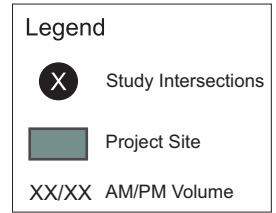
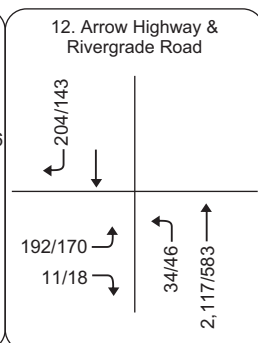
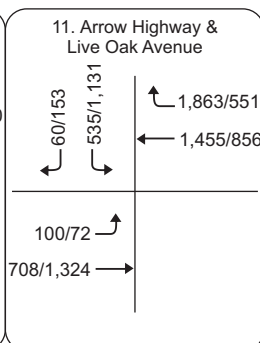
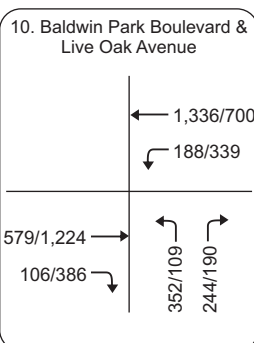
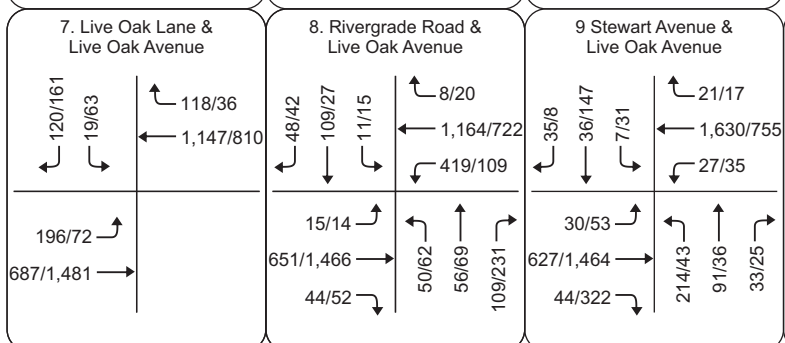
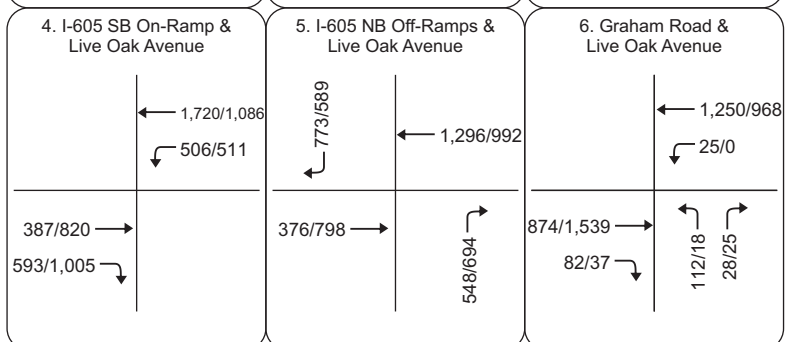
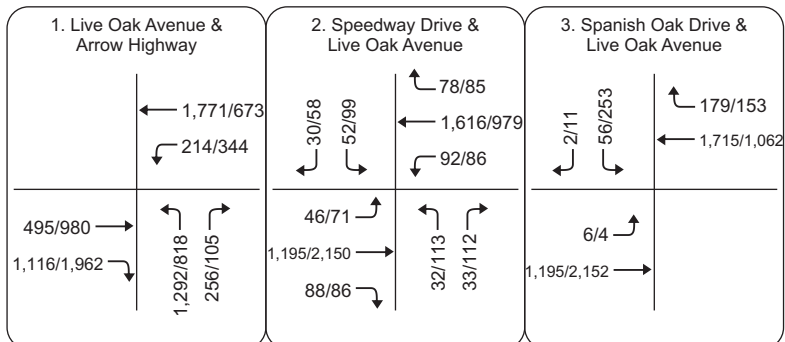
To alleviate the traffic delay, it is recommended for Live Oak Avenue and Lake Oak Lane to become a signalized intersection. **Table 6-4** summarizes the LOS results for Live Oak Avenue and Live Oak Lane as a signalized intersection.

Table 6-4: Buildout Year (2028) With Project – Project Option 1 (Mitigation Measures)

Intersection	Scenarios	Control Type	AM Peak Hour		PM Peak Hour	
			Delay (s)	LOS	Delay (s)	LOS
Live Oak Avenue and Live Oak Lane	Buildout Year (2028) Without Project	TWSC	18.5	C	18.2	C
	Buildout Year (2028) With Project: Project 1	TWSC	137.4	F	206.4	F
		Control Type	V/C	LOS	V/C	LOS
	With Improvements	Signalized	0.718	C	0.703	C

As summarized in **Table 6-4**, Live Oak Avenue and Live Oak Lane would operate at LOS C with mitigation measures during both AM and PM peak hours for Buildout Year (2028) With Project for Project Option 1.







6.4 Buildout Year (2028) With Project Intersection Levels of Service: Project Option 2

Buildout Year (2028) With Project scenario assume completion of the proposed project and assignment of the project generated trips into the study area in addition to the traffic volumes forecasted in the Buildout Year (2028) Without Project scenario. A level of service analysis was conducted to evaluate the Buildout Year (2028) With Project intersection operations during the AM and PM peak hours at the study intersections for Project Option 2. **Figure 6-3** illustrates the Buildout Year (2028) With Project scenario turning movement counts at the study intersections for Project Option 2. **Table 6-5** summarizes the level of service results at the study intersections, which are based on the ICU V/C-based method at signalized intersections and HCM 6th Edition delay-based method at Caltrans and unsignalized intersections. A detailed Synchro 11 level of service calculation sheets are included in **Appendix B**.

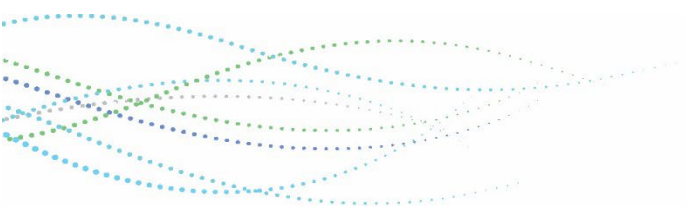




Table 6-5: Buildout Year (2028) With Project – Project Option 2 Intersection Peak Hour Level of Service

Intersection		Control Type*	Buildout Year (2028) Without Project				Buildout Year (2028) With Project: Project Option 2				Impact Determination			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay Difference	Impact (Yes or No)?	V/C or Delay Difference	Impact (Yes or No)?
1	Live Oak Avenue /Arrow Highway (West)	Signalized	0.759	C	0.750	C	0.761	C	0.758	C	0.002	No	0.008	No
2	Live Oak Avenue/Speedway Drive	Signalized	0.643	B	0.804	D	0.646	B	0.806	D	0.003	No	0.002	No
3	Live Oak Avenue/Spanish Oak Drive	Signalized	0.553	A	0.730	C	0.556	A	0.733	C	0.003	No	0.003	No
4	Live Oak Avenue/I-605 Southbound On-Ramp	Signalized	4.5	A	7.1	A	4.8	A	7.8	A	0.3	No	0.7	No
5	Live Oak Avenue/I-605 Northbound Off-Ramps	Signalized	1.0	A	1.2	A	1.0	A	1.1	A	0.0	No	-0.1	No
6	Live Oak Avenue/Graham Road	Signalized	0.567	A	0.607	B	0.575	A	0.617	B	0.008	No	0.010	No
7	Live Oak Avenue/Live Oak Lane	TWSC	18.5	C	18.2	C	54.3	F	91.3	F	35.8	Yes	73.1	Yes
8	Live Oak Avenue/Rivergrade Road	Signalized	0.706	C	0.809	D	0.714	C	0.819	D	0.008	No	0.010	No
9	Live Oak Avenue/Stewart Avenue	Signalized	0.734	C	0.794	C	0.747	C	0.796	C	0.013	No	0.002	No
10	Live Oak Avenue/Baldwin Park Blvd	Signalized	0.573	A	0.779	C	0.583	A	0.779	C	0.01	No	0.000	No
11	Arrow Highway/ Live Oak Avenue (East)	Signalized	0.758	C	0.674	B	0.767	C	0.682	B	0.009	No	0.008	No
12	Arrow Highway/ Rivergrade Road	Signalized	0.812	D	0.571	A	0.812	D	0.571	A	0.000	No	0.000	No
13	Arrow Highway/ San Gabriel River Trail	Signalized	0.779	C	0.533	A	0.780	C	0.541	A	0.001	No	0.008	No
14	Arrow Highway/ I-605 Northbound On-Ramp (WB)	Free	-	-	-	-	-	-	-	-	-	No	-	No
15	Arrow Highway/ Live Oak Lane	TWSC	11.6	B	17.7	C	11.9	B	19.3	C	0.3	No	1.6	No
16	Arrow Highway/ I-605 Northbound On-Ramp (EB)	Free	-	-	-	-	-	-	-	-	-	No	-	No
17	Arrow Highway/ I-605 Southbound Off-Ramp	Signalized	25.8	C	18.4	B	27.2	C	18.6	B	1.4	No	0.2	No
18	Arrow Highway/ Avenida Barbosa/ Spanish Oak Drive	Signalized	0.884	D	0.668	B	0.884	D	0.670	B	0	No	0.002	No
19	Arrow Highway/ Valley Oak Lane	Signalized	0.590	A	0.415	A	0.590	A	0.416	A	0.000	No	0.001	No

Notes: V/C = Volume to Capacity Ratio, LOS = Level of Service; TWSC = two-way stop-controlled

* For TWSC intersections, delay shown represents the worst stop-controlled movement



As summarized in **Table 6-5**, the intersections would operate at LOS D or better in the Buildout Year (2028) With Project scenario for Project Option 2, except at the following intersections:

- #7. Live Oak Avenue and Live Oak Lane – AM and PM Peak Hours (LOS F)

The conditions are similar to those for Project Option 1. However, for Project Option 2 the delay at Live Oak Avenue and Live Oak Lane has decreased by half compared to Project Option 1. Although the delay has decreased, the location would continue to operate at LOS F during the AM and PM peak hours. This intersection is an access point to the proposed project development; therefore, mitigation measures will be recommended to alleviate the delay.

In addition, as summarized in **Table 6-5**, the Caltrans intersections would continue to operate at LOS C or better during the AM peak hour and operate at LOS B or better during the PM peak hour in the Buildout Year (2028) With Project scenario for Project Option 2.

6.5 Buildout Year (2028) With Project Mitigation Measures: Project Option 2

As discussed in the *Significant Impact Criteria* section, the city aims to maintain the intersection to operate at LOS D or better as established by the City’s General Plan. In **Table 6-5**, a comparison of the intersection LOS between “without project” and “with project” conditions were shown to determine if the proposed project were to cause a traffic impact to the study intersections.

During Buildout Year (2028) With Project scenario for Project Option 2, the unsignalized intersection at Live Oak Avenue and Live Oak Lane is anticipated to operate at LOS F during both the AM and PM peak hours, which is an unacceptable operation.

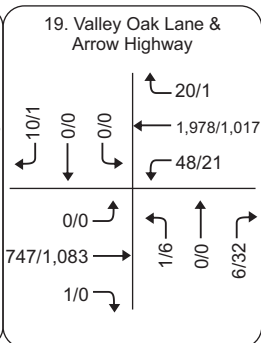
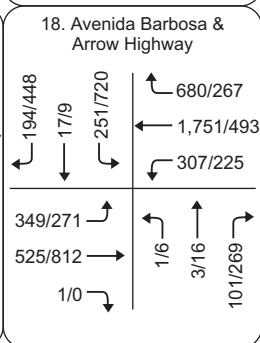
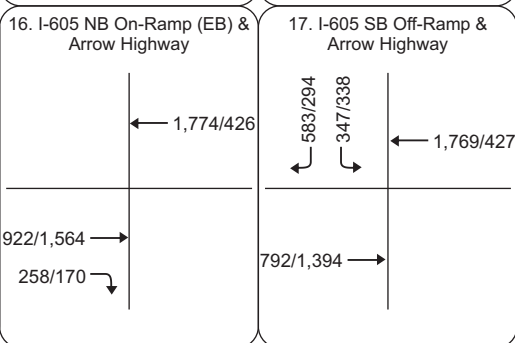
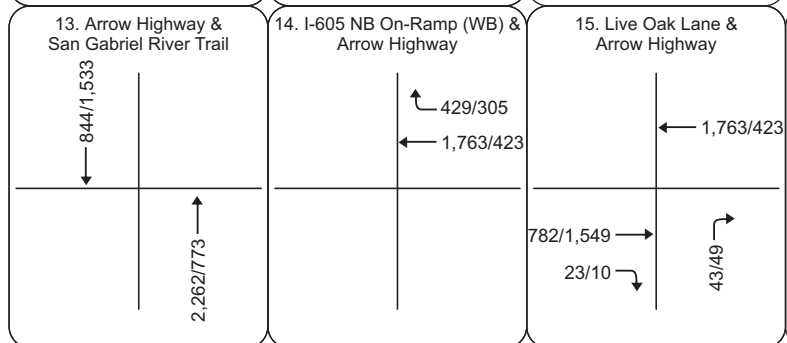
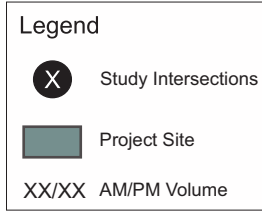
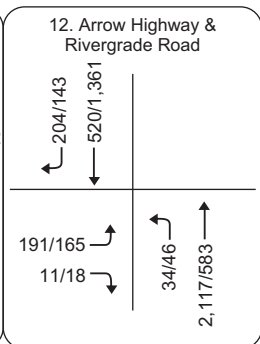
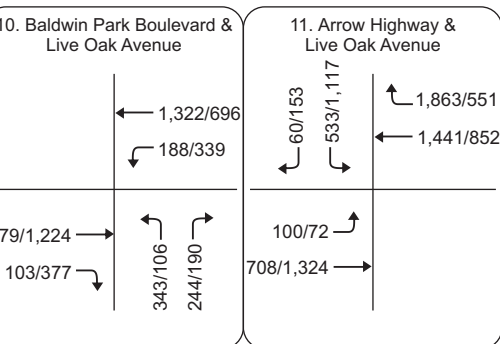
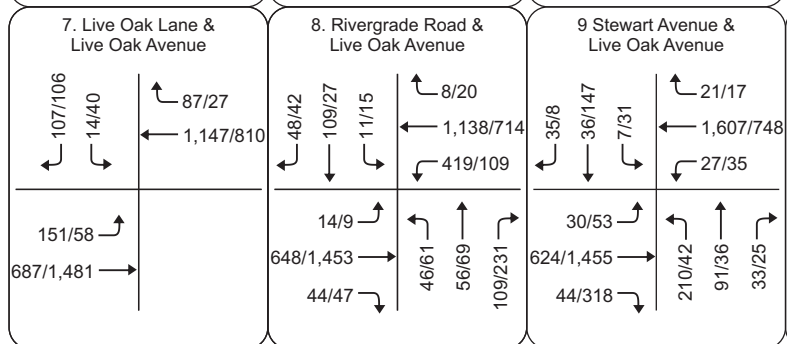
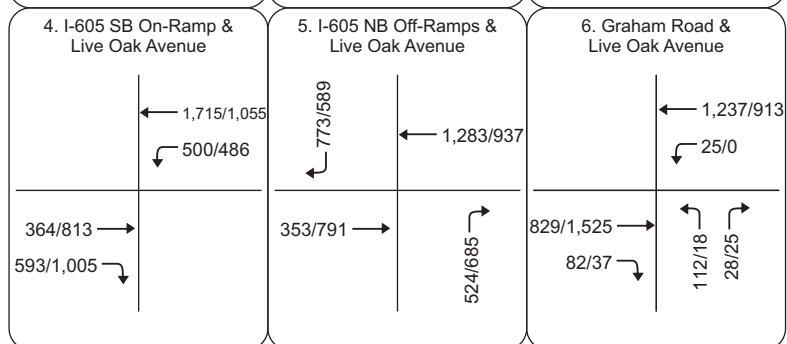
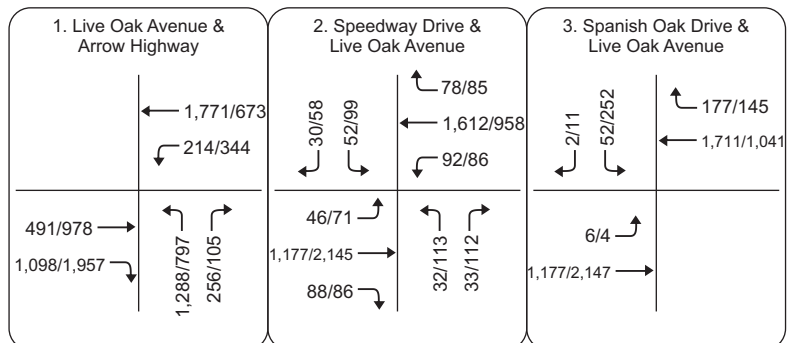
To alleviate the traffic delay, it is recommended for Live Oak Avenue and Lake Oak Lane to become a signalized intersection. **Table 6-6** summarizes the LOS results for Live Oak Avenue and Live Oak Lane as a signalized intersection.

Table 6-6: Buildout Year (2028) With Project Condition – Project Option 2 (Mitigation Measures)

Intersection	Scenarios	Control Type	AM Peak Hour		PM Peak Hour	
			Delay (s)	LOS	Delay (s)	LOS
Live Oak Avenue and Live Oak Lane	Buildout Year (2028) Without Project	TWSC	18.5	C	18.2	C
	Buildout Year (2028) With Project: Project 2	TWSC	54.3	F	91.3	F
		Control Type	V/C	LOS	V/C	LOS
	With Improvements	Signalized	0.676	B	0.665	B

As summarized in **Table 6-6**, Live Oak Avenue and Live Oak Lane would operate at LOS B with during the AM and PM peak hours for Buildout Year (2028) With Project for Project Option 2.







7.0 HORIZON YEAR (2040) ANALYSIS

This section presents the summary of the AM and PM peak hour traffic operation conditions in the study area for the Horizon Year With and Without project. The Horizon Year for the proposed project is assumed to be 2040. Consistent with the Buildout Year (2028) conditions, the baseline traffic for the Horizon Year (2040) would include traffic generated by Irwindale Gateway Specific Plan, and an ambient annual growth rate of 37.1% was assumed along the arterial streets and 6.2% was assumed at the freeway ramps.

The Horizon Year (2040) With Project will include an analysis for Project Option 1 and Project Option 2.

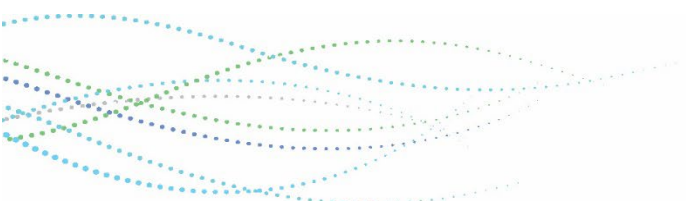
7.1 Horizon Year (2040) Without Project Intersection Levels of Service

A level of service analysis was conducted to evaluate the Horizon Year (2040) Without Project intersection operations during the AM and PM peak hours at the study intersections. **Figure 7-1** illustrates the Horizon Year (2040) Without Project scenario turning movement counts at the study intersections. **Table 7-1** summarizes the level of service results at the study intersections, which are based on the ICU V/C-based method at signalized intersections. **Table 7-2** summarizes the level of service results at the study intersections, which are based on the HCM 6th Edition delay-based method at Caltrans and unsignalized intersections. A detailed Synchro 11 level of service calculation sheets are included in **Appendix B**.

**Table 7-1: Horizon Year (2040) Without Project
 Intersection Peak Hour Level of Service – ICU Methodology**

Intersection		Control Type	AM Peak Hour		PM Peak Hour	
			V/C	LOS	V/C	LOS
1	Live Oak Avenue /Arrow Highway (West)	Signalized	0.877	D	0.869	D
2	Live Oak Avenue/Speedway Drive	Signalized	0.707	C	0.995	E
3	Live Oak Avenue/Spanish Oak Drive	Signalized	0.620	B	0.814	D
6	Live Oak Avenue/Graham Road	Signalized	0.636	B	0.692	B
8	Live Oak Avenue/Rivergrade Road	Signalized	0.727	C	0.875	D
9	Live Oak Avenue/Stewart Avenue	Signalized	0.796	C	0.826	D
10	Live Oak Avenue/Baldwin Park Blvd	Signalized	0.659	B	0.886	D
11	Arrow Highway/ Live Oak Avenue (East)	Signalized	0.858	D	0.763	C
12	Arrow Highway/ Rivergrade Road	Signalized	0.932	E	0.632	B
13	Arrow Highway/ San Gabriel River Trail	Signalized	0.907	E	0.619	B
18	Arrow Highway/ Avenida Barbosa/ Spanish Oak Drive	Signalized	0.982	E	0.710	C
19	Arrow Highway/ Valley Oak Lane	Signalized	0.655	B	0.458	A

Notes: V/C = Volume to Capacity Ratio, LOS = Level of Service





**Table 7-2: Horizon Year (2040) Without Project
 Intersection Peak Hour Level of Service – HCM 6th Edition Methodology**

Intersection		Control Type*	AM Peak Hour		PM Peak Hour	
			Delay (s)	LOS	Delay (s)	LOS
4	Live Oak Avenue/I-605 Southbound On-Ramp	Signalized	5.8	A	8.2	A
5	Live Oak Avenue/I-605 Northbound Off-Ramps	Signalized	0.9	A	1.1	A
7	Live Oak Avenue/Live Oak Lane	TWSC	23.7	C	23.5	C
14	Arrow Highway/ I-605 Northbound On-Ramp (Westbound)	Free	-	-	-	-
15	Arrow Highway/ Live Oak Lane	TWSC	12.5	B	21.3	C
16	Arrow Highway/ I-605 Northbound On-Ramp (Eastbound)	Free	-	-	-	-
17	Arrow Highway/ I-605 Southbound Off-Ramp	Signalized	39.6	D	28.7	C

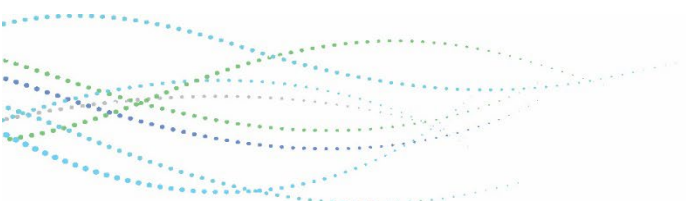
Notes: LOS = Level of Service; TWSC = two-way stop-controlled

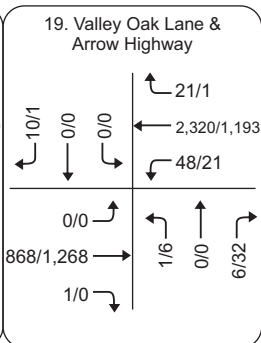
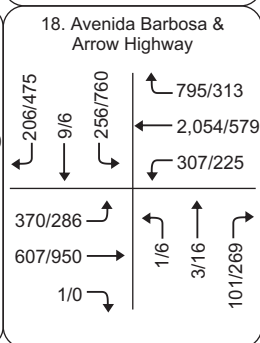
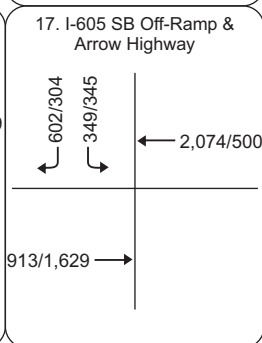
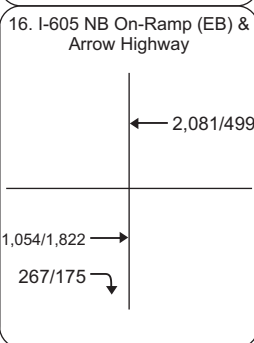
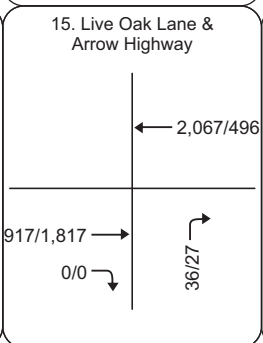
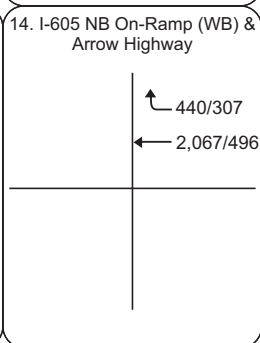
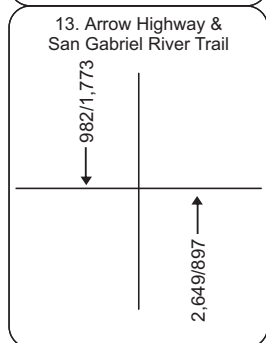
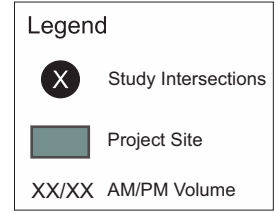
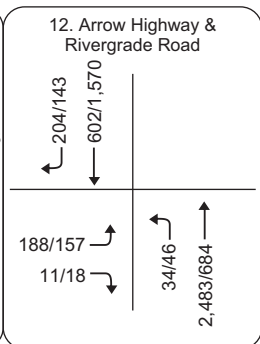
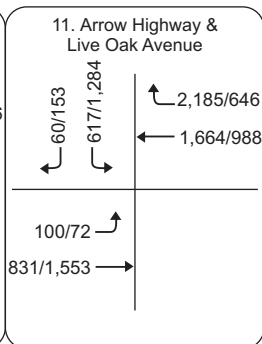
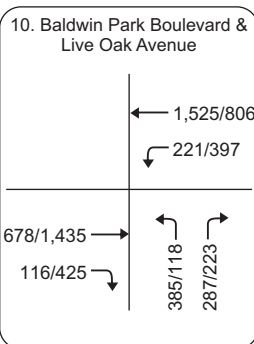
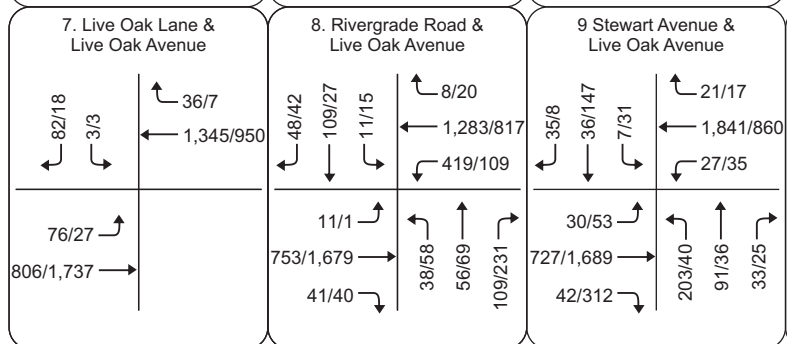
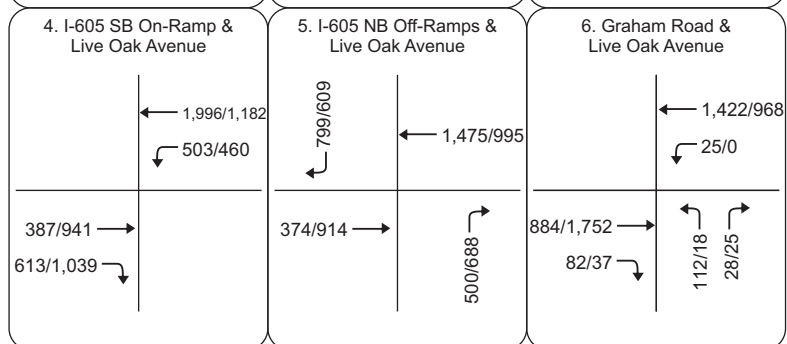
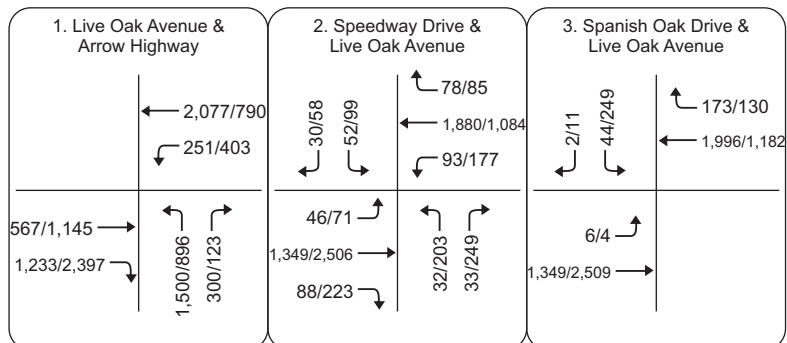
* For TWSC intersections, delay shown represents the worst stop-controlled movement

As summarized in **Table 7-1**, the signalized intersections would operate at LOS D or better in the Horizon Year (2040) Without Project, except at the following intersections:

- #2. Live Oak Avenue and Speedway Drive – PM Peak Hour (LOS E)
- #12. Arrow Highway and Rivergrade Road – AM Peak Hour (LOS E)
- #13. Arrow Highway and San Gabriel Trail – AM Peak Hour (LOS E)
- #18. Arrow Highway and Avenida Barbosa/Spanish Oak Drive – AM Peak Hour (LOS E)

As summarized in **Table 7-2**, the Caltrans intersection would operate at LOS D or better during the AM peak hour and at LOS C during the PM peak hour and the unsignalized intersections would operate at LOS C or better during the AM and PM peak hours in the Horizon Year (2040) Without Project scenario.







7.2 Horizon Year (2040) With Project Intersection Levels of Service: Project Option 1

A level of service analysis was conducted to evaluate the Horizon Year (2040) With Project intersection operations during the AM and PM peak hours at the study intersections for Project Option 1. **Figure 7-2** illustrates the Horizon Year (2040) With Project conditions turning movement counts at the study intersections for Project Option 1. **Table 7-3** summarizes the level of service results at the study intersections, which are based on the ICU V/C-based method at signalized intersections and HCM 6th Edition delay-based method at Caltrans and unsignalized intersections. A detailed Synchro 11 level of service calculation sheets are included in **Appendix B**.

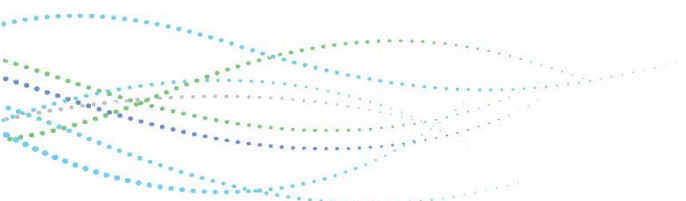




Table 7-3: Horizon Year (2040) With Project Condition – Project Option 1 Intersection Peak Hour Level of Service

Intersection		Control Type*	Horizon Year (2040) Without Project				Horizon Year (2040) With Project: Project Option 1				Impact Determination			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay Difference	Impact (Yes or No)?	V/C or Delay Difference	Impact (Yes or No)?
1	Live Oak Avenue /Arrow Highway (West)	Signalized	0.877	D	0.869	D	0.880	D	0.883	D	0.003	No	0.014	No
2	Live Oak Avenue/Speedway Drive	Signalized	0.707	C	0.995	E	0.710	C	0.998	E	0.003	No	0.003	No
3	Live Oak Avenue/Spanish Oak Drive	Signalized	0.620	B	0.814	D	0.625	B	0.820	D	0.005	No	0.006	No
4	Live Oak Avenue/I-605 Southbound On-Ramp	Signalized	5.8	A	8.2	A	6.2	A	9.8	A	0.4	No	1.6	No
5	Live Oak Avenue/I-605 Northbound Off-Ramps	Signalized	0.9	A	1.1	A	0.8	A	1.1	A	-0.1	No	0.0	No
6	Live Oak Avenue/Graham Road	Signalized	0.636	B	0.692	B	0.648	B	0.707	C	0.012	No	0.015	No
7	Live Oak Avenue/Live Oak Lane	TWSC	23.7	C	23.5	C	411.8	F	610.3	F	388.1	Yes	586.8	Yes
8	Live Oak Avenue/Rivergrade Road	Signalized	0.727	C	0.875	D	0.738	C	0.886	D	0.011	No	0.011	No
9	Live Oak Avenue/Stewart Avenue	Signalized	0.796	C	0.826	D	0.817	D	0.836	D	0.021	No	0.010	No
10	Live Oak Avenue/Baldwin Park Blvd	Signalized	0.659	B	0.886	D	0.676	B	0.886	D	0.017	No	0.000	No
11	Arrow Highway/ Live Oak Avenue (East)	Signalized	0.858	D	0.763	C	0.872	D	0.775	C	0.014	No	0.012	No
12	Arrow Highway/ Rivergrade Road	Signalized	0.932	E	0.632	B	0.955	E	0.644	B	0.023	No	0.012	No
13	Arrow Highway/ San Gabriel River Trail	Signalized	0.907	E	0.619	B	0.908	E	0.631	B	0.001	No	0.012	No
14	Arrow Highway/ I-605 Northbound On-Ramp (WB)	Free	-	-	-	-	-	-	-	-	-	No	-	No
15	Arrow Highway/ Live Oak Lane	TWSC	12.5	B	21.3	C	12.8	B	25.1	D	0.3	No	3.2	No
16	Arrow Highway/ I-605 Northbound On-Ramp (EB)	Free	-	-	-	-	-	-	-	-	-	No	-	No
17	Arrow Highway/ I-605 Southbound Off-Ramp	Signalized	39.6	D	23.5	C	41.8	D	24.1	C	2.2	No	0.6	No
18	Arrow Highway/ Avenida Barbosa/ Spanish Oak Drive	Signalized	0.982	E	0.710	C	0.982	E	0.712	C	0.000	No	0.002	No
19	Arrow Highway/ Valley Oak Lane	Signalized	0.655	B	0.458	A	0.655	B	0.459	A	0.000	No	0.001	No

Notes: V/C = Volume to Capacity Ratio, LOS = Level of Service; TWSC = two-way stop-controlled

* For TWSC intersections, delay shown represents the worst stop-controlled movement



As summarized in **Table 7-3**, the intersections would operate at LOS D or better in the Horizon Year (2040) With Project condition for Project Option 1, except at the following intersections:

- #2. Live Oak Avenue and Speedway Drive – PM Peak Hour (LOS E)
- #7. Live Oak Avenue and Live Oak Lane – AM & PM Peak Hours (LOS F)
- #12. Arrow Highway and Rivergrade Road – AM Peak Hour (LOS E)
- #13. Arrow Highway and San Gabriel Trail – AM Peak Hour (LOS E)
- #18. Arrow Highway and Avenida Barbosa/Spanish Oak Drive – AM Peak Hour (LOS E)

The unsignalized intersection at Live Oak Avenue and Live Oak Lane would continue to have a significant impact in the Horizon Year (2040) With Project condition for Project Option 1. The delay has increased significantly due to an increase in traffic volumes generated by the project. This intersection is an access location to the proposed project development; therefore, mitigation measures will be recommended to alleviate the delay.

In addition, as summarized in **Table 7-3**, the Caltrans intersections would operate at LOS D or better during the AM peak hour and at LOS C or better during the PM peak hour in the Horizon Year (2040) With Project for Project Option 1.

7.3 Horizon Year (2040) With Project Mitigation Measures: Project Option 1

As discussed in the *Significant Impact Criteria* section, the city aims to maintain the intersection to operate at LOS D or better as established by the City’s General Plan. In **Table 7-3**, a comparison of the intersection LOS between “Without Project” and “With Project” conditions were shown to determine if the proposed project were to cause a traffic impact to the study intersections.

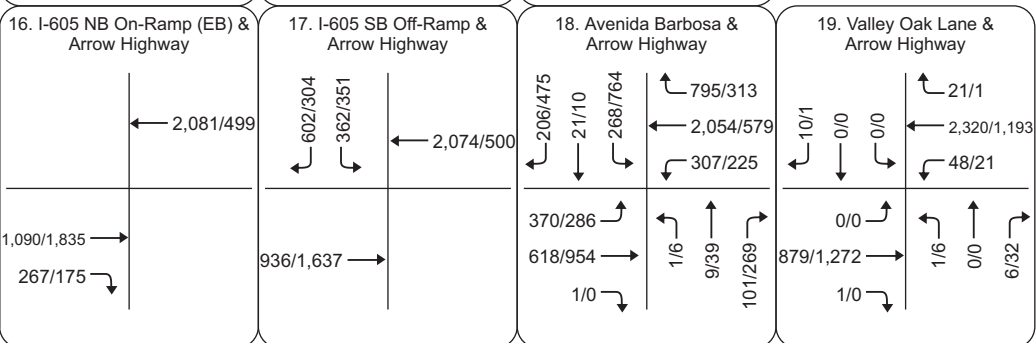
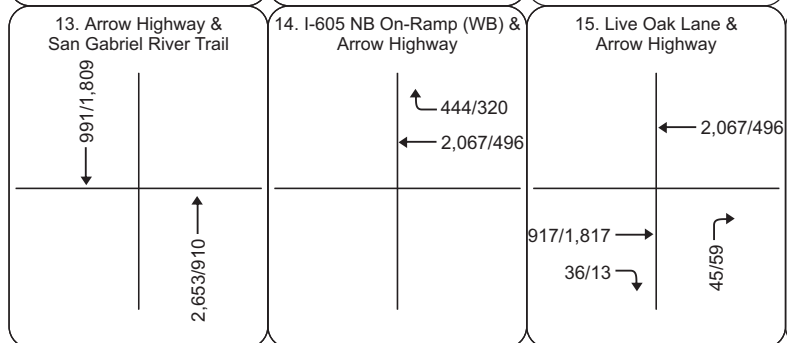
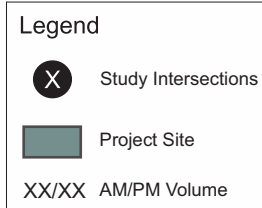
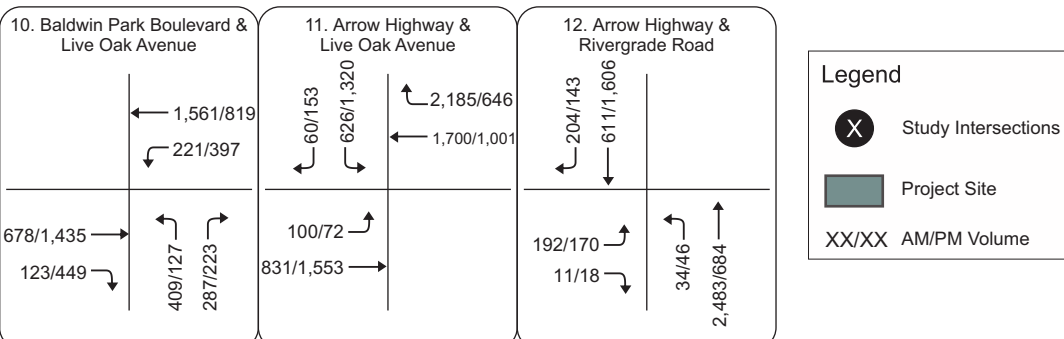
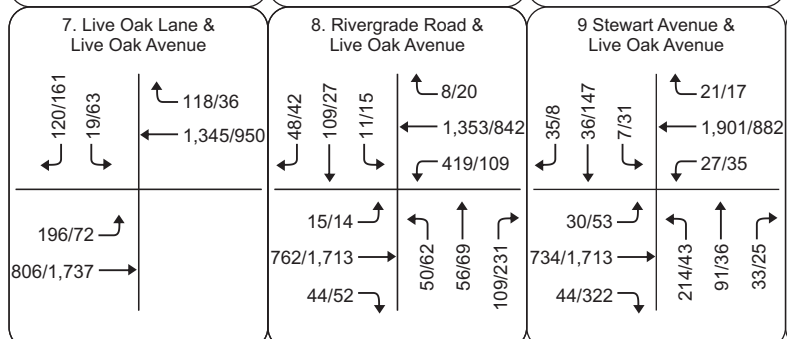
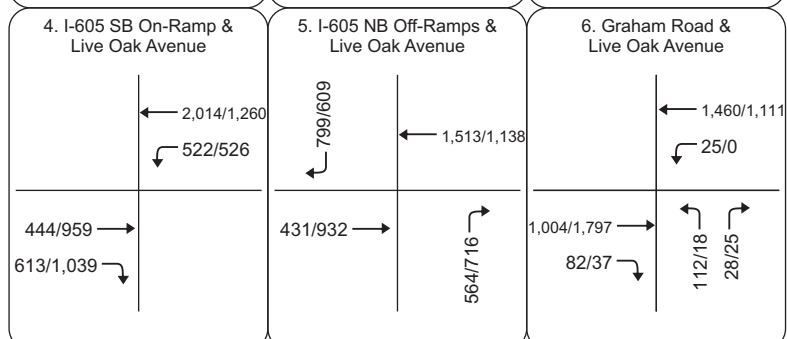
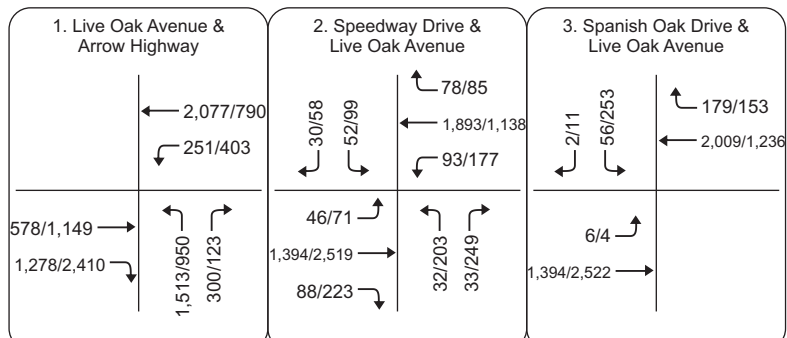
During Horizon Year (2040) With Project conditions for Project Option 1, the unsignalized intersection at Live Oak Avenue and Live Oak Lane is anticipated to operate at LOS F during the AM and PM peak hours, which is an unacceptable operation. To alleviate the traffic delay, it is recommended for Live Oak Avenue and Lake Oak Lane to become a signalized intersection. **Table 7-4** summarizes the LOS results for Live Oak Avenue and Live Oak Lane as a signalized intersection.

Table 7-4: Horizon Year (2040) With Project Condition – Project Option 1 (Mitigation Measures)

Intersection	Scenarios	Control Type	AM Peak Hour		PM Peak Hour	
			Delay (s)	LOS	Delay (s)	LOS
Live Oak Avenue and Live Oak Lane	Horizon Year (2040) Without Project	TWSC	23.7	C	23.5	C
	Horizon Year (2040) With Project: Project 2	TWSC	411.8	F	610.3	F
	With Improvements	Signalized	0.783	C	0.804	D

As summarized in **Table 7-4**, Live Oak Avenue and Live Oak Lane would operate at LOS C during the AM peak hour and LOS D during the PM peak hour for Horizon Year (2040) With Project for Project Option 1.







7.4 Horizon Year (2040) With Project Intersection Levels of Service: Project Option 2

A level of service analysis was conducted to evaluate the Horizon Year (2040) With Project intersection operations during the AM and PM peak hours at the study intersections for Project Option 2. **Figure 7-3** illustrates the Horizon Year (2040) With Project conditions turning movement counts at the study intersections for Project Option 2. **Table 7-5** summarizes the level of service results at the study intersections, which are based on the ICU V/C-based method at signalized intersections and HCM 6th Edition delay-based method at Caltrans and unsignalized intersections. A detailed Synchro 11 level of service calculation sheets are included in **Appendix B**.

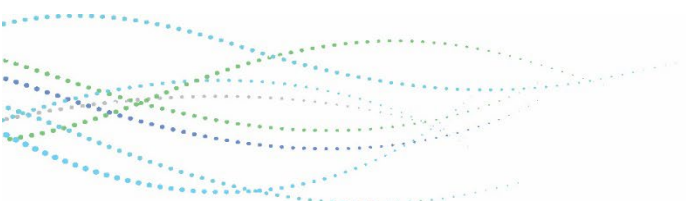




Table 7-5: Horizon Year (2040) With Project Condition – Project Option 2 Intersection Peak Hour Level of Service

Intersection		Control Type*	Horizon Year (2040) Without Project				Horizon Year (2040) With Project: Project Option 2				Impact Determination			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay Difference	Impact (Yes or No)?	V/C or Delay Difference	Impact (Yes or No)?
1	Live Oak Avenue /Arrow Highway (West)	Signalized	0.877	D	0.869	D	0.879	D	0.878	D	0.002	No	0.009	No
2	Live Oak Avenue/Speedway Drive	Signalized	0.707	C	0.995	E	0.709	C	0.996	E	0.002	No	0.001	No
3	Live Oak Avenue/Spanish Oak Drive	Signalized	0.620	B	0.814	D	0.623	B	0.818	D	0.003	No	0.004	No
4	Live Oak Avenue/I-605 Southbound On-Ramp	Signalized	5.8	A	8.2	A	6.5	A	9.1	A	0.7	No	0.9	No
5	Live Oak Avenue/I-605 Northbound Off-Ramps	Signalized	0.9	A	1.1	A	1.0	A	1.0	A	0.1	No	-0.1	No
6	Live Oak Avenue/Graham Road	Signalized	0.636	B	0.692	B	0.644	B	0.702	C	0.008	No	0.01	No
7	Live Oak Avenue/Live Oak Lane	TWSC	23.7	C	23.5	C	147.6	F	254.8	F	123.9	No	231.3	Yes
8	Live Oak Avenue/Rivergrade Road	Signalized	0.727	C	0.875	D	0.734	C	0.882	D	0.007	No	0.007	No
9	Live Oak Avenue/Stewart Avenue	Signalized	0.796	C	0.826	D	0.809	D	0.832	D	0.013	No	0.006	No
10	Live Oak Avenue/Baldwin Park Blvd	Signalized	0.659	B	0.886	D	0.670	B	0.886	D	0.011	No	0.000	No
11	Arrow Highway/ Live Oak Avenue (East)	Signalized	0.858	D	0.763	C	0.867	D	0.770	C	0.009	No	0.007	No
12	Arrow Highway/ Rivergrade Road	Signalized	0.932	E	0.632	B	0.932	E	0.639	B	0.000	No	0.007	No
13	Arrow Highway/ San Gabriel River Trail	Signalized	0.907	E	0.619	B	0.908	E	0.627	B	0.001	No	0.008	No
14	Arrow Highway/ I-605 Northbound On-Ramp (WB)	Free	-	-	-	-	-	-	-	-	-	No	-	No
15	Arrow Highway/ Live Oak Lane	TWSC	12.5	B	21.3	C	12.8	B	23.8	C	0.3	No	2.5	No
16	Arrow Highway/ I-605 Northbound On-Ramp (EB)	Free	-	-	-	-	-	-	-	-	-	No	-	No
17	Arrow Highway/ I-605 Southbound Off-Ramp	Signalized	39.6	D	23.5	C	41.2	D	23.9	C	1.6	No	0.4	No
18	Arrow Highway/ Avenida Barbosa/ Spanish Oak Drive	Signalized	0.982	E	0.710	C	0.982	E	0.711	C	0.000	No	0.001	No
19	Arrow Highway/ Valley Oak Lane	Signalized	0.655	B	0.458	A	0.655	B	0.459	A	0.000	No	0.001	No

Notes: V/C = Volume to Capacity Ratio, LOS = Level of Service; TWSC = two-way stop-controlled
 * For TWSC intersections, delay shown represents the worst stop-controlled movement



As summarized in **Table 7-5**, the signalized intersections would operate at LOS D or better in the Horizon Year (2040) With Project condition for Project Option 2, except at the following intersections:

- #2. Live Oak Avenue and Speedway Drive – PM Peak Hour (LOS E)
- #7. Live Oak Avenue and Live Oak Lane – AM & PM Peak Hours (LOS F)
- #12. Arrow Highway and Rivergrade Road – AM Peak Hour (LOS E)
- #13. Arrow Highway and San Gabriel Trail – AM Peak Hour (LOS E)
- #18. Arrow Highway and Avenida Barbosa/Spanish Oak Drive – AM Peak Hour (LOS E)

The conditions are similar to those for Project Option 1. However, for Project Option 2 the delay at Live Oak Avenue and Live Oak Lane has decreased by half compared to Project Option 1. Although the delay has decreased, the location would continue to operate at LOS F during the AM and PM peak hours and would continue to have an impact on the project. This intersection is an access location to the proposed project development; therefore, mitigation measures will be recommended to alleviate the delay.

In addition, as summarized in **Table 7-5**, the Caltrans intersections would operate at LOS D or better during the AM peak hour and at LOS C or better during the PM peak hour in the Horizon Year (2040) With Project for Project Option 2.

7.5 Horizon Year (2040) With Project Mitigation Measures: Project Option 2

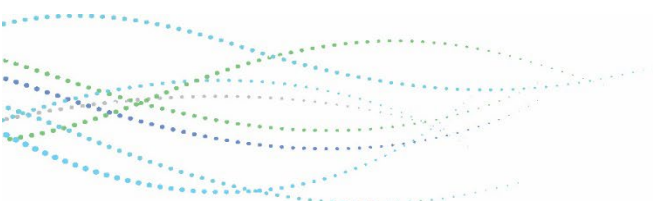
As discussed in the *Significant Impact Criteria* section, the city aims to maintain the intersection to operate at LOS D or better as established by the City’s General Plan. In **Table 7-5**, a comparison of the intersection LOS between “without project” and “with project” conditions were shown to determine if the proposed project were to cause a traffic impact to the study intersections.

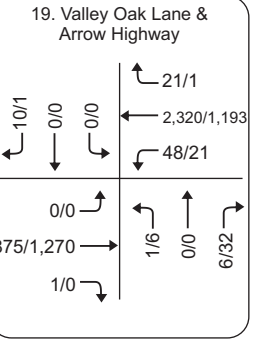
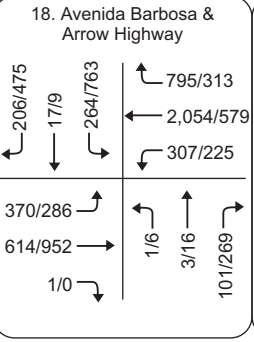
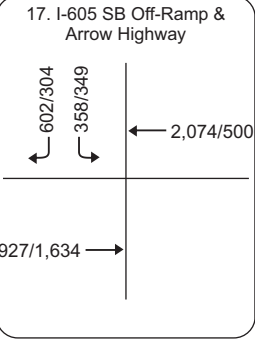
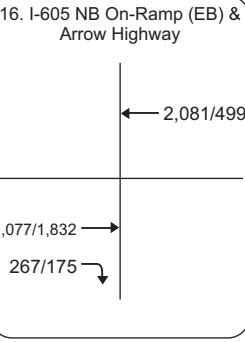
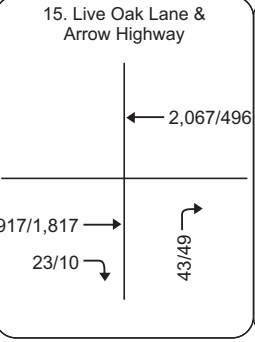
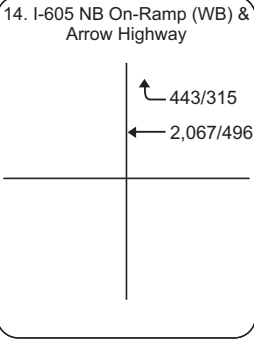
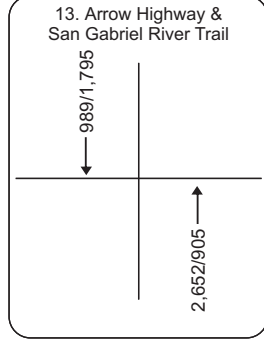
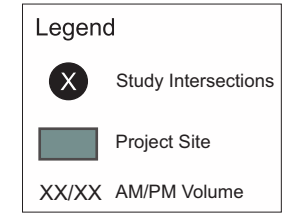
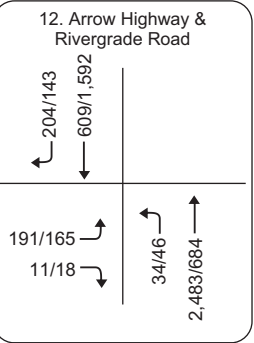
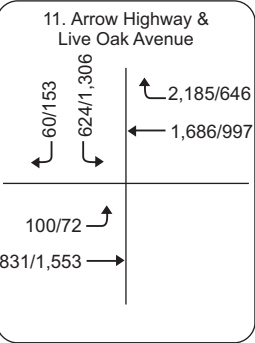
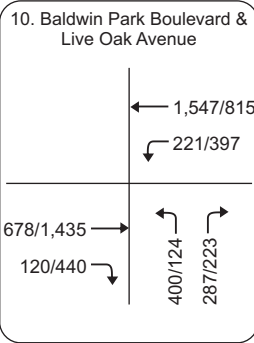
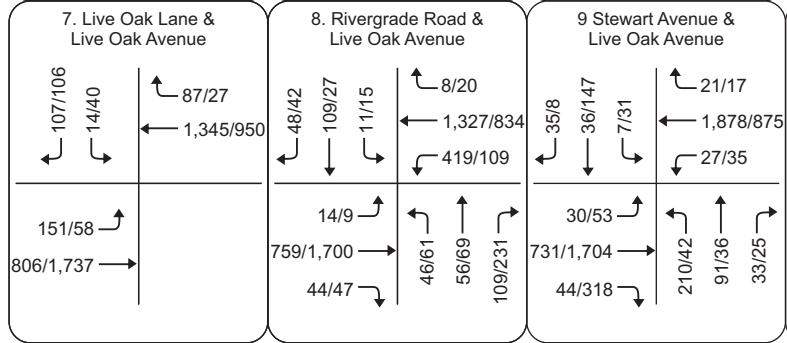
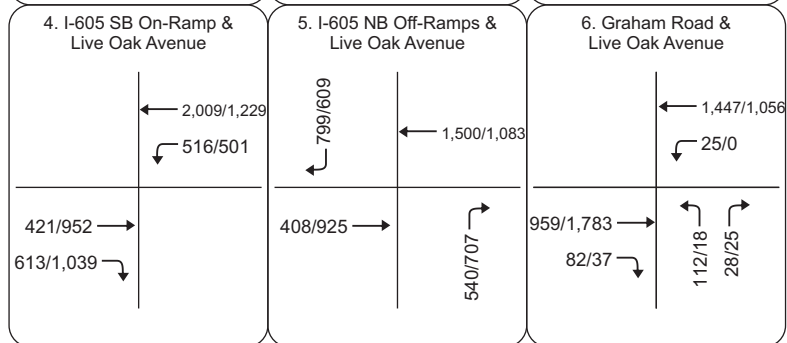
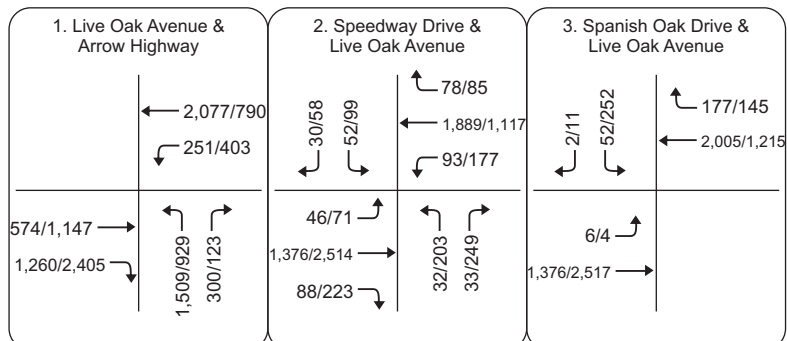
During Horizon Year (2040) With Project conditions for Project Option 2, the unsignalized intersection at Live Oak Avenue and Live Oak Lane is anticipated to operate at LOS F during the AM and PM peak hours, which is an unacceptable operation. To alleviate the traffic delay, it is recommended for Live Oak Avenue and Lake Oak Lane to become a signalized intersection. **Table 7-6** summarizes the LOS results for Live Oak Avenue and Live Oak Lane as a signalized intersection.

Table 7-6: Horizon Year (2040) With Project Condition – Project Option 2 (Mitigation Measures)

Intersection	Scenarios	Control Type	AM Peak Hour		PM Peak Hour	
			Delay (s)	LOS	Delay (s)	LOS
Live Oak Avenue and Live Oak Lane	Horizon Year (2040) Without Project	TWSC	23.7	C	23.5	C
	Horizon Year (2040) With Project: Project 2	TWSC	147.6	F	254.8	F
		Control Type	V/C	LOS	V/C	LOS
	With Improvements	Signalized	0.741	C	0.749	C

As summarized in **Table 7-6**, Live Oak Avenue and Live Oak Lane would operate at LOS C with improvements for Horizon Year (2040) With Project scenario for Project Option 2.







8.0 CONCLUSIONS

The project site is located at 13620 Live Oak Lane in the City of Irwindale. The project site is bordered by Interstate 605 (I-605) to the west, Live Oak Lane to the north and east, and Live Oak Avenue to the south. The Irwindale Gateway Specific Plan is a proposed development of an industrial logistics, distribution center, associated parking, and loading docks. The project site is currently a vacant lot that is used for a variety of industrial and commercial uses, as well as stockpiled materials and debris. The proposed project proposes two (2) options for the proposed project site plan. The following two options are:

Option 1 – The proposed project would redevelop the project site with three new industrial buildings providing 997,796 square feet of building space – 954,796 square feet of warehouse space and 43,000 square feet of office space.

Option 2 – The proposed project would include two industrial building providing of 704,070 square feet of building space – 668,070 square feet of warehouse space, 36,000 square feet of office space, and a 400-megawatt battery energy storage system (BESS) on approximately 16 acres.

This section summarizes the Existing (2023), Buildout Year (2028), and Horizon Year (2040) traffic operations with and without the proposed project to evaluate both short-term and long-term impact in the study area.

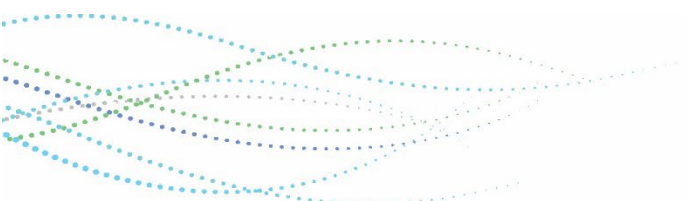
8.1 Level of Service Analysis Results

In the Existing conditions, the signalized intersections operate at LOS D or better during the AM and PM peak hours. In addition, the Caltrans intersections operate at LOS B or better and the unsignalized intersections operate at LOS C or better during the AM and PM peak hours.

In the Buildout Year (2028) Without Project conditions, the intersection operations are similar to the Existing conditions. The signalized intersections would continue to operate at LOS D or better and the unsignalized intersections would continue to operate at LOS C or better during the AM and PM peak hours. However, the Caltrans intersections would operate at LOS C or better during the AM peak hour and would continue to operate at LOS B during the PM peak hour.

In the Buildout Year (2028) With Project conditions for Project Option 1, the proposed project will not have an impact on the study intersections. The study intersections would continue to operate within the City's threshold. However, the unsignalized intersection at Live Oak Avenue and Live Oak Lane would operate at LOS F during the AM and PM peak hours. It is observed that the delay has increased significantly due to traffic volumes generated from the proposed project. Therefore, mitigation of the intersection through signaling the intersection should be a condition of the proposed Project under Option 1 and Option 2 prior to the opening of the Project.

In the Buildout Year (2028) With Project conditions for Project Option 2, the results are similar to Project Option 1. However, the delay at Live Oak Avenue and Live Oak Lane have improved, but would continue





to operate at LOS F. Since this intersection is an access point, mitigation measures should be considered to alleviate the delay.

In the Horizon Year (2040) Without Project conditions, the signalized intersections would operate at LOS E or better during the AM and PM peak hours. In addition, the Caltrans intersections would operate at LOS D or better during the AM peak hour and at LOS C or better during the PM peak hour. Lastly, the unsignalized intersections would continue to operate at LOS C or better during the AM and PM peak hours.

In the Horizon Year (2040) With Project conditions for Project Option 1, the signalized intersections would continue to operate at LOS E or better during the AM and PM peak hours. It must be noted that the additional project trips did not degrade the operation to LOS F. In addition, the Caltrans and unsignalized intersections would continue to operate at LOS C or better during the AM and PM peak hour. However, the unsignalized intersection at Live Oak Avenue and Live Oak Lane would operate at LOS F during the AM and PM peak hours. It is observed that the delay has increased significantly due to traffic volumes generated from the proposed project. Mitigations should be considered for the Horizon Year (2040) With Project conditions for Project Option 1.

In the Horizon Year (2040) With Project conditions for Project Option 2, the results are similar to Project Option 1. However, the delay at Live Oak Avenue and Live Oak Lane have improved, but would continue to operate at LOS F. Since this intersection is an access point, mitigation measures should be considered to alleviate the delay.

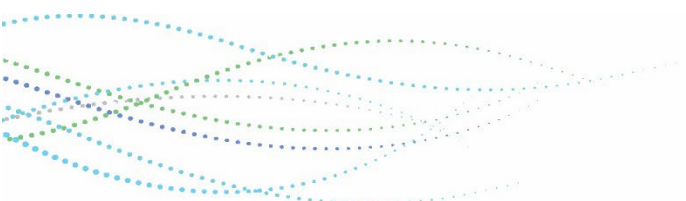
8.2 Mitigation Measures

Based on City of Irwindale's significance criteria, the following study area intersection was found to be impacted by the proposed project for Buildout Year (2028) and Horizon Year (2040) during the AM and PM peak hours:

- #7. Live Oak Avenue and Live Oak Lane

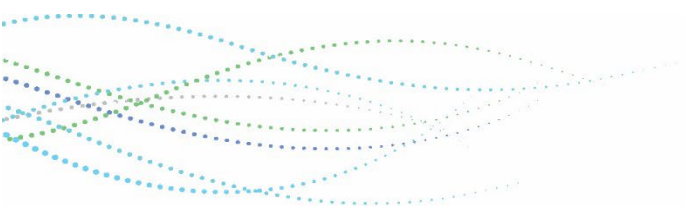
Live Oak Avenue and Live Oak Lane is an access point to the proposed project development; therefore, an increase in traffic volumes is anticipated. Due to an increase in traffic volumes generated by the project, the delay has increased significantly. To alleviate the traffic delay, it is recommended for Live Oak Avenue and Lake Oak Lane to become a signalized intersection.

With the improvement, Live Oak Avenue and Live Oak Lane would operate at LOS C and LOS B in the Buildout Year (2028) With Project conditions for Project 1 and Project 2, respectively. In the Horizon Year (2040) With Project conditions, Live Oak Avenue and Live Oak Lane would operate at LOS C during the AM peak hour and LOS D during the PM peak hour for Project 1 at LOS C for Project Option 2.





APPENDIX A – EXISTING TRAFFIC COUNTS



City of Irwindale
 N/S: Arrow Highway (West)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 01_IRW_Arr W_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

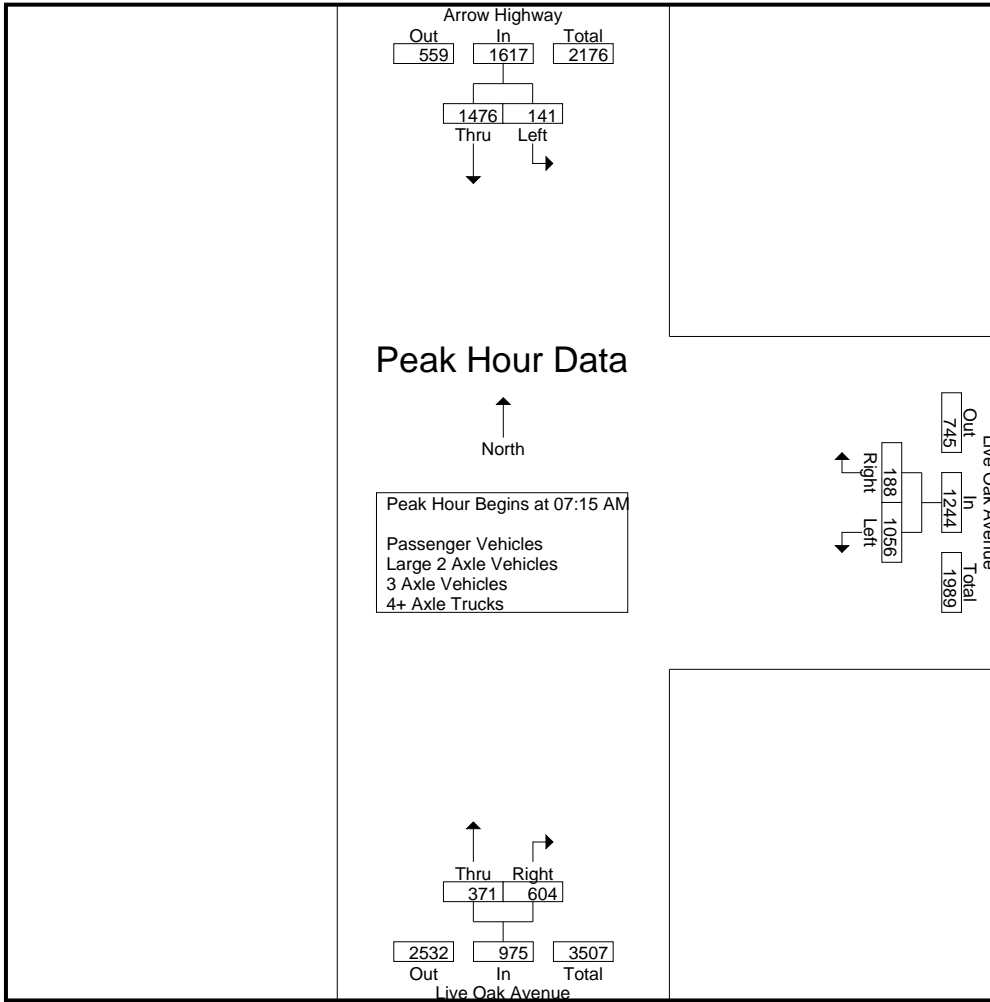
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	25	301	326	179	40	219	58	128	186	731
07:15 AM	30	384	414	215	44	259	80	145	225	898
07:30 AM	44	371	415	234	47	281	83	121	204	900
07:45 AM	35	395	430	297	60	357	109	159	268	1055
Total	134	1451	1585	925	191	1116	330	553	883	3584
08:00 AM	32	326	358	310	37	347	99	179	278	983
08:15 AM	35	261	296	255	46	301	107	170	277	874
08:30 AM	20	281	301	194	36	230	82	184	266	797
08:45 AM	26	259	285	193	31	224	97	131	228	737
Total	113	1127	1240	952	150	1102	385	664	1049	3391
Grand Total	247	2578	2825	1877	341	2218	715	1217	1932	6975
Apprch %	8.7	91.3		84.6	15.4		37	63		
Total %	3.5	37	40.5	26.9	4.9	31.8	10.3	17.4	27.7	
Passenger Vehicles	203	2484	2687	1778	299	2077	637	1136	1773	6537
% Passenger Vehicles	82.2	96.4	95.1	94.7	87.7	93.6	89.1	93.3	91.8	93.7
Large 2 Axle Vehicles	10	64	74	63	21	84	42	60	102	260
% Large 2 Axle Vehicles	4	2.5	2.6	3.4	6.2	3.8	5.9	4.9	5.3	3.7
3 Axle Vehicles	8	22	30	26	6	32	28	14	42	104
% 3 Axle Vehicles	3.2	0.9	1.1	1.4	1.8	1.4	3.9	1.2	2.2	1.5
4+ Axle Trucks	26	8	34	10	15	25	8	7	15	74
% 4+ Axle Trucks	10.5	0.3	1.2	0.5	4.4	1.1	1.1	0.6	0.8	1.1

Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	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	30	384	414	215	44	259	80	145	225	898
07:30 AM	44	371	415	234	47	281	83	121	204	900
07:45 AM	35	395	430	297	60	357	109	159	268	1055
08:00 AM	32	326	358	310	37	347	99	179	278	983
Total Volume	141	1476	1617	1056	188	1244	371	604	975	3836
% App. Total	8.7	91.3		84.9	15.1		38.1	61.9		
PHF	.801	.934	.940	.852	.783	.871	.851	.844	.877	.909

City of Irwindale
 N/S: Arrow Highway (West)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 01_IRW_Arr W_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 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.	30	384	414	234	47	281	109	159	268
+15 mins.	44	371	415	297	60	357	99	179	278
+30 mins.	35	395	430	310	37	347	107	170	277
+45 mins.	32	326	358	255	46	301	82	184	266
Total Volume	141	1476	1617	1096	190	1286	397	692	1089
% App. Total	8.7	91.3		85.2	14.8		36.5	63.5	
PHF	.801	.934	.940	.884	.792	.901	.911	.940	.979

City of Irwindale
 N/S: Arrow Highway (West)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 01_IRW_Arr W_LO AM
 Site Code : 04223184
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Groups Printed- Passenger Vehicles

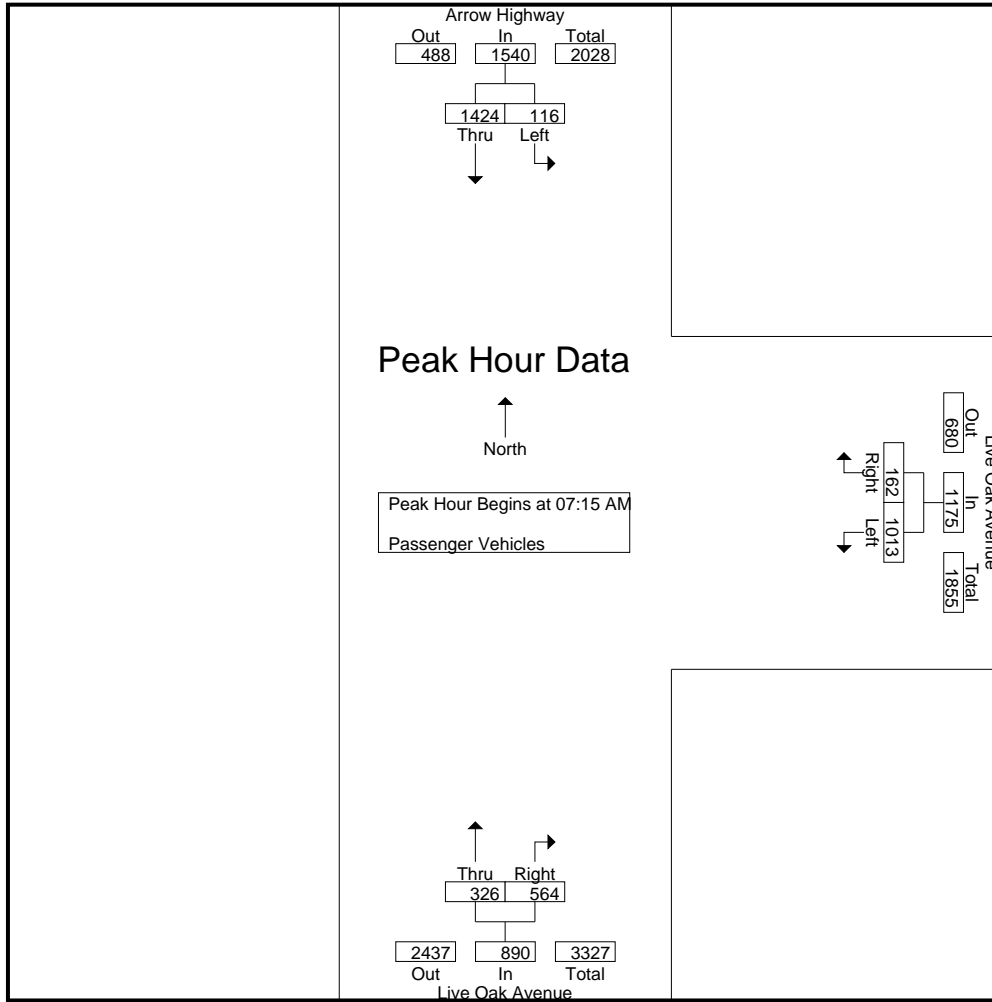
Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	15	284	299	169	31	200	46	117	163	662
07:15 AM	22	363	385	205	36	241	66	131	197	823
07:30 AM	34	359	393	224	39	263	68	112	180	836
07:45 AM	29	382	411	285	54	339	100	148	248	998
Total	100	1388	1488	883	160	1043	280	508	788	3319
08:00 AM	31	320	351	299	33	332	92	173	265	948
08:15 AM	33	252	285	237	44	281	100	162	262	828
08:30 AM	18	272	290	180	32	212	75	172	247	749
08:45 AM	21	252	273	179	30	209	90	121	211	693
Total	103	1096	1199	895	139	1034	357	628	985	3218
Grand Total	203	2484	2687	1778	299	2077	637	1136	1773	6537
Apprch %	7.6	92.4		85.6	14.4		35.9	64.1		
Total %	3.1	38	41.1	27.2	4.6	31.8	9.7	17.4	27.1	

Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:15 AM	22	363	385	205	36	241	66	131	197	823
07:30 AM	34	359	393	224	39	263	68	112	180	836
07:45 AM	29	382	411	285	54	339	100	148	248	998
08:00 AM	31	320	351	299	33	332	92	173	265	948
Total Volume	116	1424	1540	1013	162	1175	326	564	890	3605
% App. Total	7.5	92.5		86.2	13.8		36.6	63.4		
PHF	.853	.932	.937	.847	.750	.867	.815	.815	.840	.903

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

City of Irwindale
 N/S: Arrow Highway (West)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 01_IRW_Arr W_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	22	363	385	205	36	241	66	131	197
+15 mins.	34	359	393	224	39	263	68	112	180
+30 mins.	29	382	411	285	54	339	100	148	248
+45 mins.	31	320	351	299	33	332	92	173	265
Total Volume	116	1424	1540	1013	162	1175	326	564	890
% App. Total	7.5	92.5		86.2	13.8		36.6	63.4	
PHF	.853	.932	.937	.847	.750	.867	.815	.815	.840

City of Irwindale
 N/S: Arrow Highway (West)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 01_IRW_Arr W_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
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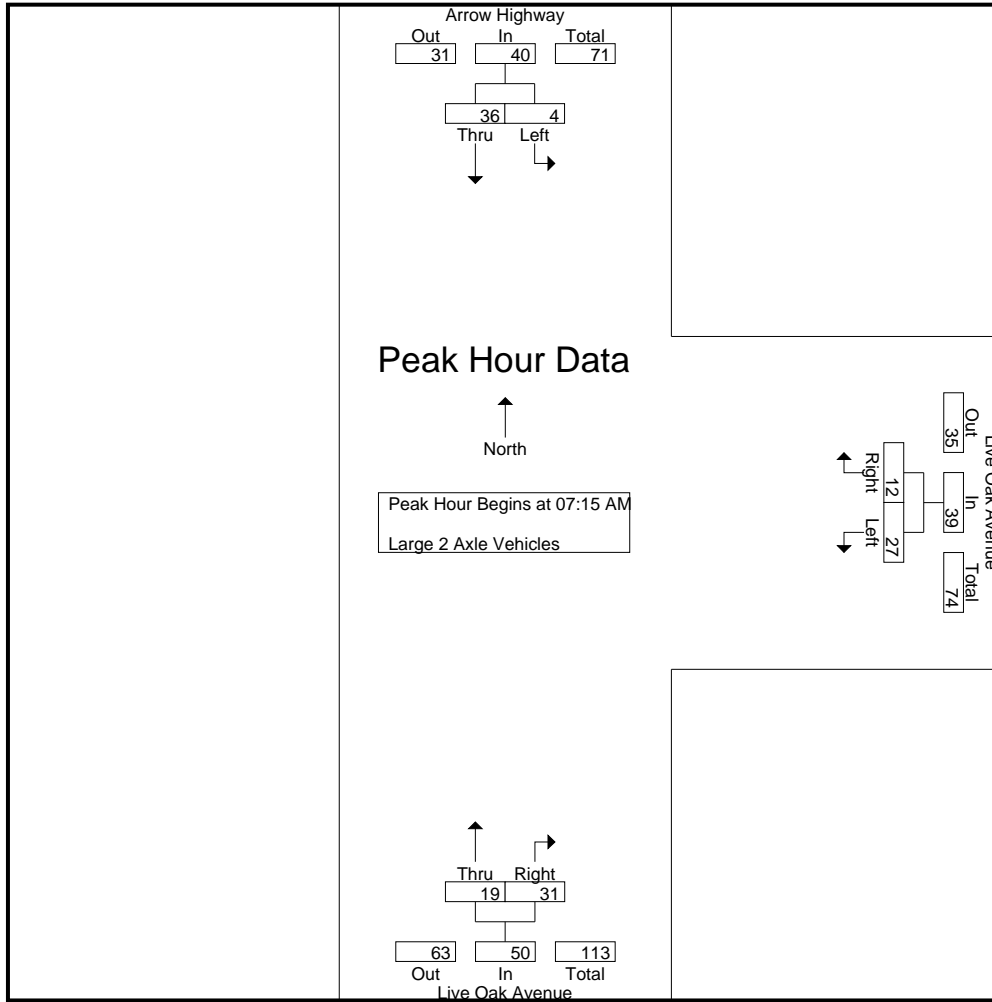
Groups Printed- Large 2 Axle Vehicles

Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	2	11	13	7	4	11	8	8	16	40
07:15 AM	1	14	15	5	3	8	6	12	18	41
07:30 AM	1	6	7	5	4	9	6	8	14	30
07:45 AM	1	11	12	7	1	8	4	8	12	32
Total	5	42	47	24	12	36	24	36	60	143
08:00 AM	1	5	6	10	4	14	3	3	6	26
08:15 AM	0	7	7	12	1	13	4	7	11	31
08:30 AM	1	5	6	9	3	12	6	10	16	34
08:45 AM	3	5	8	8	1	9	5	4	9	26
Total	5	22	27	39	9	48	18	24	42	117
Grand Total	10	64	74	63	21	84	42	60	102	260
Apprch %	13.5	86.5		75	25		41.2	58.8		
Total %	3.8	24.6	28.5	24.2	8.1	32.3	16.2	23.1	39.2	

Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	1	14	15	5	3	8	6	12	18	41
07:30 AM	1	6	7	5	4	9	6	8	14	30
07:45 AM	1	11	12	7	1	8	4	8	12	32
08:00 AM	1	5	6	10	4	14	3	3	6	26
Total Volume	4	36	40	27	12	39	19	31	50	129
% App. Total	10	90		69.2	30.8		38	62		
PHF	1.00	.643	.667	.675	.750	.696	.792	.646	.694	.787

City of Irwindale
 N/S: Arrow Highway (West)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 01_IRW_Arr W_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	1	14	15	5	3	8	6	12	18
+15 mins.	1	6	7	5	4	9	6	8	14
+30 mins.	1	11	12	7	1	8	4	8	12
+45 mins.	1	5	6	10	4	14	3	3	6
Total Volume	4	36	40	27	12	39	19	31	50
% App. Total	10	90		69.2	30.8		38	62	
PHF	1.000	.643	.667	.675	.750	.696	.792	.646	.694

City of Irwindale
 N/S: Arrow Highway (West)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 01_IRW_Arr W_LO AM
 Site Code : 04223184
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Groups Printed- 3 Axle Vehicles

Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	1	3	4	1	1	2	3	0	3	9
07:15 AM	0	4	4	1	3	4	7	0	7	15
07:30 AM	2	4	6	3	0	3	6	1	7	16
07:45 AM	0	2	2	3	0	3	2	1	3	8
Total	3	13	16	8	4	12	18	2	20	48
08:00 AM	0	1	1	1	0	1	4	3	7	9
08:15 AM	2	2	4	6	1	7	3	1	4	15
08:30 AM	1	4	5	5	1	6	1	2	3	14
08:45 AM	2	2	4	6	0	6	2	6	8	18
Total	5	9	14	18	2	20	10	12	22	56
Grand Total	8	22	30	26	6	32	28	14	42	104
Apprch %	26.7	73.3		81.2	18.8		66.7	33.3		
Total %	7.7	21.2	28.8	25	5.8	30.8	26.9	13.5	40.4	

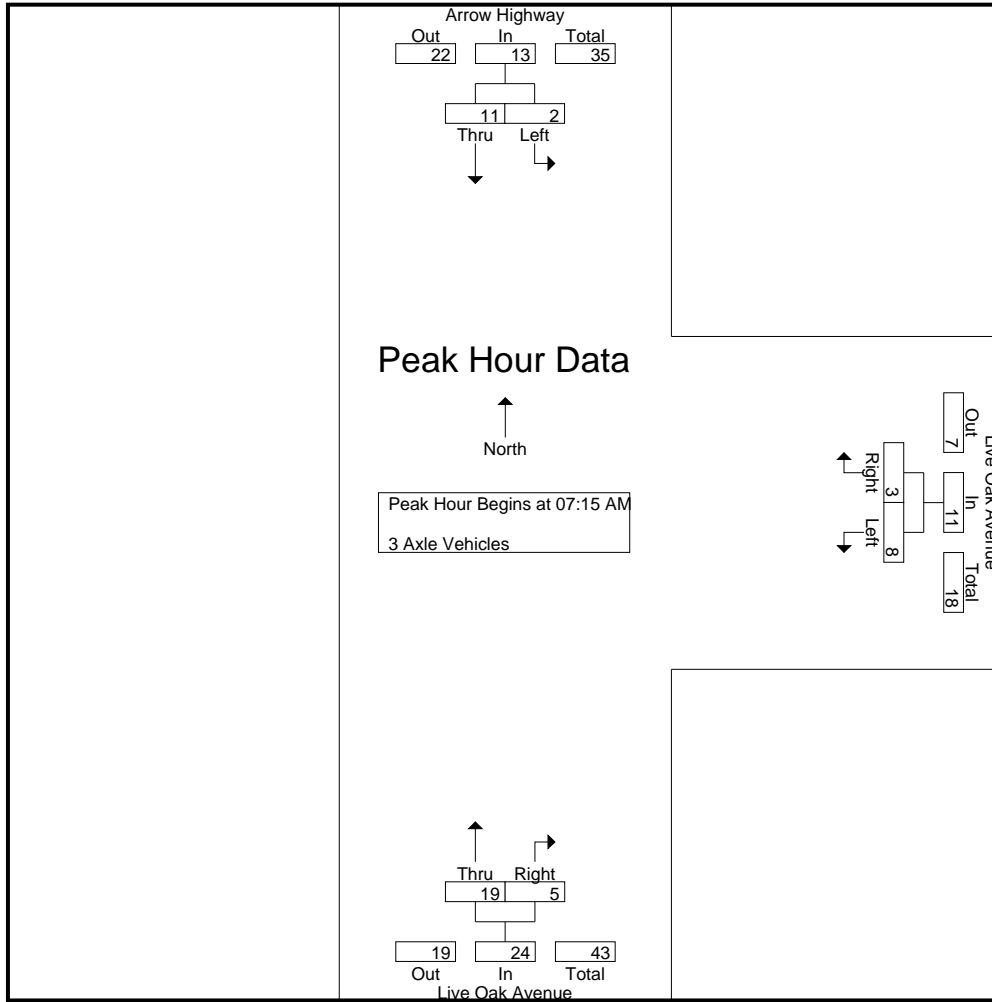
Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:15 AM	0	4	4	1	3	4	7	0	7	15
07:30 AM	2	4	6	3	0	3	6	1	7	16
07:45 AM	0	2	2	3	0	3	2	1	3	8
08:00 AM	0	1	1	1	0	1	4	3	7	9
Total Volume	2	11	13	8	3	11	19	5	24	48
% App. Total	15.4	84.6		72.7	27.3		79.2	20.8		
PHF	.250	.688	.542	.667	.250	.688	.679	.417	.857	.750

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:15 AM

City of Irwindale
 N/S: Arrow Highway (West)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 01_IRW_Arr W_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	0	4	4	1	3	4	7	0	7
+15 mins.	2	4	6	3	0	3	6	1	7
+30 mins.	0	2	2	3	0	3	2	1	3
+45 mins.	0	1	1	1	0	1	4	3	7
Total Volume	2	11	13	8	3	11	19	5	24
% App. Total	15.4	84.6		72.7	27.3		79.2	20.8	
PHF	.250	.688	.542	.667	.250	.688	.679	.417	.857

City of Irwindale
 N/S: Arrow Highway (West)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 01_IRW_Arr W_LO AM
 Site Code : 04223184
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Groups Printed- 4+ Axle Trucks

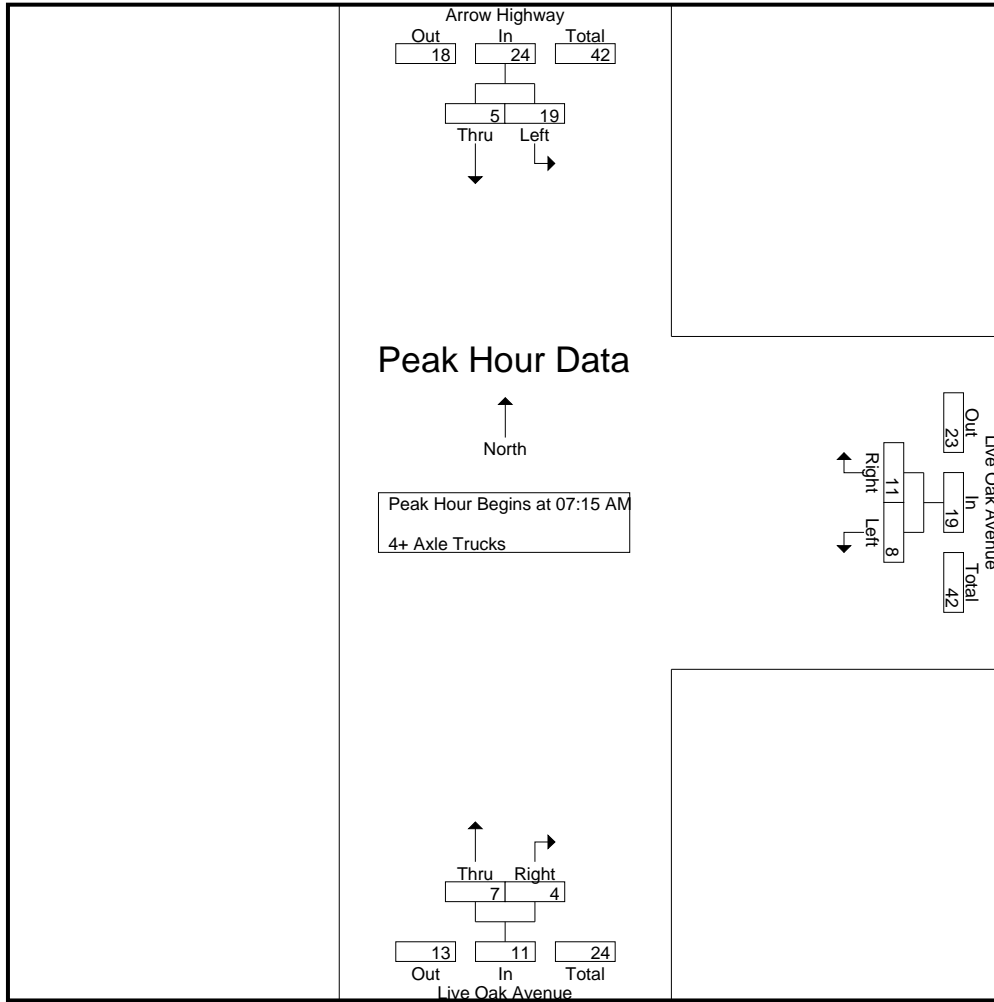
Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	7	3	10	2	4	6	1	3	4	20
07:15 AM	7	3	10	4	2	6	1	2	3	19
07:30 AM	7	2	9	2	4	6	3	0	3	18
07:45 AM	5	0	5	2	5	7	3	2	5	17
Total	26	8	34	10	15	25	8	7	15	74
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	26	8	34	10	15	25	8	7	15	74
Apprch %	76.5	23.5		40	60		53.3	46.7		
Total %	35.1	10.8	45.9	13.5	20.3	33.8	10.8	9.5	20.3	

Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:15 AM	7	3	10	4	2	6	1	2	3	19
07:30 AM	7	2	9	2	4	6	3	0	3	18
07:45 AM	5	0	5	2	5	7	3	2	5	17
08:00 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	19	5	24	8	11	19	7	4	11	54
% App. Total	79.2	20.8		42.1	57.9		63.6	36.4		
PHF	.679	.417	.600	.500	.550	.679	.583	.500	.550	.711

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

City of Irwindale
 N/S: Arrow Highway (West)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 01_IRW_Arr W_LO AM
 Site Code : 04223184
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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	7	3	10	4	2	6	1	2	3
+15 mins.	7	2	9	2	4	6	3	0	3
+30 mins.	5	0	5	2	5	7	3	2	5
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	19	5	24	8	11	19	7	4	11
% App. Total	79.2	20.8		42.1	57.9		63.6	36.4	
PHF	.679	.417	.600	.500	.550	.679	.583	.500	.550

City of Irwindale
 N/S: Arrow Highway (West)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 01_IRW_Arr W_LO PM
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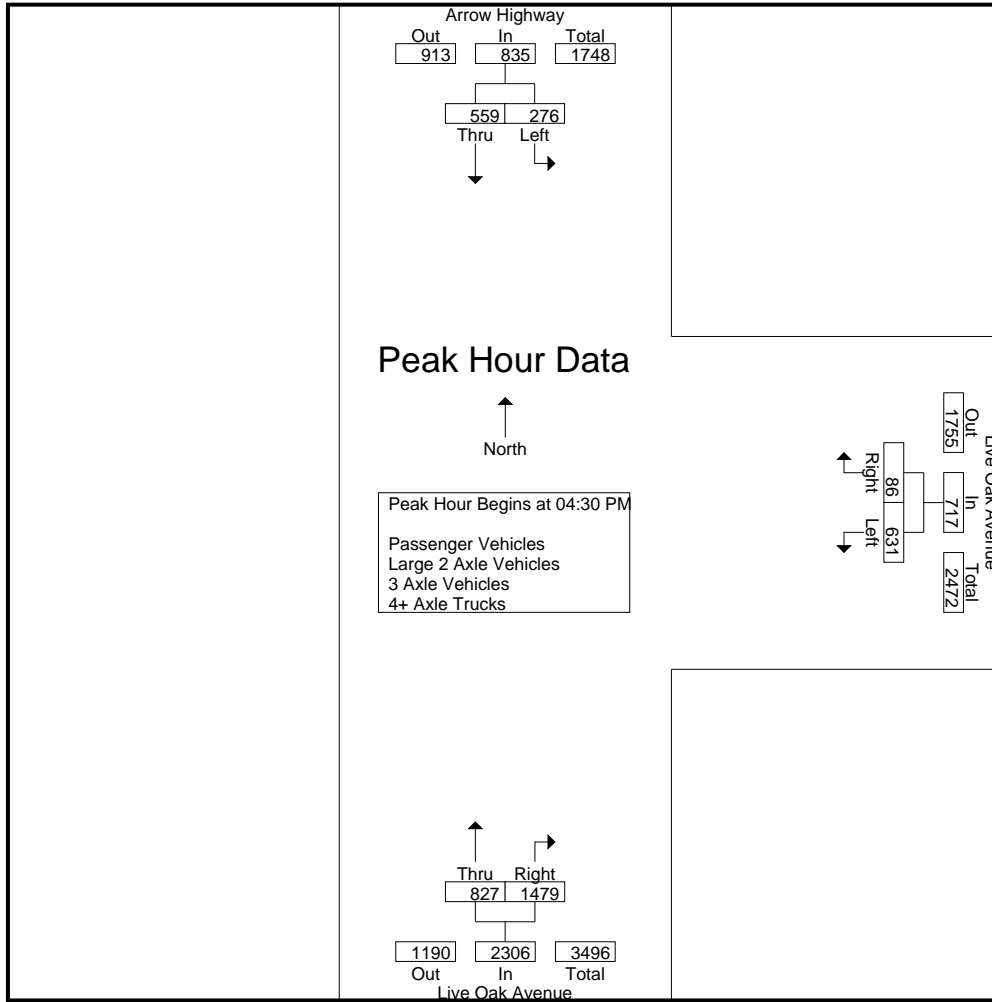
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	58	94	152	113	24	137	170	328	498	787
04:15 PM	50	117	167	126	21	147	186	374	560	874
04:30 PM	71	149	220	153	22	175	186	390	576	971
04:45 PM	52	132	184	130	21	151	211	341	552	887
Total	231	492	723	522	88	610	753	1433	2186	3519
05:00 PM	75	116	191	176	28	204	230	360	590	985
05:15 PM	78	162	240	172	15	187	200	388	588	1015
05:30 PM	38	104	142	126	19	145	173	389	562	849
05:45 PM	60	120	180	155	20	175	202	338	540	895
Total	251	502	753	629	82	711	805	1475	2280	3744
Grand Total	482	994	1476	1151	170	1321	1558	2908	4466	7263
Apprch %	32.7	67.3		87.1	12.9		34.9	65.1		
Total %	6.6	13.7	20.3	15.8	2.3	18.2	21.5	40	61.5	
Passenger Vehicles	454	947	1401	1096	153	1249	1536	2827	4363	7013
% Passenger Vehicles	94.2	95.3	94.9	95.2	90	94.5	98.6	97.2	97.7	96.6
Large 2 Axle Vehicles	15	30	45	35	10	45	18	68	86	176
% Large 2 Axle Vehicles	3.1	3	3	3	5.9	3.4	1.2	2.3	1.9	2.4
3 Axle Vehicles	3	10	13	14	0	14	3	11	14	41
% 3 Axle Vehicles	0.6	1	0.9	1.2	0	1.1	0.2	0.4	0.3	0.6
4+ Axle Trucks	10	7	17	6	7	13	1	2	3	33
% 4+ Axle Trucks	2.1	0.7	1.2	0.5	4.1	1	0.1	0.1	0.1	0.5

Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	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	71	149	220	153	22	175	186	390	576	971
04:45 PM	52	132	184	130	21	151	211	341	552	887
05:00 PM	75	116	191	176	28	204	230	360	590	985
05:15 PM	78	162	240	172	15	187	200	388	588	1015
Total Volume	276	559	835	631	86	717	827	1479	2306	3858
% App. Total	33.1	66.9		88	12		35.9	64.1		
PHF	.885	.863	.870	.896	.768	.879	.899	.948	.977	.950

City of Irwindale
 N/S: Arrow Highway (West)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 01_IRW_Arr W_LO PM
 Site Code : 04223184
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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			04:30 PM			04:30 PM		
+0 mins.	71	149	220	153	22	175	186	390	576
+15 mins.	52	132	184	130	21	151	211	341	552
+30 mins.	75	116	191	176	28	204	230	360	590
+45 mins.	78	162	240	172	15	187	200	388	588
Total Volume	276	559	835	631	86	717	827	1479	2306
% App. Total	33.1	66.9		88	12		35.9	64.1	
PHF	.885	.863	.870	.896	.768	.879	.899	.948	.977

City of Irwindale
 N/S: Arrow Highway (West)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 01_IRW_Arr W_LO PM
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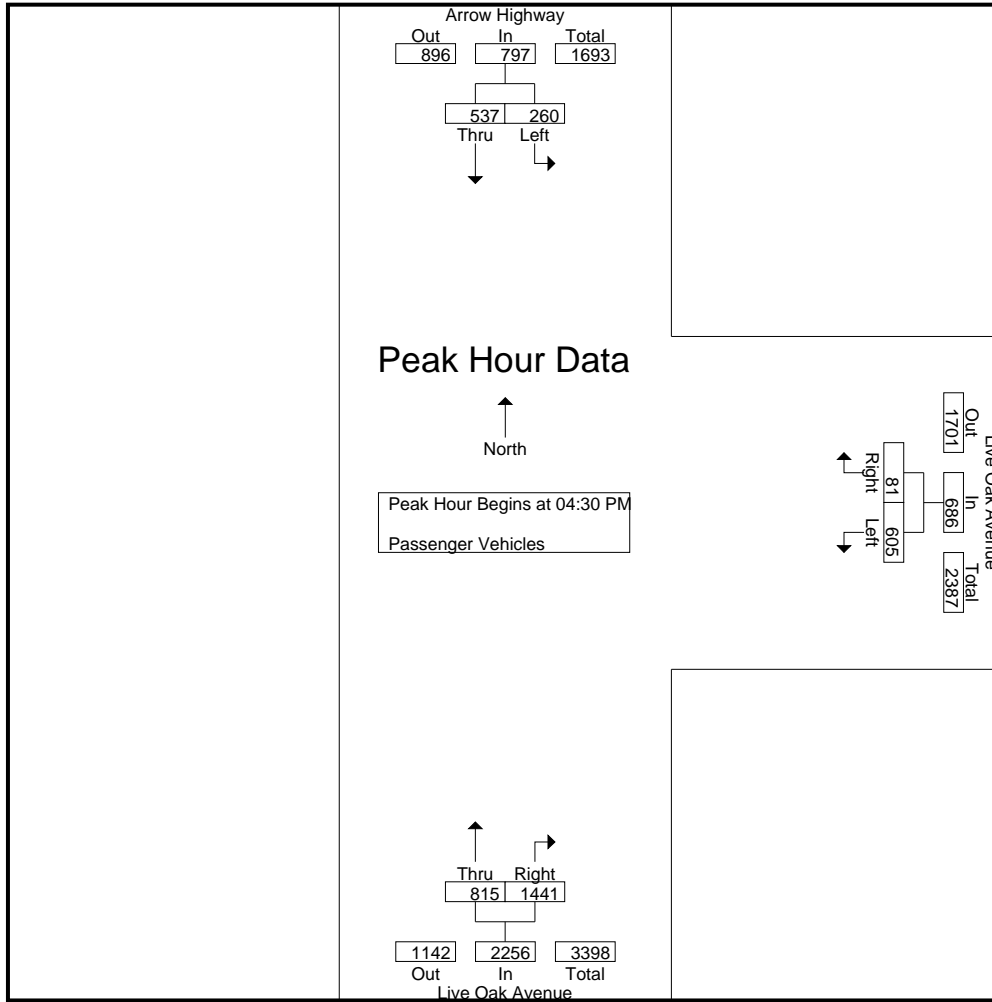
Groups Printed- Passenger Vehicles

Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	54	81	135	107	18	125	166	315	481	741
04:15 PM	46	109	155	117	16	133	184	360	544	832
04:30 PM	64	137	201	142	19	161	184	381	565	927
04:45 PM	49	127	176	125	20	145	204	330	534	855
Total	213	454	667	491	73	564	738	1386	2124	3355
05:00 PM	75	115	190	173	27	200	228	350	578	968
05:15 PM	72	158	230	165	15	180	199	380	579	989
05:30 PM	37	101	138	120	18	138	171	381	552	828
05:45 PM	57	119	176	147	20	167	200	330	530	873
Total	241	493	734	605	80	685	798	1441	2239	3658
Grand Total	454	947	1401	1096	153	1249	1536	2827	4363	7013
Apprch %	32.4	67.6		87.8	12.2		35.2	64.8		
Total %	6.5	13.5	20	15.6	2.2	17.8	21.9	40.3	62.2	

Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	64	137	201	142	19	161	184	381	565	927
04:45 PM	49	127	176	125	20	145	204	330	534	855
05:00 PM	75	115	190	173	27	200	228	350	578	968
05:15 PM	72	158	230	165	15	180	199	380	579	989
Total Volume	260	537	797	605	81	686	815	1441	2256	3739
% App. Total	32.6	67.4		88.2	11.8		36.1	63.9		
PHF	.867	.850	.866	.874	.750	.858	.894	.946	.974	.945

City of Irwindale
 N/S: Arrow Highway (West)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 01_IRW_Arr W_LO PM
 Site Code : 04223184
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Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	64	137	201	142	19	161	184	381	565
+15 mins.	49	127	176	125	20	145	204	330	534
+30 mins.	75	115	190	173	27	200	228	350	578
+45 mins.	72	158	230	165	15	180	199	380	579
Total Volume	260	537	797	605	81	686	815	1441	2256
% App. Total	32.6	67.4		88.2	11.8		36.1	63.9	
PHF	.867	.850	.866	.874	.750	.858	.894	.946	.974

City of Irwindale
 N/S: Arrow Highway (West)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 01_IRW_Arr W_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
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Groups Printed- Large 2 Axle Vehicles

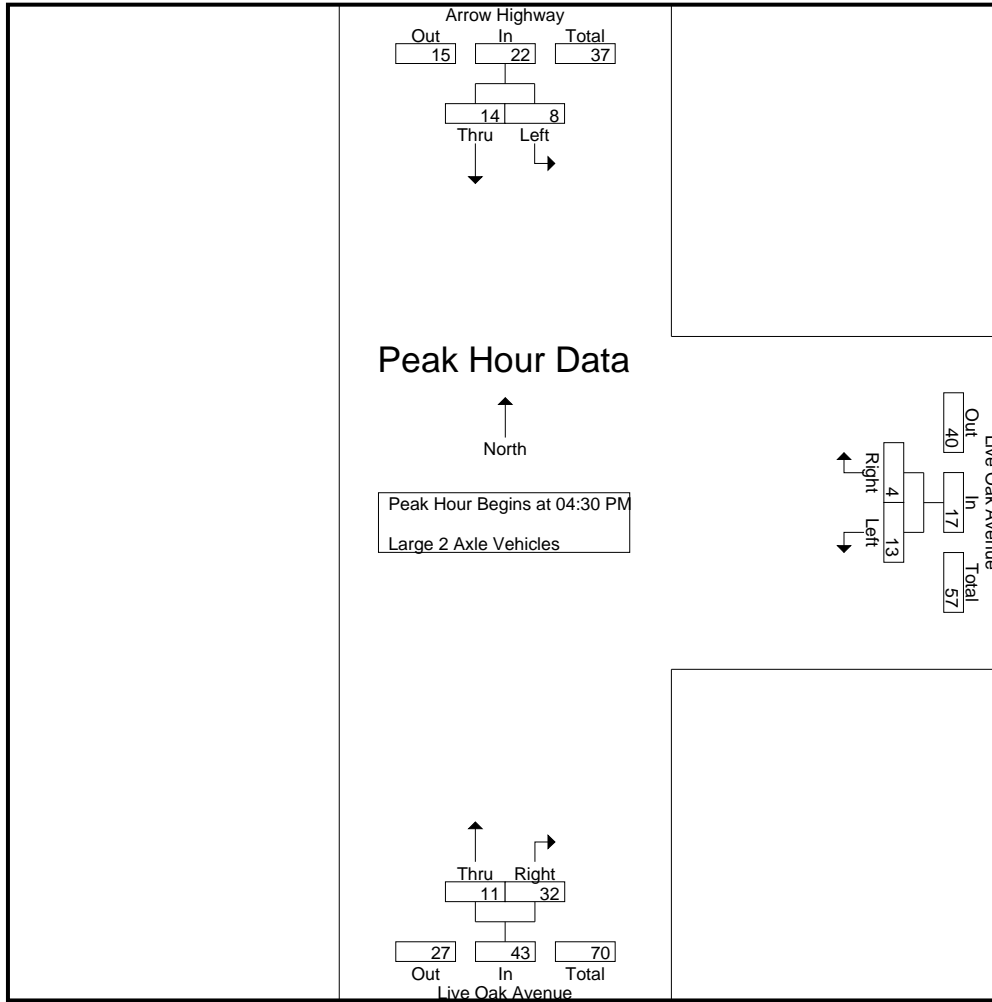
Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	3	7	10	2	1	3	4	11	15	28
04:15 PM	1	5	6	7	4	11	2	12	14	31
04:30 PM	3	6	9	5	3	8	1	8	9	26
04:45 PM	1	5	6	3	0	3	7	9	16	25
Total	8	23	31	17	8	25	14	40	54	110
05:00 PM	0	0	0	1	1	2	2	9	11	13
05:15 PM	4	3	7	4	0	4	1	6	7	18
05:30 PM	0	3	3	5	1	6	0	6	6	15
05:45 PM	3	1	4	8	0	8	1	7	8	20
Total	7	7	14	18	2	20	4	28	32	66
Grand Total	15	30	45	35	10	45	18	68	86	176
Apprch %	33.3	66.7		77.8	22.2		20.9	79.1		
Total %	8.5	17	25.6	19.9	5.7	25.6	10.2	38.6	48.9	

Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:30 PM	3	6	9	5	3	8	1	8	9	26
04:45 PM	1	5	6	3	0	3	7	9	16	25
05:00 PM	0	0	0	1	1	2	2	9	11	13
05:15 PM	4	3	7	4	0	4	1	6	7	18
Total Volume	8	14	22	13	4	17	11	32	43	82
% App. Total	36.4	63.6		76.5	23.5		25.6	74.4		
PHF	.500	.583	.611	.650	.333	.531	.393	.889	.672	.788

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

City of Irwindale
 N/S: Arrow Highway (West)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 01_IRW_Arr W_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
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Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	3	6	9	5	3	8	1	8	9
+15 mins.	1	5	6	3	0	3	7	9	16
+30 mins.	0	0	0	1	1	2	2	9	11
+45 mins.	4	3	7	4	0	4	1	6	7
Total Volume	8	14	22	13	4	17	11	32	43
% App. Total	36.4	63.6		76.5	23.5		25.6	74.4	
PHF	.500	.583	.611	.650	.333	.531	.393	.889	.672

City of Irwindale
 N/S: Arrow Highway (West)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 01_IRW_Arr W_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 3 Axle Vehicles

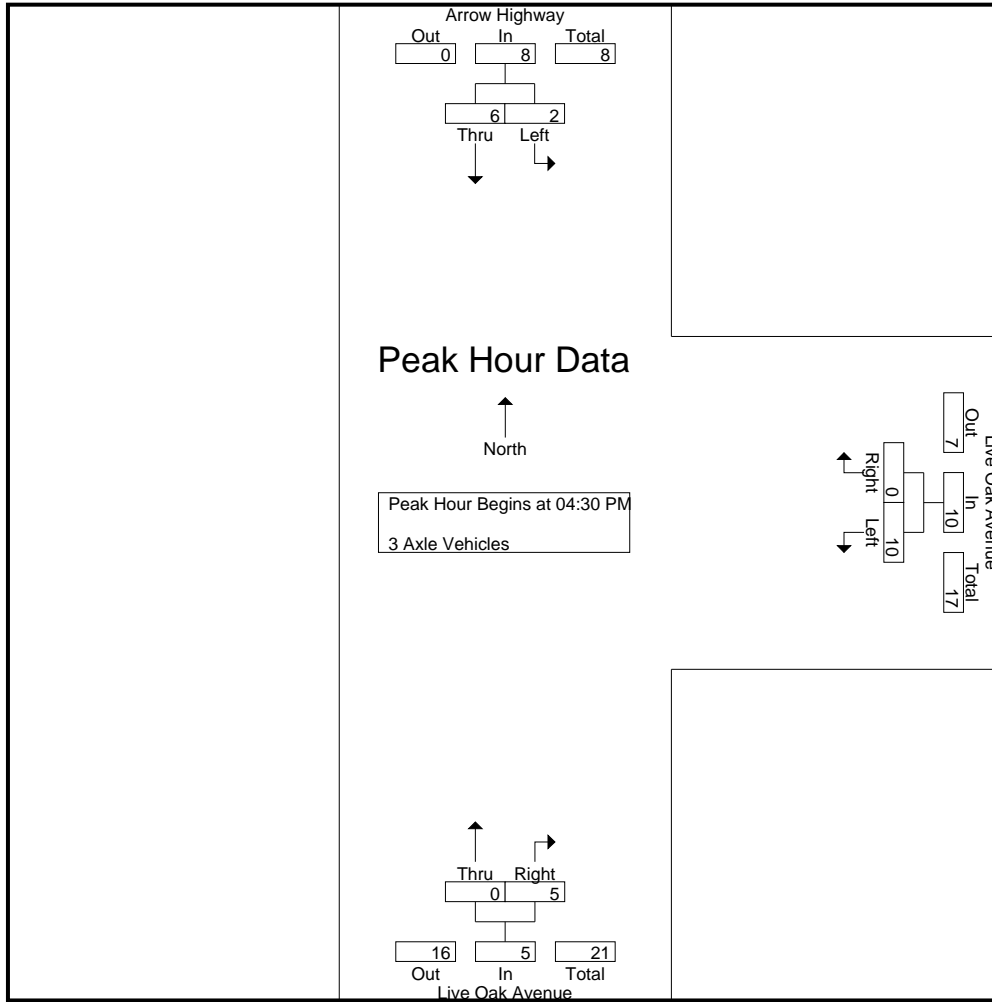
Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	0	4	4	2	0	2	0	1	1	7
04:15 PM	0	0	0	1	0	1	0	2	2	3
04:30 PM	0	4	4	5	0	5	0	0	0	9
04:45 PM	0	0	0	0	0	0	0	2	2	2
Total	0	8	8	8	0	8	0	5	5	21
05:00 PM	0	1	1	2	0	2	0	1	1	4
05:15 PM	2	1	3	3	0	3	0	2	2	8
05:30 PM	1	0	1	1	0	1	2	2	4	6
05:45 PM	0	0	0	0	0	0	1	1	2	2
Total	3	2	5	6	0	6	3	6	9	20
Grand Total	3	10	13	14	0	14	3	11	14	41
Apprch %	23.1	76.9		100	0		21.4	78.6		
Total %	7.3	24.4	31.7	34.1	0	34.1	7.3	26.8	34.1	

Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:30 PM	0	4	4	5	0	5	0	0	0	9
04:45 PM	0	0	0	0	0	0	0	2	2	2
05:00 PM	0	1	1	2	0	2	0	1	1	4
05:15 PM	2	1	3	3	0	3	0	2	2	8
Total Volume	2	6	8	10	0	10	0	5	5	23
% App. Total	25	75		100	0		0	100		
PHF	.250	.375	.500	.500	.000	.500	.000	.625	.625	.639

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

City of Irwindale
 N/S: Arrow Highway (West)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 01_IRW_Arr W_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	0	4	4	5	0	5	0	0	0
+15 mins.	0	0	0	0	0	0	0	2	2
+30 mins.	0	1	1	2	0	2	0	1	1
+45 mins.	2	1	3	3	0	3	0	2	2
Total Volume	2	6	8	10	0	10	0	5	5
% App. Total	25	75		100	0		0	100	
PHF	.250	.375	.500	.500	.000	.500	.000	.625	.625

City of Irwindale
 N/S: Arrow Highway (West)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 01_IRW_Arr W_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 4+ Axle Trucks

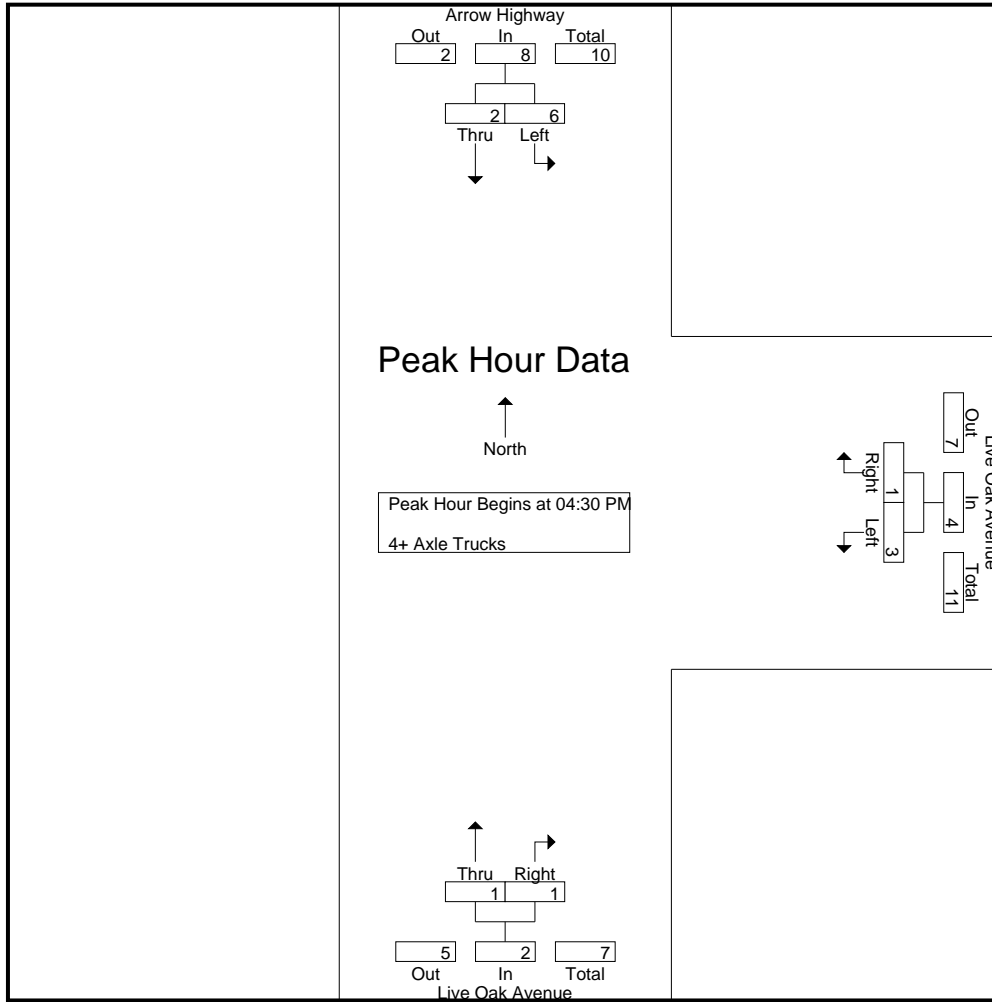
Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	1	2	3	2	5	7	0	1	1	11
04:15 PM	3	3	6	1	1	2	0	0	0	8
04:30 PM	4	2	6	1	0	1	1	1	2	9
04:45 PM	2	0	2	2	1	3	0	0	0	5
Total	10	7	17	6	7	13	1	2	3	33
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	10	7	17	6	7	13	1	2	3	33
Apprch %	58.8	41.2		46.2	53.8		33.3	66.7		
Total %	30.3	21.2	51.5	18.2	21.2	39.4	3	6.1	9.1	

Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:30 PM	4	2	6	1	0	1	1	1	2	9
04:45 PM	2	0	2	2	1	3	0	0	0	5
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	6	2	8	3	1	4	1	1	2	14
% App. Total	75	25		75	25		50	50		
PHF	.375	.250	.333	.375	.250	.333	.250	.250	.250	.389

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

City of Irwindale
 N/S: Arrow Highway (West)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 01_IRW_Arr W_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	4	2	6	1	0	1	1	1	2
+15 mins.	2	0	2	2	1	3	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	6	2	8	3	1	4	1	1	2
% App. Total	75	25		75	25		50	50	
PHF	.375	.250	.333	.375	.250	.333	.250	.250	.250

City of Irwindale
 N/S: I-605 Northbound Ramps
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 02_IRW_605N_LO EB AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

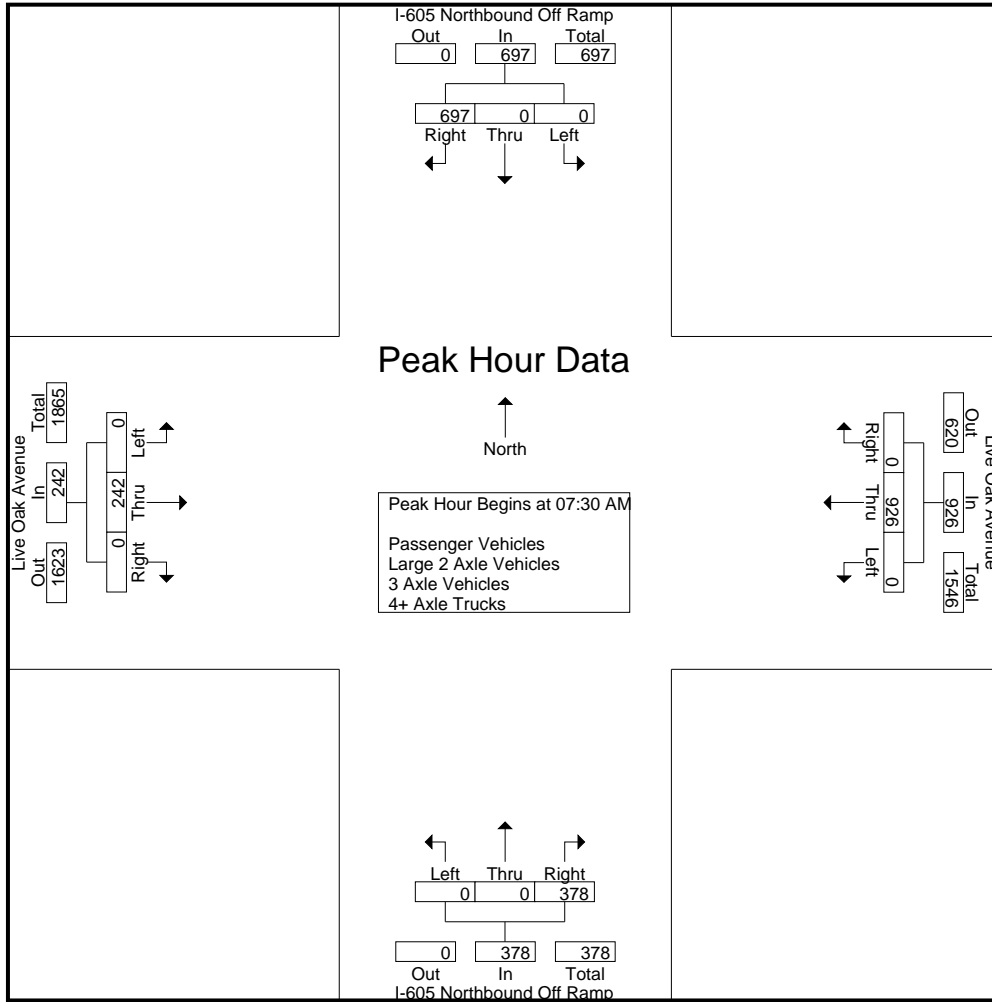
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	I-605 Northbound Off Ramp Southbound				Live Oak Avenue Westbound				I-605 Northbound Off Ramp Northbound				Live Oak 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	0	0	152	152	0	220	0	220	0	0	94	94	0	31	0	31	497
07:15 AM	0	0	149	149	0	247	0	247	0	0	89	89	0	49	0	49	534
07:30 AM	0	0	146	146	0	273	0	273	0	0	89	89	0	40	0	40	548
07:45 AM	0	0	196	196	0	250	0	250	0	0	112	112	0	54	0	54	612
Total	0	0	643	643	0	990	0	990	0	0	384	384	0	174	0	174	2191
08:00 AM	0	0	164	164	0	222	0	222	0	0	81	81	0	79	0	79	546
08:15 AM	0	0	191	191	0	181	0	181	0	0	96	96	0	69	0	69	537
08:30 AM	0	0	145	145	0	177	0	177	0	0	93	93	0	69	0	69	484
08:45 AM	0	0	160	160	0	152	0	152	0	0	88	88	0	69	0	69	469
Total	0	0	660	660	0	732	0	732	0	0	358	358	0	286	0	286	2036
Grand Total	0	0	1303	1303	0	1722	0	1722	0	0	742	742	0	460	0	460	4227
Apprch %	0	0	100		0	100	0		0	0	100		0	100	0		
Total %	0	0	30.8	30.8	0	40.7	0	40.7	0	0	17.6	17.6	0	10.9	0	10.9	
Passenger Vehicles	0	0	1224	1224	0	1522	0	1522	0	0	623	623	0	414	0	414	3783
% Passenger Vehicles	0	0	93.9	93.9	0	88.4	0	88.4	0	0	84	84	0	90	0	90	89.5
Large 2 Axle Vehicles	0	0	27	27	0	60	0	60	0	0	19	19	0	14	0	14	120
% Large 2 Axle Vehicles	0	0	2.1	2.1	0	3.5	0	3.5	0	0	2.6	2.6	0	3	0	3	2.8
3 Axle Vehicles	0	0	11	11	0	16	0	16	0	0	9	9	0	10	0	10	46
% 3 Axle Vehicles	0	0	0.8	0.8	0	0.9	0	0.9	0	0	1.2	1.2	0	2.2	0	2.2	1.1
4+ Axle Trucks	0	0	41	41	0	124	0	124	0	0	91	91	0	22	0	22	278
% 4+ Axle Trucks	0	0	3.1	3.1	0	7.2	0	7.2	0	0	12.3	12.3	0	4.8	0	4.8	6.6

Start Time	I-605 Northbound Off Ramp Southbound				Live Oak Avenue Westbound				I-605 Northbound Off Ramp Northbound				Live Oak 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	0	0	146	146	0	273	0	273	0	0	89	89	0	40	0	40	548
07:45 AM	0	0	196	196	0	250	0	250	0	0	112	112	0	54	0	54	612
08:00 AM	0	0	164	164	0	222	0	222	0	0	81	81	0	79	0	79	546
08:15 AM	0	0	191	191	0	181	0	181	0	0	96	96	0	69	0	69	537
Total Volume	0	0	697	697	0	926	0	926	0	0	378	378	0	242	0	242	2243
% App. Total	0	0	100		0	100	0		0	0	100		0	100	0		
PHF	.000	.000	.889	.889	.000	.848	.000	.848	.000	.000	.844	.844	.000	.766	.000	.766	.916

City of Irwindale
 N/S: I-605 Northbound Ramps
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 02_IRW_605N_LO EB AM
 Site Code : 04223184
 Start Date : 3/2/2023
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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:

	07:30 AM				07:15 AM				07:00 AM				08:00 AM			
+0 mins.	0	0	146	146	0	247	0	247	0	0	94	94	0	79	0	79
+15 mins.	0	0	196	196	0	273	0	273	0	0	89	89	0	69	0	69
+30 mins.	0	0	164	164	0	250	0	250	0	0	89	89	0	69	0	69
+45 mins.	0	0	191	191	0	222	0	222	0	0	112	112	0	69	0	69
Total Volume	0	0	697	697	0	992	0	992	0	0	384	384	0	286	0	286
% App. Total	0	0	100		0	100	0		0	0	100		0	100	0	
PHF	.000	.000	.889	.889	.000	.908	.000	.908	.000	.000	.857	.857	.000	.905	.000	.905

City of Irwindale
 N/S: I-605 Northbound Ramps
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 02_IRW_605N_LO EB AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Passenger Vehicles

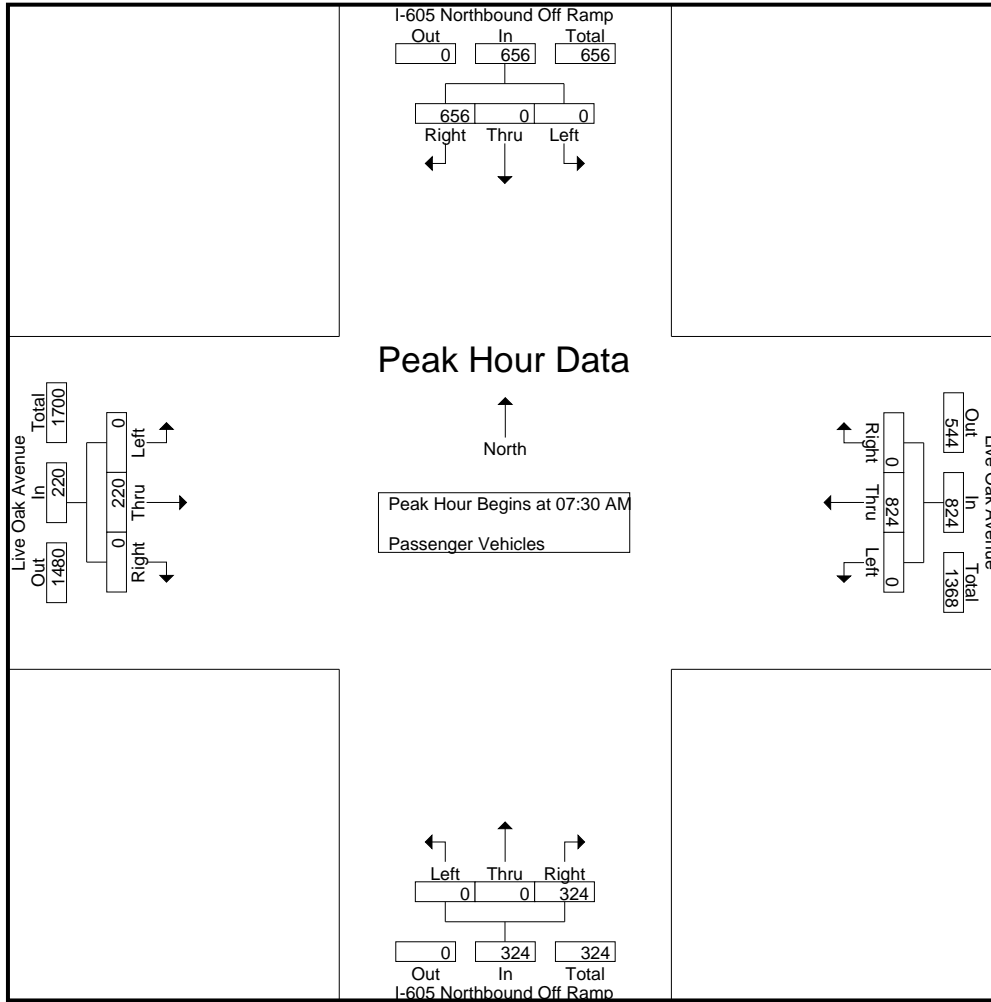
Start Time	I-605 Northbound Off Ramp Southbound				Live Oak Avenue Westbound				I-605 Northbound Off Ramp Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	145	145	0	195	0	195	0	0	80	80	0	25	0	25	445
07:15 AM	0	0	139	139	0	228	0	228	0	0	70	70	0	45	0	45	482
07:30 AM	0	0	143	143	0	244	0	244	0	0	76	76	0	32	0	32	495
07:45 AM	0	0	184	184	0	227	0	227	0	0	98	98	0	50	0	50	559
Total	0	0	611	611	0	894	0	894	0	0	324	324	0	152	0	152	1981
08:00 AM	0	0	150	150	0	196	0	196	0	0	68	68	0	72	0	72	486
08:15 AM	0	0	179	179	0	157	0	157	0	0	82	82	0	66	0	66	484
08:30 AM	0	0	132	132	0	153	0	153	0	0	76	76	0	66	0	66	427
08:45 AM	0	0	152	152	0	122	0	122	0	0	73	73	0	58	0	58	405
Total	0	0	613	613	0	628	0	628	0	0	299	299	0	262	0	262	1802
Grand Total	0	0	1224	1224	0	1522	0	1522	0	0	623	623	0	414	0	414	3783
Apprch %	0	0	100		0	100	0		0	0	100		0	100	0		
Total %	0	0	32.4	32.4	0	40.2	0	40.2	0	0	16.5	16.5	0	10.9	0	10.9	

Start Time	I-605 Northbound Off Ramp Southbound				Live Oak Avenue Westbound				I-605 Northbound Off Ramp Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:30 AM	0	0	143	143	0	244	0	244	0	0	76	76	0	32	0	32	495
07:45 AM	0	0	184	184	0	227	0	227	0	0	98	98	0	50	0	50	559
08:00 AM	0	0	150	150	0	196	0	196	0	0	68	68	0	72	0	72	486
08:15 AM	0	0	179	179	0	157	0	157	0	0	82	82	0	66	0	66	484
Total Volume	0	0	656	656	0	824	0	824	0	0	324	324	0	220	0	220	2024
% App. Total	0	0	100		0	100	0		0	0	100		0	100	0		
PHF	.000	.000	.891	.891	.000	.844	.000	.844	.000	.000	.827	.827	.000	.764	.000	.764	.905

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

City of Irwindale
 N/S: I-605 Northbound Ramps
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 02_IRW_605N_LO EB AM
 Site Code : 04223184
 Start Date : 3/2/2023
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Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	143	143	0	244	0	244	0	0	76	76	0	32	0	32
+15 mins.	0	0	184	184	0	227	0	227	0	0	98	98	0	50	0	50
+30 mins.	0	0	150	150	0	196	0	196	0	0	68	68	0	72	0	72
+45 mins.	0	0	179	179	0	157	0	157	0	0	82	82	0	66	0	66
Total Volume	0	0	656	656	0	824	0	824	0	0	324	324	0	220	0	220
% App. Total	0	0	100		0	100	0		0	0	100		0	100	0	
PHF	.000	.000	.891	.891	.000	.844	.000	.844	.000	.000	.827	.827	.000	.764	.000	.764

City of Irwindale
 N/S: I-605 Northbound Ramps
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 02_IRW_605N_LO EB AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

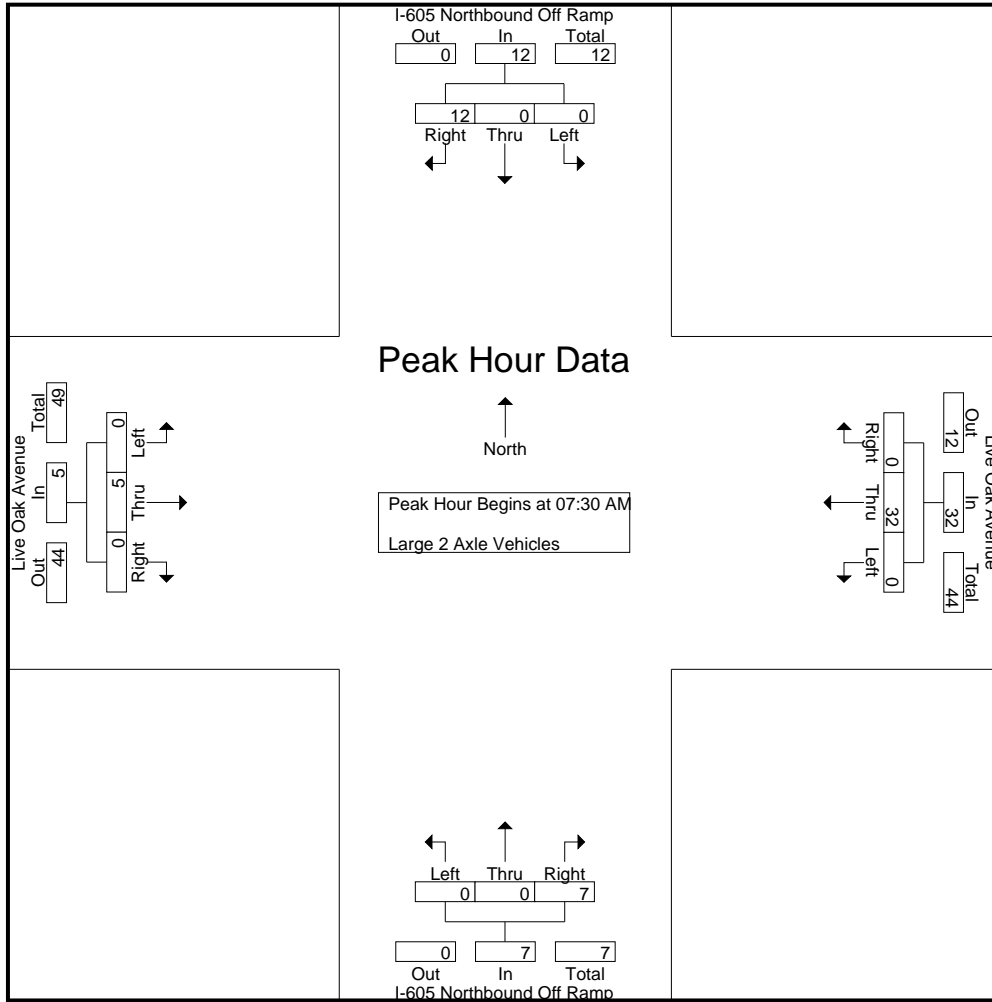
Start Time	I-605 Northbound Off Ramp Southbound				Live Oak Avenue Westbound				I-605 Northbound Off Ramp Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	4	4	0	11	0	11	0	0	5	5	0	1	0	1	21
07:15 AM	0	0	1	1	0	7	0	7	0	0	3	3	0	3	0	3	14
07:30 AM	0	0	0	0	0	11	0	11	0	0	1	1	0	2	0	2	14
07:45 AM	0	0	2	2	0	6	0	6	0	0	3	3	0	2	0	2	13
Total	0	0	7	7	0	35	0	35	0	0	12	12	0	8	0	8	62
08:00 AM	0	0	4	4	0	6	0	6	0	0	1	1	0	0	0	0	11
08:15 AM	0	0	6	6	0	9	0	9	0	0	2	2	0	1	0	1	18
08:30 AM	0	0	6	6	0	5	0	5	0	0	3	3	0	1	0	1	15
08:45 AM	0	0	4	4	0	5	0	5	0	0	1	1	0	4	0	4	14
Total	0	0	20	20	0	25	0	25	0	0	7	7	0	6	0	6	58
Grand Total	0	0	27	27	0	60	0	60	0	0	19	19	0	14	0	14	120
Apprch %	0	0	100		0	100	0		0	0	100		0	100	0		
Total %	0	0	22.5	22.5	0	50	0	50	0	0	15.8	15.8	0	11.7	0	11.7	

Start Time	I-605 Northbound Off Ramp Southbound				Live Oak Avenue Westbound				I-605 Northbound Off Ramp Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:30 AM	0	0	0	0	0	11	0	11	0	0	1	1	0	2	0	2	14
07:45 AM	0	0	2	2	0	6	0	6	0	0	3	3	0	2	0	2	13
08:00 AM	0	0	4	4	0	6	0	6	0	0	1	1	0	0	0	0	11
08:15 AM	0	0	6	6	0	9	0	9	0	0	2	2	0	1	0	1	18
Total Volume	0	0	12	12	0	32	0	32	0	0	7	7	0	5	0	5	56
% App. Total	0	0	100		0	100	0		0	0	100		0	100	0		
PHF	.000	.000	.500	.500	.000	.727	.000	.727	.000	.000	.583	.583	.000	.625	.000	.625	.778

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

City of Irwindale
 N/S: I-605 Northbound Ramps
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 02_IRW_605N_LO EB AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	0	0	0	11	0	11	0	0	1	1	0	2	0	2
+15 mins.	0	0	2	2	0	6	0	6	0	0	3	3	0	2	0	2
+30 mins.	0	0	4	4	0	6	0	6	0	0	1	1	0	0	0	0
+45 mins.	0	0	6	6	0	9	0	9	0	0	2	2	0	1	0	1
Total Volume	0	0	12	12	0	32	0	32	0	0	7	7	0	5	0	5
% App. Total	0	0	100	100	0	100	0	100	0	0	100	100	0	100	0	100
PHF	.000	.000	.500	.500	.000	.727	.000	.727	.000	.000	.583	.583	.000	.625	.000	.625

City of Irwindale
 N/S: I-605 Northbound Ramps
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 02_IRW_605N_LO EB AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 3 Axle Vehicles

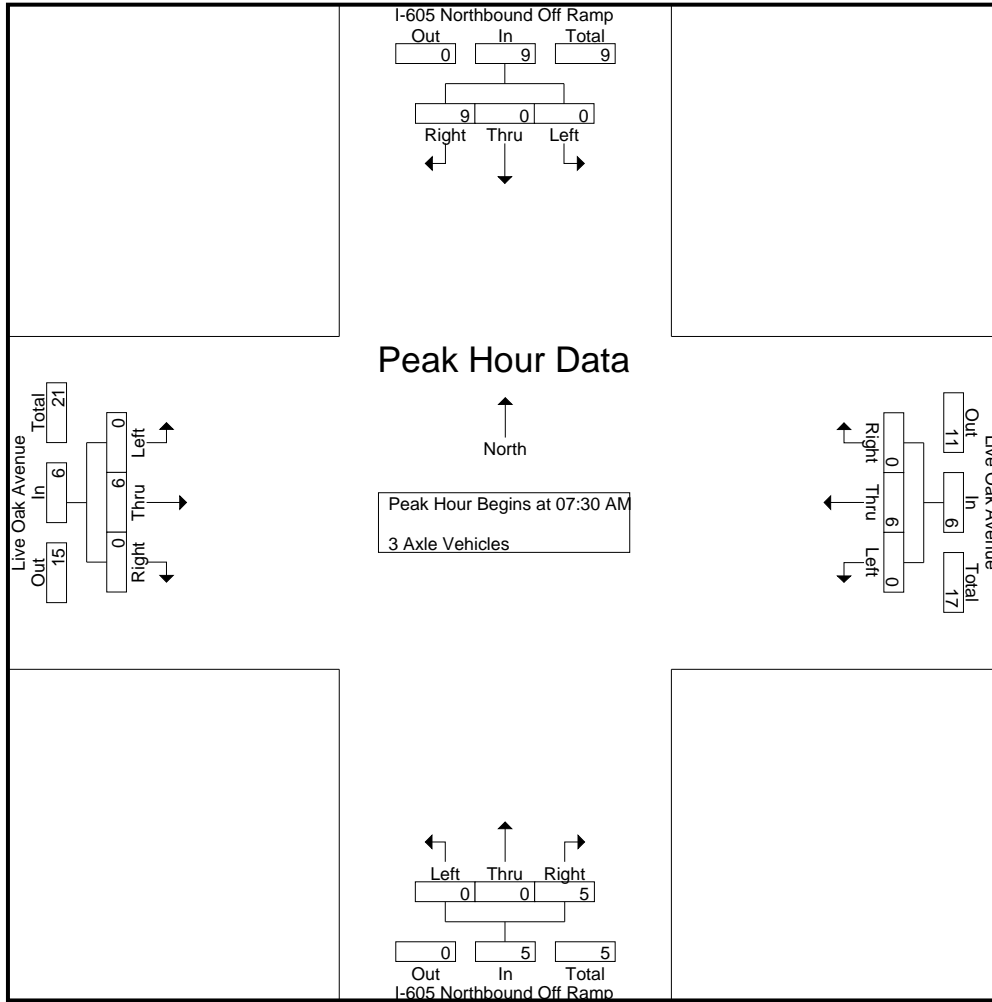
Start Time	I-605 Northbound Off Ramp Southbound				Live Oak Avenue Westbound				I-605 Northbound Off Ramp Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	1	1	0	1	0	1	0	0	1	1	0	0	0	0	0
07:30 AM	0	0	2	2	0	4	0	4	0	0	0	0	0	1	0	1	7
07:45 AM	0	0	3	3	0	0	0	0	0	0	2	2	0	2	0	2	7
Total	0	0	6	6	0	5	0	5	0	0	3	3	0	3	0	3	17
08:00 AM	0	0	2	2	0	1	0	1	0	0	0	0	0	2	0	2	5
08:15 AM	0	0	2	2	0	1	0	1	0	0	3	3	0	1	0	1	7
08:30 AM	0	0	1	1	0	5	0	5	0	0	0	0	0	0	0	0	6
08:45 AM	0	0	0	0	0	4	0	4	0	0	3	3	0	4	0	4	11
Total	0	0	5	5	0	11	0	11	0	0	6	6	0	7	0	7	29
Grand Total	0	0	11	11	0	16	0	16	0	0	9	9	0	10	0	10	46
Apprch %	0	0	100		0	100	0		0	0	100		0	100	0		
Total %	0	0	23.9	23.9	0	34.8	0	34.8	0	0	19.6	19.6	0	21.7	0	21.7	

Start Time	I-605 Northbound Off Ramp Southbound				Live Oak Avenue Westbound				I-605 Northbound Off Ramp Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:30 AM	0	0	2	2	0	4	0	4	0	0	0	0	0	1	0	1	7
07:45 AM	0	0	3	3	0	0	0	0	0	0	2	2	0	2	0	2	7
08:00 AM	0	0	2	2	0	1	0	1	0	0	0	0	0	2	0	2	5
08:15 AM	0	0	2	2	0	1	0	1	0	0	3	3	0	1	0	1	7
Total Volume	0	0	9	9	0	6	0	6	0	0	5	5	0	6	0	6	26
% App. Total	0	0	100		0	100	0		0	0	100		0	100	0		
PHF	.000	.000	.750	.750	.000	.375	.000	.375	.000	.000	.417	.417	.000	.750	.000	.750	.929

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

City of Irwindale
 N/S: I-605 Northbound Ramps
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 02_IRW_605N_LO EB AM
 Site Code : 04223184
 Start Date : 3/2/2023
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Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM				
+0 mins.	0	0	2	2	0	4	0	4	0	0	0	0	0	0	1	0	1
+15 mins.	0	0	3	3	0	0	0	0	0	0	2	2	0	2	0	0	2
+30 mins.	0	0	2	2	0	1	0	1	0	0	0	0	0	2	0	0	2
+45 mins.	0	0	2	2	0	1	0	1	0	0	3	3	0	1	0	0	1
Total Volume	0	0	9	9	0	6	0	6	0	0	5	5	0	6	0	6	6
% App. Total	0	0	100		0	100	0		0	0	100		0	100	0		
PHF	.000	.000	.750	.750	.000	.375	.000	.375	.000	.000	.417	.417	.000	.750	.000	.750	

City of Irwindale
 N/S: I-605 Northbound Ramps
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 02_IRW_605N_LO EB AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 4+ Axle Trucks

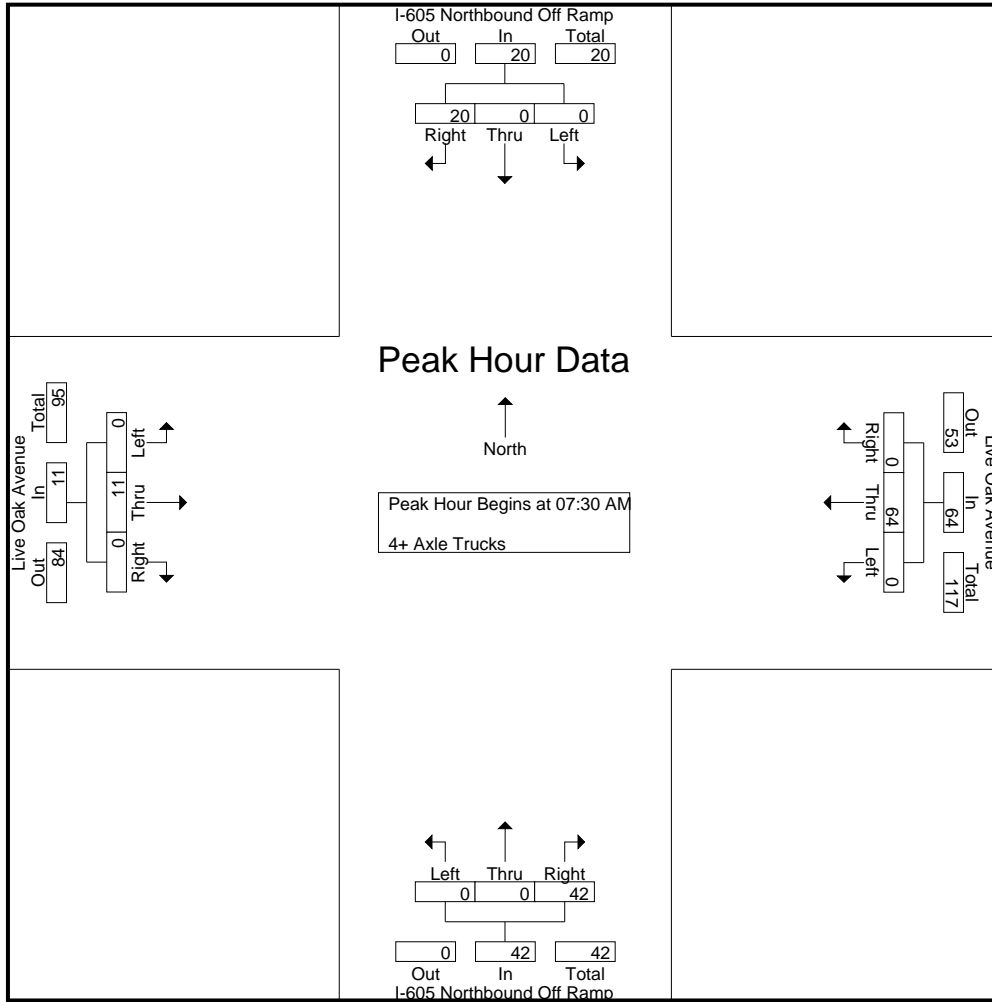
Start Time	I-605 Northbound Off Ramp Southbound				Live Oak Avenue Westbound				I-605 Northbound Off Ramp Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	3	3	0	14	0	14	0	0	9	9	0	5	0	5	31
07:15 AM	0	0	8	8	0	11	0	11	0	0	15	15	0	1	0	1	35
07:30 AM	0	0	1	1	0	14	0	14	0	0	12	12	0	5	0	5	32
07:45 AM	0	0	7	7	0	17	0	17	0	0	9	9	0	0	0	0	33
Total	0	0	19	19	0	56	0	56	0	0	45	45	0	11	0	11	131
08:00 AM	0	0	8	8	0	19	0	19	0	0	12	12	0	5	0	5	44
08:15 AM	0	0	4	4	0	14	0	14	0	0	9	9	0	1	0	1	28
08:30 AM	0	0	6	6	0	14	0	14	0	0	14	14	0	2	0	2	36
08:45 AM	0	0	4	4	0	21	0	21	0	0	11	11	0	3	0	3	39
Total	0	0	22	22	0	68	0	68	0	0	46	46	0	11	0	11	147
Grand Total	0	0	41	41	0	124	0	124	0	0	91	91	0	22	0	22	278
Apprch %	0	0	100		0	100	0		0	0	100		0	100	0		
Total %	0	0	14.7	14.7	0	44.6	0	44.6	0	0	32.7	32.7	0	7.9	0	7.9	

Start Time	I-605 Northbound Off Ramp Southbound				Live Oak Avenue Westbound				I-605 Northbound Off Ramp Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:30 AM	0	0	1	1	0	14	0	14	0	0	12	12	0	5	0	5	32
07:45 AM	0	0	7	7	0	17	0	17	0	0	9	9	0	0	0	0	33
08:00 AM	0	0	8	8	0	19	0	19	0	0	12	12	0	5	0	5	44
08:15 AM	0	0	4	4	0	14	0	14	0	0	9	9	0	1	0	1	28
Total Volume	0	0	20	20	0	64	0	64	0	0	42	42	0	11	0	11	137
% App. Total	0	0	100		0	100	0		0	0	100		0	100	0		
PHF	.000	.000	.625	.625	.000	.842	.000	.842	.000	.000	.875	.875	.000	.550	.000	.550	.778

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

City of Irwindale
 N/S: I-605 Northbound Ramps
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 02_IRW_605N_LO EB AM
 Site Code : 04223184
 Start Date : 3/2/2023
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Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	1	1	0	14	0	14	0	0	12	12	0	5	0	5
+15 mins.	0	0	7	7	0	17	0	17	0	0	9	9	0	0	0	0
+30 mins.	0	0	8	8	0	19	0	19	0	0	12	12	0	5	0	5
+45 mins.	0	0	4	4	0	14	0	14	0	0	9	9	0	1	0	1
Total Volume	0	0	20	20	0	64	0	64	0	0	42	42	0	11	0	11
% App. Total	0	0	100		0	100	0		0	0	100		0	100	0	
PHF	.000	.000	.625	.625	.000	.842	.000	.842	.000	.000	.875	.875	.000	.550	.000	.550

City of Irwindale
 N/S: I-605 Northbound Ramps
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 02_IRW_605N_LO EB PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

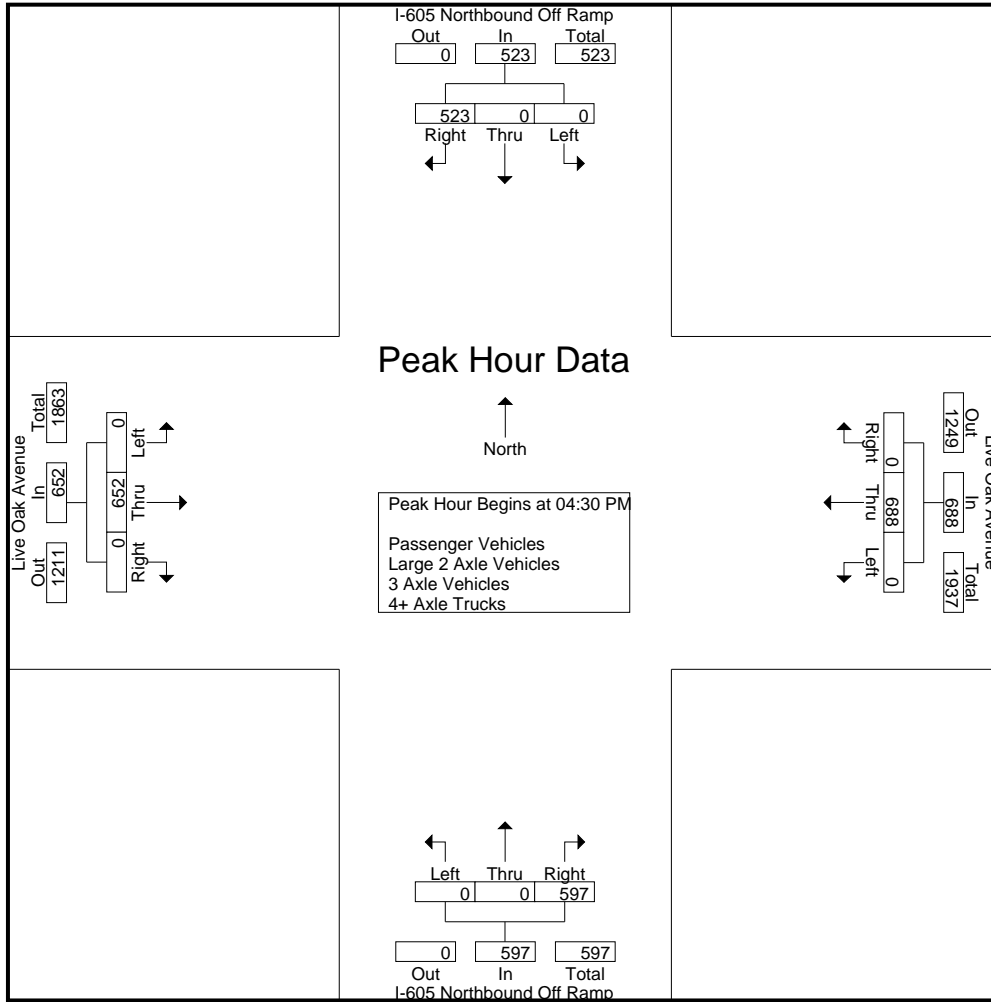
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	I-605 Northbound Off Ramp Southbound				Live Oak Avenue Westbound				I-605 Northbound Off Ramp Northbound				Live Oak 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	0	0	104	104	0	137	0	137	0	0	143	143	0	138	0	138	522
04:15 PM	0	0	120	120	0	134	0	134	0	0	117	117	0	141	0	141	512
04:30 PM	0	0	115	115	0	164	0	164	0	0	143	143	0	163	0	163	585
04:45 PM	0	0	106	106	0	139	0	139	0	0	133	133	0	152	0	152	530
Total	0	0	445	445	0	574	0	574	0	0	536	536	0	594	0	594	2149
05:00 PM	0	0	157	157	0	220	0	220	0	0	164	164	0	169	0	169	710
05:15 PM	0	0	145	145	0	165	0	165	0	0	157	157	0	168	0	168	635
05:30 PM	0	0	134	134	0	153	0	153	0	0	144	144	0	143	0	143	574
05:45 PM	0	0	112	112	0	120	0	120	0	0	122	122	0	134	0	134	488
Total	0	0	548	548	0	658	0	658	0	0	587	587	0	614	0	614	2407
Grand Total	0	0	993	993	0	1232	0	1232	0	0	1123	1123	0	1208	0	1208	4556
Apprch %	0	0	100		0	100	0		0	0	100		0	100	0		
Total %	0	0	21.8	21.8	0	27	0	27	0	0	24.6	24.6	0	26.5	0	26.5	
Passenger Vehicles	0	0	937	937	0	1179	0	1179	0	0	1060	1060	0	1177	0	1177	4353
% Passenger Vehicles	0	0	94.4	94.4	0	95.7	0	95.7	0	0	94.4	94.4	0	97.4	0	97.4	95.5
Large 2 Axle Vehicles	0	0	12	12	0	20	0	20	0	0	27	27	0	18	0	18	77
% Large 2 Axle Vehicles	0	0	1.2	1.2	0	1.6	0	1.6	0	0	2.4	2.4	0	1.5	0	1.5	1.7
3 Axle Vehicles	0	0	6	6	0	9	0	9	0	0	6	6	0	7	0	7	28
% 3 Axle Vehicles	0	0	0.6	0.6	0	0.7	0	0.7	0	0	0.5	0.5	0	0.6	0	0.6	0.6
4+ Axle Trucks	0	0	38	38	0	24	0	24	0	0	30	30	0	6	0	6	98
% 4+ Axle Trucks	0	0	3.8	3.8	0	1.9	0	1.9	0	0	2.7	2.7	0	0.5	0	0.5	2.2

Start Time	I-605 Northbound Off Ramp Southbound				Live Oak Avenue Westbound				I-605 Northbound Off Ramp Northbound				Live Oak 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	0	0	115	115	0	164	0	164	0	0	143	143	0	163	0	163	585
04:45 PM	0	0	106	106	0	139	0	139	0	0	133	133	0	152	0	152	530
05:00 PM	0	0	157	157	0	220	0	220	0	0	164	164	0	169	0	169	710
05:15 PM	0	0	145	145	0	165	0	165	0	0	157	157	0	168	0	168	635
Total Volume	0	0	523	523	0	688	0	688	0	0	597	597	0	652	0	652	2460
% App. Total	0	0	100		0	100	0		0	0	100		0	100	0		
PHF	.000	.000	.833	.833	.000	.782	.000	.782	.000	.000	.910	.910	.000	.964	.000	.964	.866

City of Irwindale
 N/S: I-605 Northbound Ramps
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 02_IRW_605N_LO EB PM
 Site Code : 04223184
 Start Date : 3/2/2023
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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				04:30 PM				04:45 PM				04:30 PM			
+0 mins.	0	0	157	157	0	164	0	164	0	0	133	133	0	163	0	163
+15 mins.	0	0	145	145	0	139	0	139	0	0	164	164	0	152	0	152
+30 mins.	0	0	134	134	0	220	0	220	0	0	157	157	0	169	0	169
+45 mins.	0	0	112	112	0	165	0	165	0	0	144	144	0	168	0	168
Total Volume	0	0	548	548	0	688	0	688	0	0	598	598	0	652	0	652
% App. Total	0	0	100		0	100	0		0	0	100		0	100	0	
PHF	.000	.000	.873	.873	.000	.782	.000	.782	.000	.000	.912	.912	.000	.964	.000	.964

City of Irwindale
 N/S: I-605 Northbound Ramps
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 02_IRW_605N_LO EB PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Passenger Vehicles

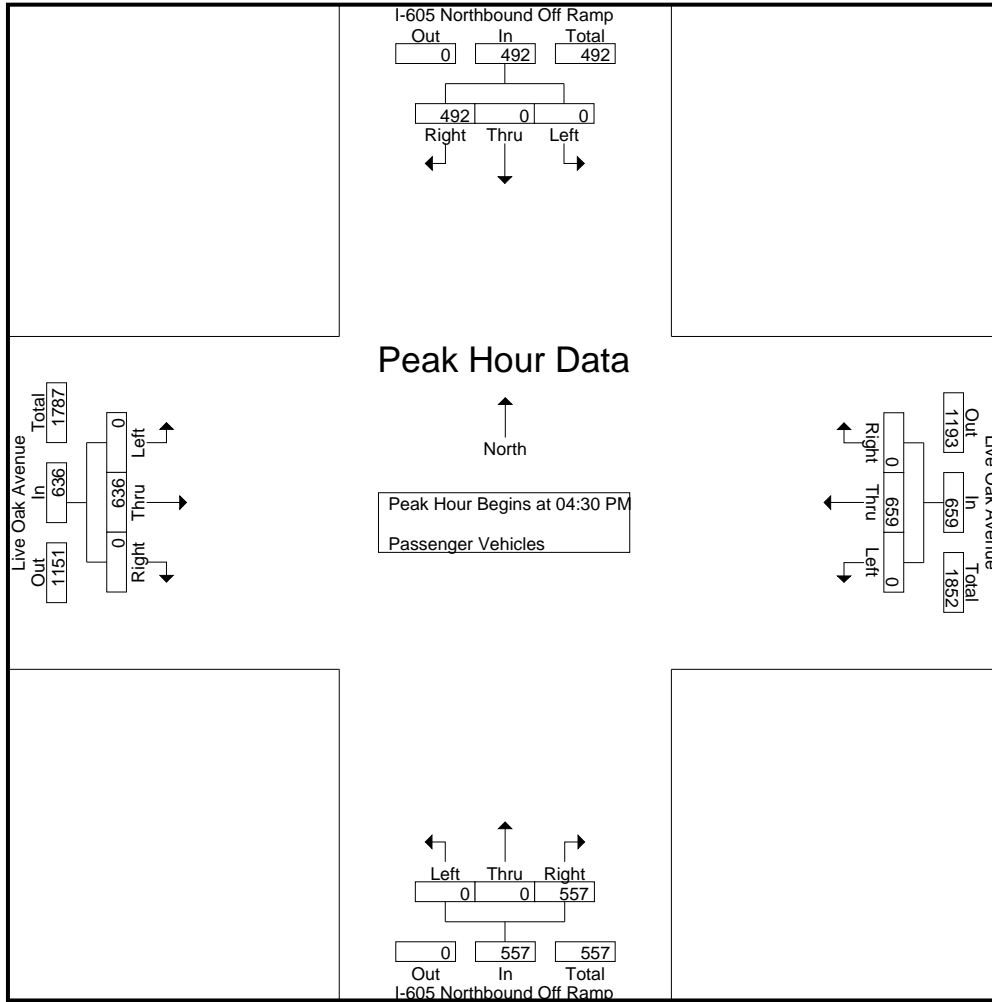
Start Time	I-605 Northbound Off Ramp Southbound				Live Oak Avenue Westbound				I-605 Northbound Off Ramp Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	96	96	0	131	0	131	0	0	135	135	0	130	0	130	492
04:15 PM	0	0	109	109	0	131	0	131	0	0	111	111	0	138	0	138	489
04:30 PM	0	0	106	106	0	152	0	152	0	0	139	139	0	157	0	157	554
04:45 PM	0	0	102	102	0	133	0	133	0	0	127	127	0	148	0	148	510
Total	0	0	413	413	0	547	0	547	0	0	512	512	0	573	0	573	2045
05:00 PM	0	0	149	149	0	215	0	215	0	0	147	147	0	164	0	164	675
05:15 PM	0	0	135	135	0	159	0	159	0	0	144	144	0	167	0	167	605
05:30 PM	0	0	130	130	0	146	0	146	0	0	143	143	0	141	0	141	560
05:45 PM	0	0	110	110	0	112	0	112	0	0	114	114	0	132	0	132	468
Total	0	0	524	524	0	632	0	632	0	0	548	548	0	604	0	604	2308
Grand Total	0	0	937	937	0	1179	0	1179	0	0	1060	1060	0	1177	0	1177	4353
Apprch %	0	0	100		0	100	0		0	0	100		0	100	0		
Total %	0	0	21.5	21.5	0	27.1	0	27.1	0	0	24.4	24.4	0	27	0	27	

Start Time	I-605 Northbound Off Ramp Southbound				Live Oak Avenue Westbound				I-605 Northbound Off Ramp Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:30 PM	0	0	106	106	0	152	0	152	0	0	139	139	0	157	0	157	554
04:45 PM	0	0	102	102	0	133	0	133	0	0	127	127	0	148	0	148	510
05:00 PM	0	0	149	149	0	215	0	215	0	0	147	147	0	164	0	164	675
05:15 PM	0	0	135	135	0	159	0	159	0	0	144	144	0	167	0	167	605
Total Volume	0	0	492	492	0	659	0	659	0	0	557	557	0	636	0	636	2344
% App. Total	0	0	100		0	100	0		0	0	100		0	100	0		
PHF	.000	.000	.826	.826	.000	.766	.000	.766	.000	.000	.947	.947	.000	.952	.000	.952	.868

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

City of Irwindale
 N/S: I-605 Northbound Ramps
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 02_IRW_605N_LO EB PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	106	106	0	152	0	152	0	0	139	139	0	157	0	157
+15 mins.	0	0	102	102	0	133	0	133	0	0	127	127	0	148	0	148
+30 mins.	0	0	149	149	0	215	0	215	0	0	147	147	0	164	0	164
+45 mins.	0	0	135	135	0	159	0	159	0	0	144	144	0	167	0	167
Total Volume	0	0	492	492	0	659	0	659	0	0	557	557	0	636	0	636
% App. Total	0	0	100		0	100	0		0	0	100		0	100	0	
PHF	.000	.000	.826	.826	.000	.766	.000	.766	.000	.000	.947	.947	.000	.952	.000	.952

City of Irwindale
 N/S: I-605 Northbound Ramps
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 02_IRW_605N_LO EB PM
 Site Code : 04223184
 Start Date : 3/2/2023
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Groups Printed- Large 2 Axle Vehicles

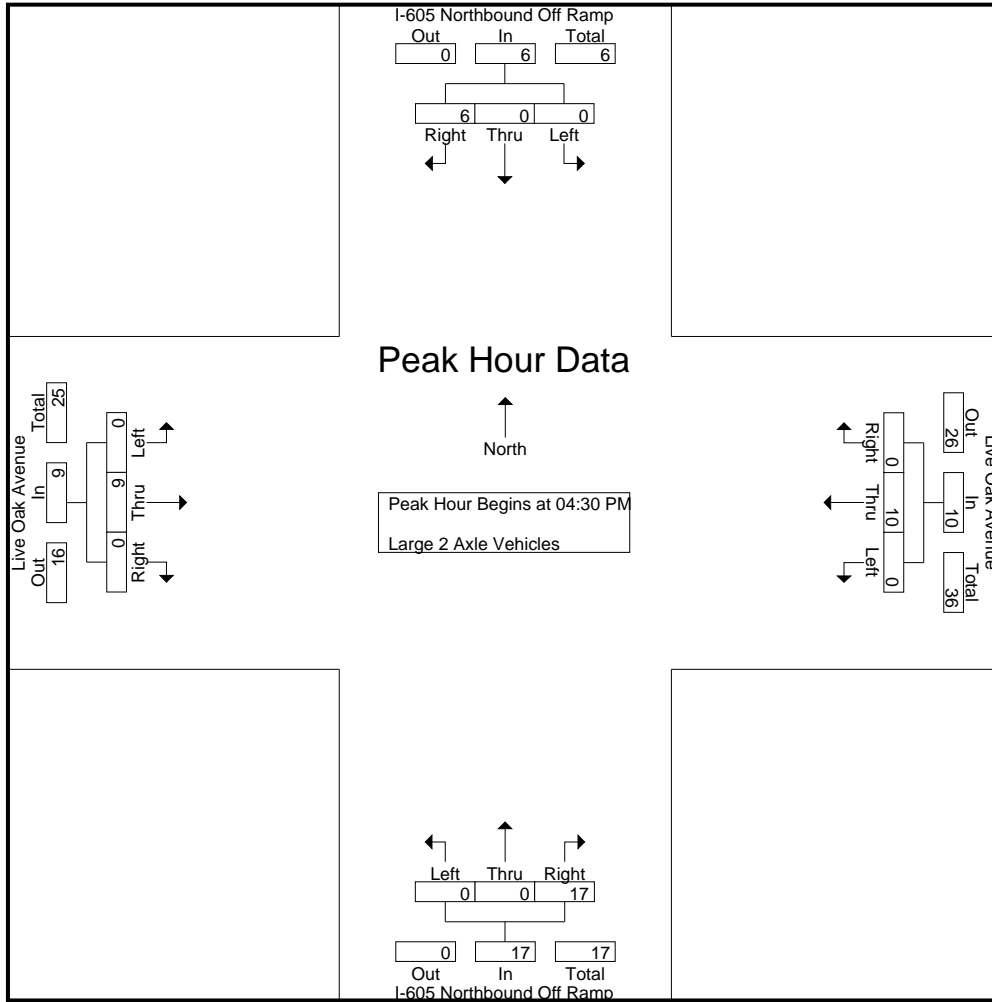
Start Time	I-605 Northbound Off Ramp Southbound				Live Oak Avenue Westbound				I-605 Northbound Off Ramp Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	1	1	0	2	0	2	0	0	6	6	0	5	0	5	14
04:15 PM	0	0	3	3	0	2	0	2	0	0	1	1	0	2	0	2	8
04:30 PM	0	0	3	3	0	4	0	4	0	0	2	2	0	3	0	3	12
04:45 PM	0	0	1	1	0	3	0	3	0	0	3	3	0	3	0	3	10
Total	0	0	8	8	0	11	0	11	0	0	12	12	0	13	0	13	44
05:00 PM	0	0	0	0	0	2	0	2	0	0	5	5	0	2	0	2	9
05:15 PM	0	0	2	2	0	1	0	1	0	0	7	7	0	1	0	1	11
05:30 PM	0	0	1	1	0	2	0	2	0	0	0	0	0	1	0	1	4
05:45 PM	0	0	1	1	0	4	0	4	0	0	3	3	0	1	0	1	9
Total	0	0	4	4	0	9	0	9	0	0	15	15	0	5	0	5	33
Grand Total	0	0	12	12	0	20	0	20	0	0	27	27	0	18	0	18	77
Apprch %	0	0	100		0	100	0		0	0	100		0	100	0		
Total %	0	0	15.6	15.6	0	26	0	26	0	0	35.1	35.1	0	23.4	0	23.4	

Start Time	I-605 Northbound Off Ramp Southbound				Live Oak Avenue Westbound				I-605 Northbound Off Ramp Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:30 PM	0	0	3	3	0	4	0	4	0	0	2	2	0	3	0	3	12
04:45 PM	0	0	1	1	0	3	0	3	0	0	3	3	0	3	0	3	10
05:00 PM	0	0	0	0	0	2	0	2	0	0	5	5	0	2	0	2	9
05:15 PM	0	0	2	2	0	1	0	1	0	0	7	7	0	1	0	1	11
Total Volume	0	0	6	6	0	10	0	10	0	0	17	17	0	9	0	9	42
% App. Total	0	0	100		0	100	0		0	0	100		0	100	0		
PHF	.000	.000	.500	.500	.000	.625	.000	.625	.000	.000	.607	.607	.000	.750	.000	.750	.875

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

City of Irwindale
 N/S: I-605 Northbound Ramps
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 02_IRW_605N_LO EB PM
 Site Code : 04223184
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Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	3	3	0	4	0	4	0	0	2	2	0	3	0	3
+15 mins.	0	0	1	1	0	3	0	3	0	0	3	3	0	3	0	3
+30 mins.	0	0	0	0	0	2	0	2	0	0	5	5	0	2	0	2
+45 mins.	0	0	2	2	0	1	0	1	0	0	7	7	0	1	0	1
Total Volume	0	0	6	6	0	10	0	10	0	0	17	17	0	9	0	9
% App. Total	0	0	100	100	0	100	0	100	0	0	100	100	0	100	0	100
PHF	.000	.000	.500	.500	.000	.625	.000	.625	.000	.000	.607	.607	.000	.750	.000	.750

City of Irwindale
 N/S: I-605 Northbound Ramps
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 02_IRW_605N_LO EB PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 3 Axle Vehicles

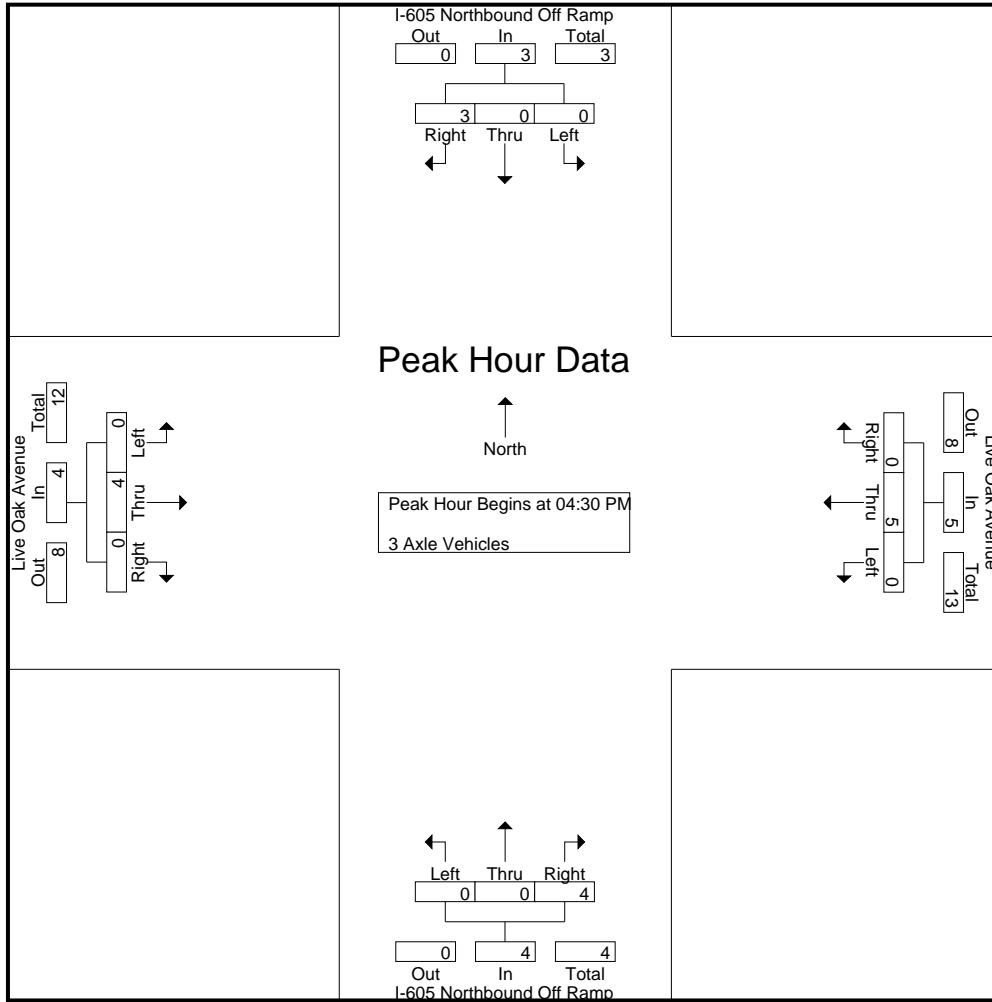
Start Time	I-605 Northbound Off Ramp Southbound				Live Oak Avenue Westbound				I-605 Northbound Off Ramp Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1	2
04:15 PM	0	0	2	2	0	1	0	1	0	0	0	0	0	1	0	1	4
04:30 PM	0	0	1	1	0	4	0	4	0	0	0	0	0	2	0	2	7
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	3	3	0	6	0	6	0	0	1	1	0	4	0	4	14
05:00 PM	0	0	1	1	0	0	0	0	0	0	3	3	0	2	0	2	6
05:15 PM	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	2
05:30 PM	0	0	1	1	0	2	0	2	0	0	0	0	0	1	0	1	4
05:45 PM	0	0	0	0	0	1	0	1	0	0	1	1	0	0	0	0	2
Total	0	0	3	3	0	3	0	3	0	0	5	5	0	3	0	3	14
Grand Total	0	0	6	6	0	9	0	9	0	0	6	6	0	7	0	7	28
Apprch %	0	0	100		0	100	0		0	0	100		0	100	0		
Total %	0	0	21.4	21.4	0	32.1	0	32.1	0	0	21.4	21.4	0	25	0	25	

Start Time	I-605 Northbound Off Ramp Southbound				Live Oak Avenue Westbound				I-605 Northbound Off Ramp Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:30 PM	0	0	1	1	0	4	0	4	0	0	0	0	0	2	0	2	7
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
05:00 PM	0	0	1	1	0	0	0	0	0	0	3	3	0	2	0	2	6
05:15 PM	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	2
Total Volume	0	0	3	3	0	5	0	5	0	0	4	4	0	4	0	4	16
% App. Total	0	0	100		0	100	0		0	0	100		0	100	0		
PHF	.000	.000	.750	.750	.000	.313	.000	.313	.000	.000	.333	.333	.000	.500	.000	.500	.571

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

City of Irwindale
 N/S: I-605 Northbound Ramps
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 02_IRW_605N_LO EB PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	1	1	0	4	0	4	0	0	0	0	0	2	0	2
+15 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+30 mins.	0	0	1	1	0	0	0	0	0	0	3	3	0	2	0	2
+45 mins.	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0
Total Volume	0	0	3	3	0	5	0	5	0	0	4	4	0	4	0	4
% App. Total	0	0	100		0	100	0		0	0	100		0	100	0	
PHF	.000	.000	.750	.750	.000	.313	.000	.313	.000	.000	.333	.333	.000	.500	.000	.500

City of Irwindale
 N/S: I-605 Northbound Ramps
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 02_IRW_605N_LO EB PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 4+ Axle Trucks

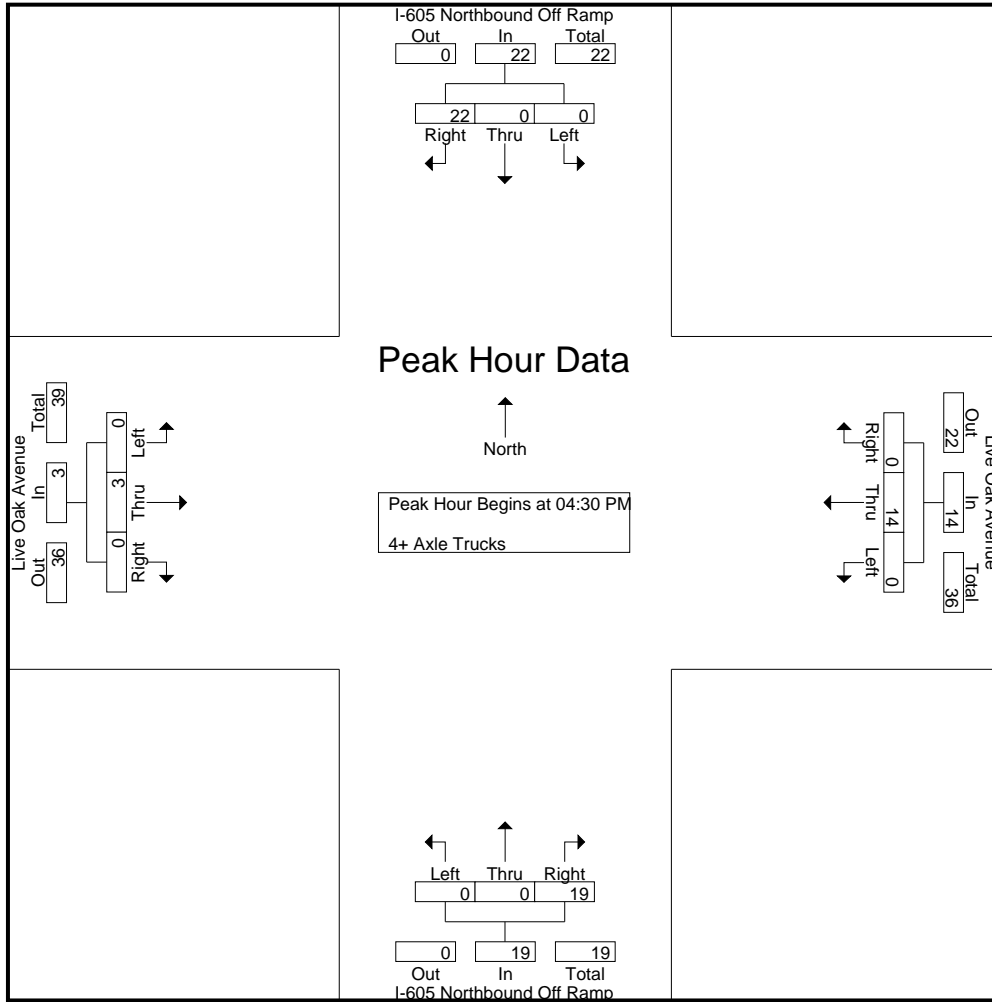
Start Time	I-605 Northbound Off Ramp Southbound				Live Oak Avenue Westbound				I-605 Northbound Off Ramp Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	7	7	0	4	0	4	0	0	1	1	0	2	0	2	14
04:15 PM	0	0	6	6	0	0	0	0	0	0	5	5	0	0	0	0	11
04:30 PM	0	0	5	5	0	4	0	4	0	0	2	2	0	1	0	1	12
04:45 PM	0	0	3	3	0	2	0	2	0	0	3	3	0	1	0	1	9
Total	0	0	21	21	0	10	0	10	0	0	11	11	0	4	0	4	46
05:00 PM	0	0	7	7	0	3	0	3	0	0	9	9	0	1	0	1	20
05:15 PM	0	0	7	7	0	5	0	5	0	0	5	5	0	0	0	0	17
05:30 PM	0	0	2	2	0	3	0	3	0	0	1	1	0	0	0	0	6
05:45 PM	0	0	1	1	0	3	0	3	0	0	4	4	0	1	0	1	9
Total	0	0	17	17	0	14	0	14	0	0	19	19	0	2	0	2	52
Grand Total	0	0	38	38	0	24	0	24	0	0	30	30	0	6	0	6	98
Apprch %	0	0	100		0	100	0		0	0	100		0	100	0		
Total %	0	0	38.8	38.8	0	24.5	0	24.5	0	0	30.6	30.6	0	6.1	0	6.1	

Start Time	I-605 Northbound Off Ramp Southbound				Live Oak Avenue Westbound				I-605 Northbound Off Ramp Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:30 PM	0	0	5	5	0	4	0	4	0	0	2	2	0	1	0	1	12
04:45 PM	0	0	3	3	0	2	0	2	0	0	3	3	0	1	0	1	9
05:00 PM	0	0	7	7	0	3	0	3	0	0	9	9	0	1	0	1	20
05:15 PM	0	0	7	7	0	5	0	5	0	0	5	5	0	0	0	0	17
Total Volume	0	0	22	22	0	14	0	14	0	0	19	19	0	3	0	3	58
% App. Total	0	0	100		0	100	0		0	0	100		0	100	0		
PHF	.000	.000	.786	.786	.000	.700	.000	.700	.000	.000	.528	.528	.000	.750	.000	.750	.725

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

City of Irwindale
 N/S: I-605 Northbound Ramps
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 02_IRW_605N_LO EB PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	5	5	0	4	0	4	0	0	2	2	0	1	0	1
+15 mins.	0	0	3	3	0	2	0	2	0	0	3	3	0	1	0	1
+30 mins.	0	0	7	7	0	3	0	3	0	0	9	9	0	1	0	1
+45 mins.	0	0	7	7	0	5	0	5	0	0	5	5	0	0	0	0
Total Volume	0	0	22	22	0	14	0	14	0	0	19	19	0	3	0	3
% App. Total	0	0	100		0	100	0		0	0	100		0	100	0	
PHF	.000	.000	.786	.786	.000	.700	.000	.700	.000	.000	.528	.528	.000	.750	.000	.750

City of Irwindale
 N/S: I-605 Southbound On Ramp
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 04_IRW_605S_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

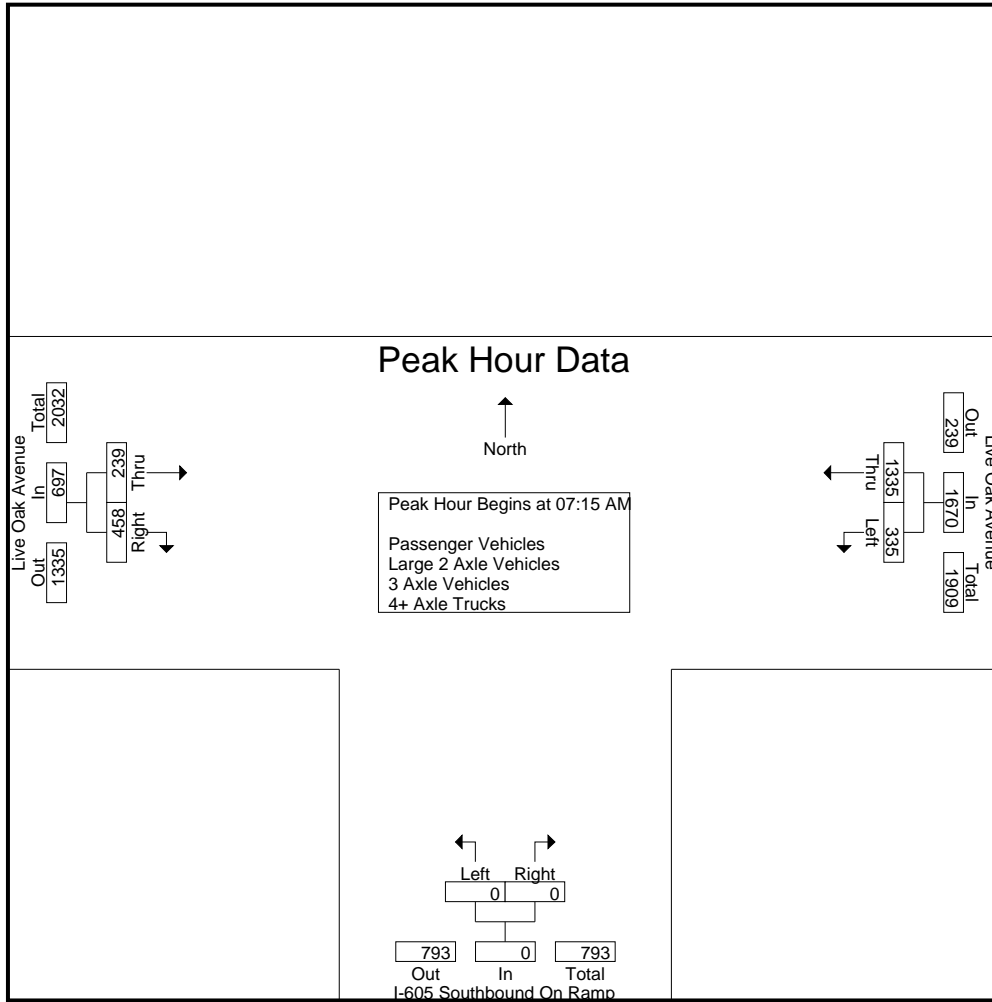
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Live Oak Avenue Westbound			I-605 Southbound On Ramp Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	115	260	375	0	0	0	33	148	181	556
07:15 AM	96	300	396	0	0	0	54	138	192	588
07:30 AM	98	321	419	0	0	0	47	117	164	583
07:45 AM	75	386	461	0	0	0	64	101	165	626
Total	384	1267	1651	0	0	0	198	504	702	2353
08:00 AM	66	328	394	0	0	0	74	102	176	570
08:15 AM	66	300	366	0	0	0	73	132	205	571
08:30 AM	69	249	318	0	0	0	67	165	232	550
08:45 AM	52	263	315	0	0	0	59	79	138	453
Total	253	1140	1393	0	0	0	273	478	751	2144
Grand Total	637	2407	3044	0	0	0	471	982	1453	4497
Apprch %	20.9	79.1		0	0		32.4	67.6		
Total %	14.2	53.5	67.7	0	0	0	10.5	21.8	32.3	
Passenger Vehicles	501	2189	2690	0	0	0	415	816	1231	3921
% Passenger Vehicles	78.6	90.9	88.4	0	0	0	88.1	83.1	84.7	87.2
Large 2 Axle Vehicles	47	91	138	0	0	0	29	34	63	201
% Large 2 Axle Vehicles	7.4	3.8	4.5	0	0	0	6.2	3.5	4.3	4.5
3 Axle Vehicles	17	56	73	0	0	0	8	36	44	117
% 3 Axle Vehicles	2.7	2.3	2.4	0	0	0	1.7	3.7	3	2.6
4+ Axle Trucks	72	71	143	0	0	0	19	96	115	258
% 4+ Axle Trucks	11.3	2.9	4.7	0	0	0	4	9.8	7.9	5.7

Start Time	Live Oak Avenue Westbound			I-605 Southbound On Ramp Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	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	96	300	396	0	0	0	54	138	192	588
07:30 AM	98	321	419	0	0	0	47	117	164	583
07:45 AM	75	386	461	0	0	0	64	101	165	626
08:00 AM	66	328	394	0	0	0	74	102	176	570
Total Volume	335	1335	1670	0	0	0	239	458	697	2367
% App. Total	20.1	79.9		0	0		34.3	65.7		
PHF	.855	.865	.906	.000	.000	.000	.807	.830	.908	.945

City of Irwindale
 N/S: I-605 Southbound On Ramp
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 04_IRW_605S_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 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			07:45 AM		
+0 mins.	96	300	396	0	0	0	64	101	165
+15 mins.	98	321	419	0	0	0	74	102	176
+30 mins.	75	386	461	0	0	0	73	132	205
+45 mins.	66	328	394	0	0	0	67	165	232
Total Volume	335	1335	1670	0	0	0	278	500	778
% App. Total	20.1	79.9		0	0		35.7	64.3	
PHF	.855	.865	.906	.000	.000	.000	.939	.758	.838

City of Irwindale
 N/S: I-605 Southbound On Ramp
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 04_IRW_605S_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Passenger Vehicles

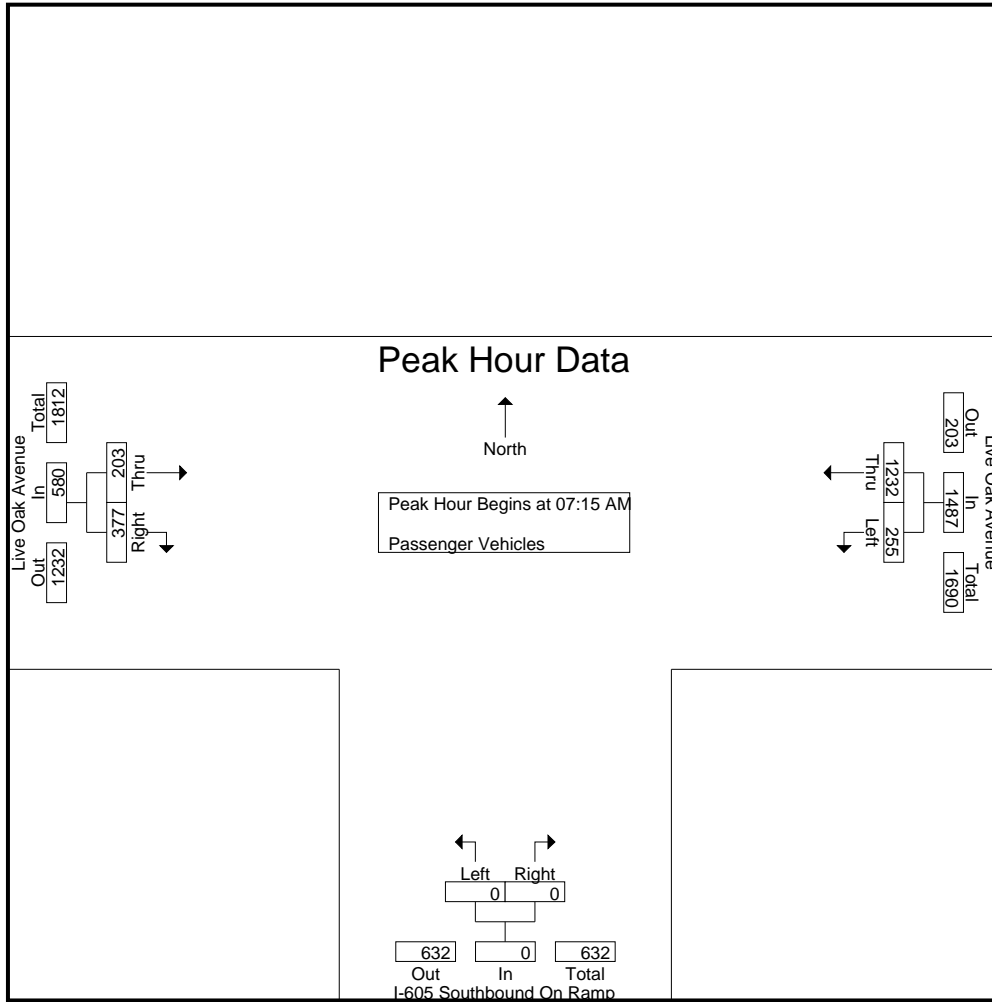
Start Time	Live Oak Avenue Westbound			I-605 Southbound On Ramp Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	99	232	331	0	0	0	29	122	151	482
07:15 AM	77	276	353	0	0	0	47	113	160	513
07:30 AM	72	304	376	0	0	0	35	94	129	505
07:45 AM	59	352	411	0	0	0	57	82	139	550
Total	307	1164	1471	0	0	0	168	411	579	2050
08:00 AM	47	300	347	0	0	0	64	88	152	499
08:15 AM	53	276	329	0	0	0	69	115	184	513
08:30 AM	52	225	277	0	0	0	62	141	203	480
08:45 AM	42	224	266	0	0	0	52	61	113	379
Total	194	1025	1219	0	0	0	247	405	652	1871
Grand Total	501	2189	2690	0	0	0	415	816	1231	3921
Apprch %	18.6	81.4		0	0		33.7	66.3		
Total %	12.8	55.8	68.6	0	0	0	10.6	20.8	31.4	

Start Time	Live Oak Avenue Westbound			I-605 Southbound On Ramp Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:15 AM	77	276	353	0	0	0	47	113	160	513
07:30 AM	72	304	376	0	0	0	35	94	129	505
07:45 AM	59	352	411	0	0	0	57	82	139	550
08:00 AM	47	300	347	0	0	0	64	88	152	499
Total Volume	255	1232	1487	0	0	0	203	377	580	2067
% App. Total	17.1	82.9		0	0		35	65		
PHF	.828	.875	.905	.000	.000	.000	.793	.834	.906	.940

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

City of Irwindale
 N/S: I-605 Southbound On Ramp
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 04_IRW_605S_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	77	276	353	0	0	0	47	113	160
+15 mins.	72	304	376	0	0	0	35	94	129
+30 mins.	59	352	411	0	0	0	57	82	139
+45 mins.	47	300	347	0	0	0	64	88	152
Total Volume	255	1232	1487	0	0	0	203	377	580
% App. Total	17.1	82.9		0	0		35	65	
PHF	.828	.875	.905	.000	.000	.000	.793	.834	.906

City of Irwindale
 N/S: I-605 Southbound On Ramp
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 04_IRW_605S_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

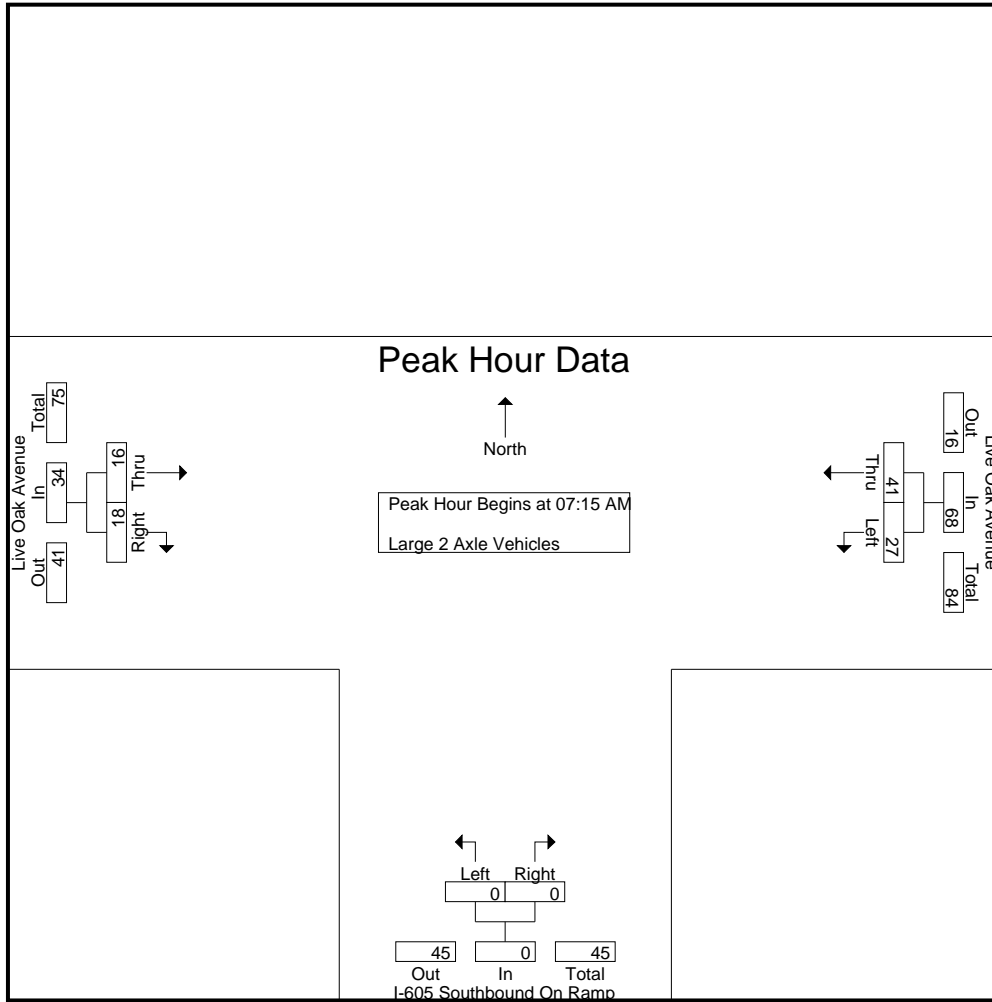
Start Time	Live Oak Avenue Westbound			I-605 Southbound On Ramp Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	6	18	24	0	0	0	3	4	7	31
07:15 AM	4	10	14	0	0	0	6	6	12	26
07:30 AM	12	9	21	0	0	0	5	4	9	30
07:45 AM	7	14	21	0	0	0	1	4	5	26
Total	29	51	80	0	0	0	15	18	33	113
08:00 AM	4	8	12	0	0	0	4	4	8	20
08:15 AM	4	7	11	0	0	0	3	2	5	16
08:30 AM	6	8	14	0	0	0	3	6	9	23
08:45 AM	4	17	21	0	0	0	4	4	8	29
Total	18	40	58	0	0	0	14	16	30	88
Grand Total	47	91	138	0	0	0	29	34	63	201
Apprch %	34.1	65.9		0	0		46	54		
Total %	23.4	45.3	68.7	0	0	0	14.4	16.9	31.3	

Start Time	Live Oak Avenue Westbound			I-605 Southbound On Ramp Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:15 AM	4	10	14	0	0	0	6	6	12	26
07:30 AM	12	9	21	0	0	0	5	4	9	30
07:45 AM	7	14	21	0	0	0	1	4	5	26
08:00 AM	4	8	12	0	0	0	4	4	8	20
Total Volume	27	41	68	0	0	0	16	18	34	102
% App. Total	39.7	60.3		0	0		47.1	52.9		
PHF	.563	.732	.810	.000	.000	.000	.667	.750	.708	.850

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

City of Irwindale
 N/S: I-605 Southbound On Ramp
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 04_IRW_605S_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	4	10	14	0	0	0	6	6	12
+15 mins.	12	9	21	0	0	0	5	4	9
+30 mins.	7	14	21	0	0	0	1	4	5
+45 mins.	4	8	12	0	0	0	4	4	8
Total Volume	27	41	68	0	0	0	16	18	34
% App. Total	39.7	60.3		0	0		47.1	52.9	
PHF	.563	.732	.810	.000	.000	.000	.667	.750	.708

City of Irwindale
 N/S: I-605 Southbound On Ramp
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 04_IRW_605S_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 3 Axle Vehicles

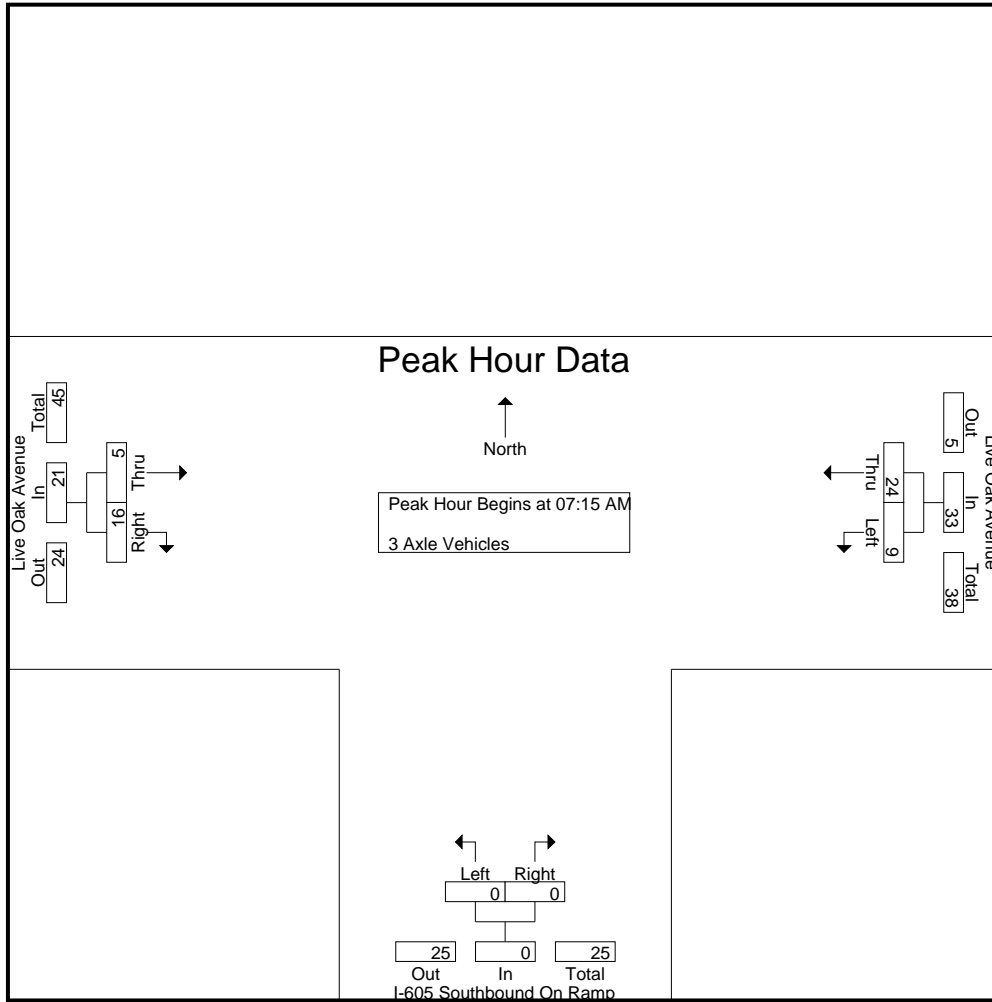
Start Time	Live Oak Avenue Westbound			I-605 Southbound On Ramp Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	1	5	6	0	0	0	1	10	11	17
07:15 AM	3	8	11	0	0	0	0	7	7	18
07:30 AM	1	2	3	0	0	0	2	4	6	9
07:45 AM	0	8	8	0	0	0	1	1	2	10
Total	5	23	28	0	0	0	4	22	26	54
08:00 AM	5	6	11	0	0	0	2	4	6	17
08:15 AM	3	7	10	0	0	0	0	7	7	17
08:30 AM	3	8	11	0	0	0	1	2	3	14
08:45 AM	1	12	13	0	0	0	1	1	2	15
Total	12	33	45	0	0	0	4	14	18	63
Grand Total	17	56	73	0	0	0	8	36	44	117
Apprch %	23.3	76.7		0	0		18.2	81.8		
Total %	14.5	47.9	62.4	0	0	0	6.8	30.8	37.6	

Start Time	Live Oak Avenue Westbound			I-605 Southbound On Ramp Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:15 AM	3	8	11	0	0	0	0	7	7	18
07:30 AM	1	2	3	0	0	0	2	4	6	9
07:45 AM	0	8	8	0	0	0	1	1	2	10
08:00 AM	5	6	11	0	0	0	2	4	6	17
Total Volume	9	24	33	0	0	0	5	16	21	54
% App. Total	27.3	72.7		0	0		23.8	76.2		
PHF	.450	.750	.750	.000	.000	.000	.625	.571	.750	.750

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

City of Irwindale
 N/S: I-605 Southbound On Ramp
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 04_IRW_605S_LO AM
 Site Code : 04223184
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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	3	8	11	0	0	0	0	7	7
+15 mins.	1	2	3	0	0	0	2	4	6
+30 mins.	0	8	8	0	0	0	1	1	2
+45 mins.	5	6	11	0	0	0	2	4	6
Total Volume	9	24	33	0	0	0	5	16	21
% App. Total	27.3	72.7		0	0		23.8	76.2	
PHF	.450	.750	.750	.000	.000	.000	.625	.571	.750

City of Irwindale
 N/S: I-605 Southbound On Ramp
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 04_IRW_605S_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 4+ Axle Trucks

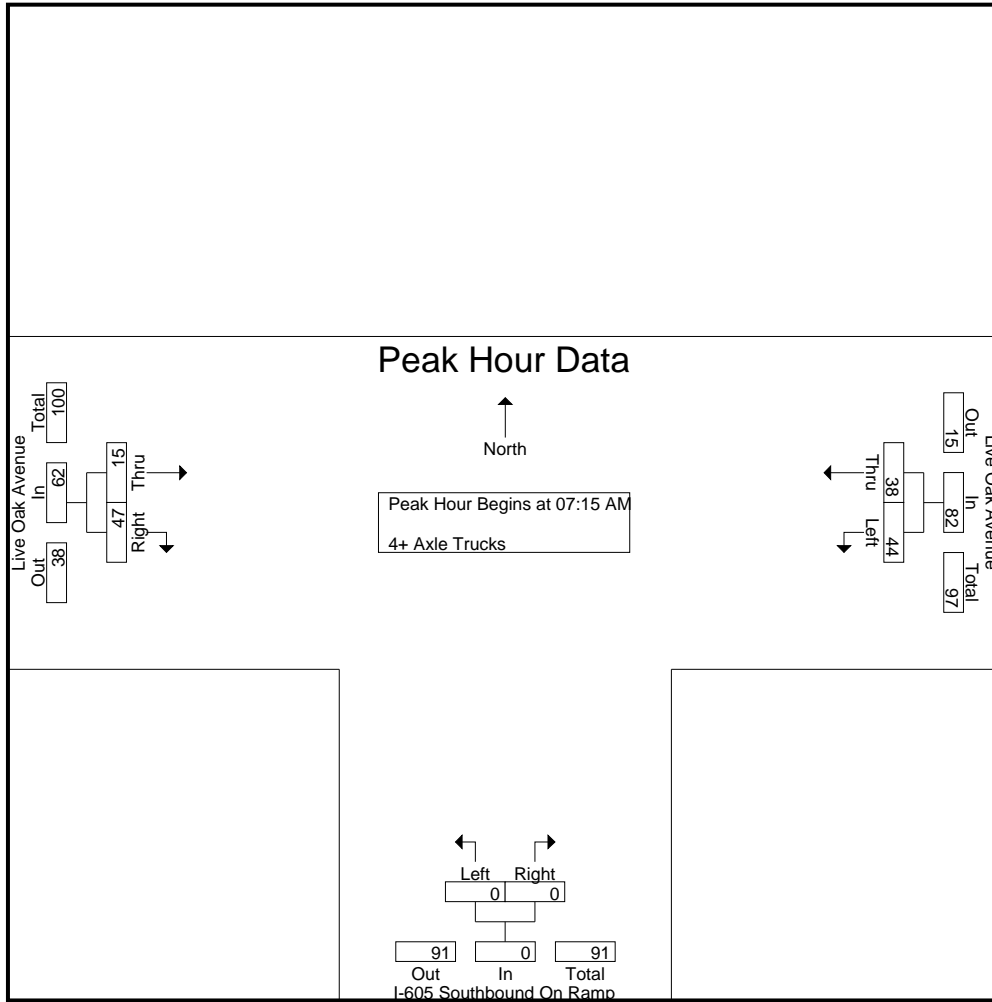
Start Time	Live Oak Avenue Westbound			I-605 Southbound On Ramp Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	9	5	14	0	0	0	0	12	12	26
07:15 AM	12	6	18	0	0	0	1	12	13	31
07:30 AM	13	6	19	0	0	0	5	15	20	39
07:45 AM	9	12	21	0	0	0	5	14	19	40
Total	43	29	72	0	0	0	11	53	64	136
08:00 AM	10	14	24	0	0	0	4	6	10	34
08:15 AM	6	10	16	0	0	0	1	8	9	25
08:30 AM	8	8	16	0	0	0	1	16	17	33
08:45 AM	5	10	15	0	0	0	2	13	15	30
Total	29	42	71	0	0	0	8	43	51	122
Grand Total	72	71	143	0	0	0	19	96	115	258
Apprch %	50.3	49.7		0	0		16.5	83.5		
Total %	27.9	27.5	55.4	0	0	0	7.4	37.2	44.6	

Start Time	Live Oak Avenue Westbound			I-605 Southbound On Ramp Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:15 AM	12	6	18	0	0	0	1	12	13	31
07:30 AM	13	6	19	0	0	0	5	15	20	39
07:45 AM	9	12	21	0	0	0	5	14	19	40
08:00 AM	10	14	24	0	0	0	4	6	10	34
Total Volume	44	38	82	0	0	0	15	47	62	144
% App. Total	53.7	46.3		0	0		24.2	75.8		
PHF	.846	.679	.854	.000	.000	.000	.750	.783	.775	.900

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

City of Irwindale
 N/S: I-605 Southbound On Ramp
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 04_IRW_605S_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	12	6	18	0	0	0	1	12	13
+15 mins.	13	6	19	0	0	0	5	15	20
+30 mins.	9	12	21	0	0	0	5	14	19
+45 mins.	10	14	24	0	0	0	4	6	10
Total Volume	44	38	82	0	0	0	15	47	62
% App. Total	53.7	46.3		0	0		24.2	75.8	
PHF	.846	.679	.854	.000	.000	.000	.750	.783	.775

City of Irwindale
 N/S: I-605 Southbound On Ramp
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 04_IRW_605S_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

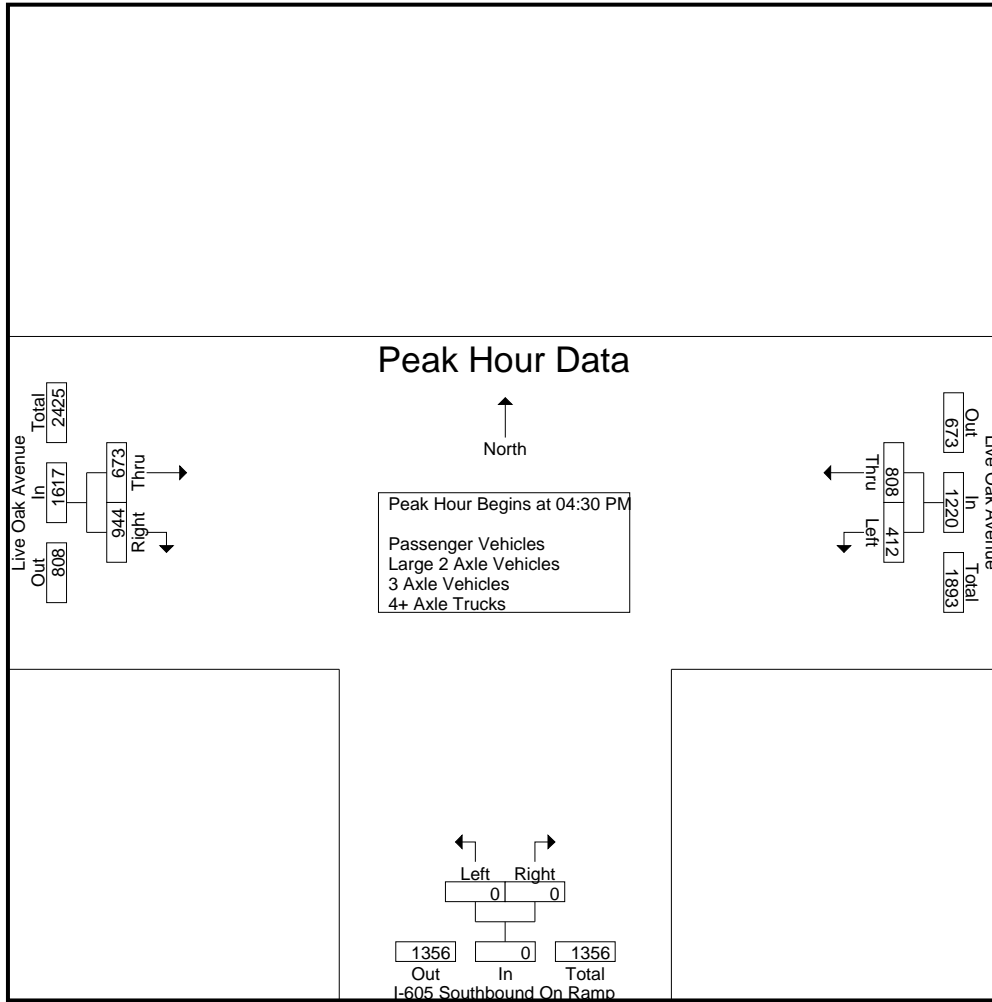
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Live Oak Avenue Westbound			I-605 Southbound On Ramp Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	77	164	241	0	0	0	149	231	380	621
04:15 PM	90	169	259	0	0	0	146	208	354	613
04:30 PM	108	184	292	0	0	0	163	231	394	686
04:45 PM	103	149	252	0	0	0	157	231	388	640
Total	378	666	1044	0	0	0	615	901	1516	2560
05:00 PM	111	260	371	0	0	0	176	238	414	785
05:15 PM	90	215	305	0	0	0	177	244	421	726
05:30 PM	90	202	292	0	0	0	147	218	365	657
05:45 PM	78	173	251	0	0	0	143	220	363	614
Total	369	850	1219	0	0	0	643	920	1563	2782
Grand Total	747	1516	2263	0	0	0	1258	1821	3079	5342
Apprch %	33	67		0	0		40.9	59.1		
Total %	14	28.4	42.4	0	0	0	23.5	34.1	57.6	
Passenger Vehicles	706	1411	2117	0	0	0	1215	1753	2968	5085
% Passenger Vehicles	94.5	93.1	93.5	0	0	0	96.6	96.3	96.4	95.2
Large 2 Axle Vehicles	15	32	47	0	0	0	32	39	71	118
% Large 2 Axle Vehicles	2	2.1	2.1	0	0	0	2.5	2.1	2.3	2.2
3 Axle Vehicles	8	39	47	0	0	0	9	8	17	64
% 3 Axle Vehicles	1.1	2.6	2.1	0	0	0	0.7	0.4	0.6	1.2
4+ Axle Trucks	18	34	52	0	0	0	2	21	23	75
% 4+ Axle Trucks	2.4	2.2	2.3	0	0	0	0.2	1.2	0.7	1.4

Start Time	Live Oak Avenue Westbound			I-605 Southbound On Ramp Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	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	108	184	292	0	0	0	163	231	394	686
04:45 PM	103	149	252	0	0	0	157	231	388	640
05:00 PM	111	260	371	0	0	0	176	238	414	785
05:15 PM	90	215	305	0	0	0	177	244	421	726
Total Volume	412	808	1220	0	0	0	673	944	1617	2837
% App. Total	33.8	66.2		0	0		41.6	58.4		
PHF	.928	.777	.822	.000	.000	.000	.951	.967	.960	.904

City of Irwindale
 N/S: I-605 Southbound On Ramp
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 04_IRW_605S_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 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			04:00 PM			04:30 PM		
+0 mins.	108	184	292	0	0	0	163	231	394
+15 mins.	103	149	252	0	0	0	157	231	388
+30 mins.	111	260	371	0	0	0	176	238	414
+45 mins.	90	215	305	0	0	0	177	244	421
Total Volume	412	808	1220	0	0	0	673	944	1617
% App. Total	33.8	66.2		0	0		41.6	58.4	
PHF	.928	.777	.822	.000	.000	.000	.951	.967	.960

City of Irwindale
 N/S: I-605 Southbound On Ramp
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 04_IRW_605S_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Passenger Vehicles

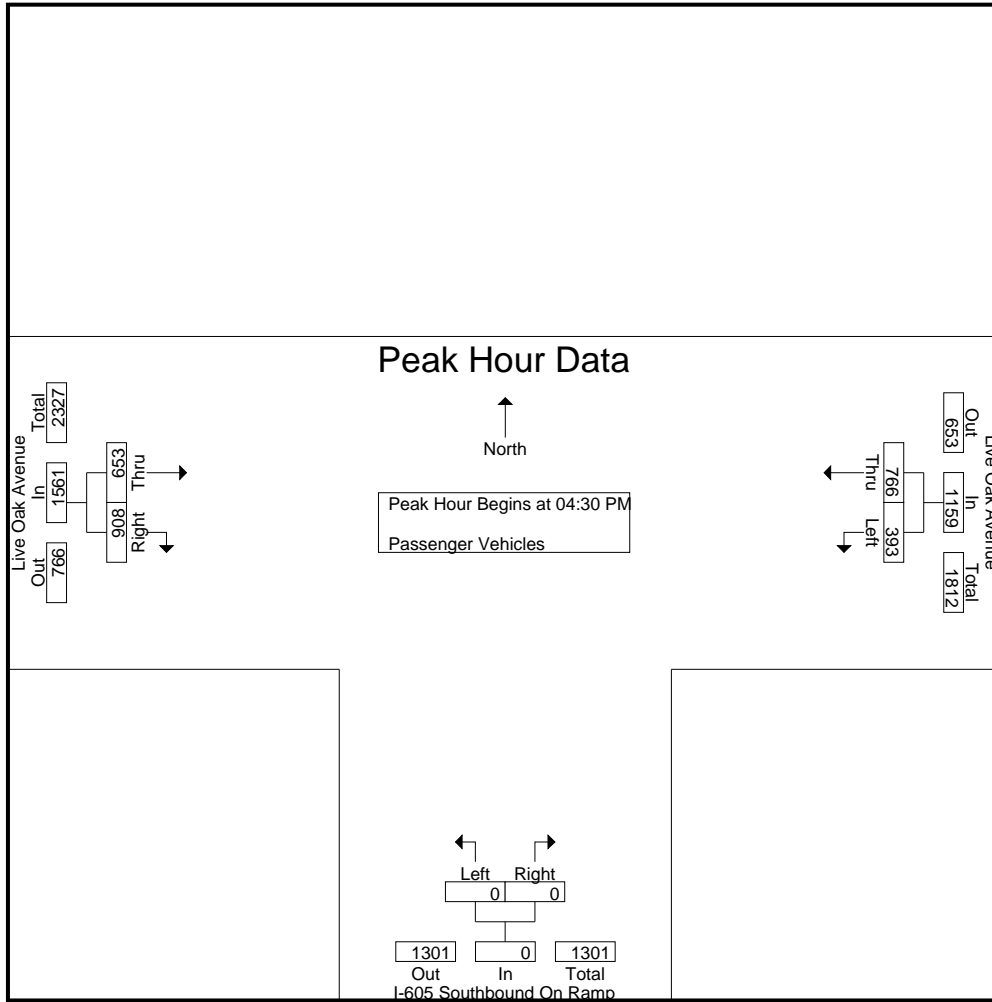
Start Time	Live Oak Avenue Westbound			I-605 Southbound On Ramp Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	73	147	220	0	0	0	139	220	359	579
04:15 PM	84	146	230	0	0	0	139	194	333	563
04:30 PM	102	173	275	0	0	0	158	224	382	657
04:45 PM	99	138	237	0	0	0	152	226	378	615
Total	358	604	962	0	0	0	588	864	1452	2414
05:00 PM	108	252	360	0	0	0	169	224	393	753
05:15 PM	84	203	287	0	0	0	174	234	408	695
05:30 PM	87	191	278	0	0	0	144	216	360	638
05:45 PM	69	161	230	0	0	0	140	215	355	585
Total	348	807	1155	0	0	0	627	889	1516	2671
Grand Total	706	1411	2117	0	0	0	1215	1753	2968	5085
Apprch %	33.3	66.7		0	0		40.9	59.1		
Total %	13.9	27.7	41.6	0	0	0	23.9	34.5	58.4	

Start Time	Live Oak Avenue Westbound			I-605 Southbound On Ramp Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:30 PM	102	173	275	0	0	0	158	224	382	657
04:45 PM	99	138	237	0	0	0	152	226	378	615
05:00 PM	108	252	360	0	0	0	169	224	393	753
05:15 PM	84	203	287	0	0	0	174	234	408	695
Total Volume	393	766	1159	0	0	0	653	908	1561	2720
% App. Total	33.9	66.1		0	0		41.8	58.2		
PHF	.910	.760	.805	.000	.000	.000	.938	.970	.956	.903

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

City of Irwindale
 N/S: I-605 Southbound On Ramp
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 04_IRW_605S_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	102	173	275	0	0	0	158	224	382
+15 mins.	99	138	237	0	0	0	152	226	378
+30 mins.	108	252	360	0	0	0	169	224	393
+45 mins.	84	203	287	0	0	0	174	234	408
Total Volume	393	766	1159	0	0	0	653	908	1561
% App. Total	33.9	66.1		0	0		41.8	58.2	
PHF	.910	.760	.805	.000	.000	.000	.938	.970	.956

City of Irwindale
 N/S: I-605 Southbound On Ramp
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 04_IRW_605S_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

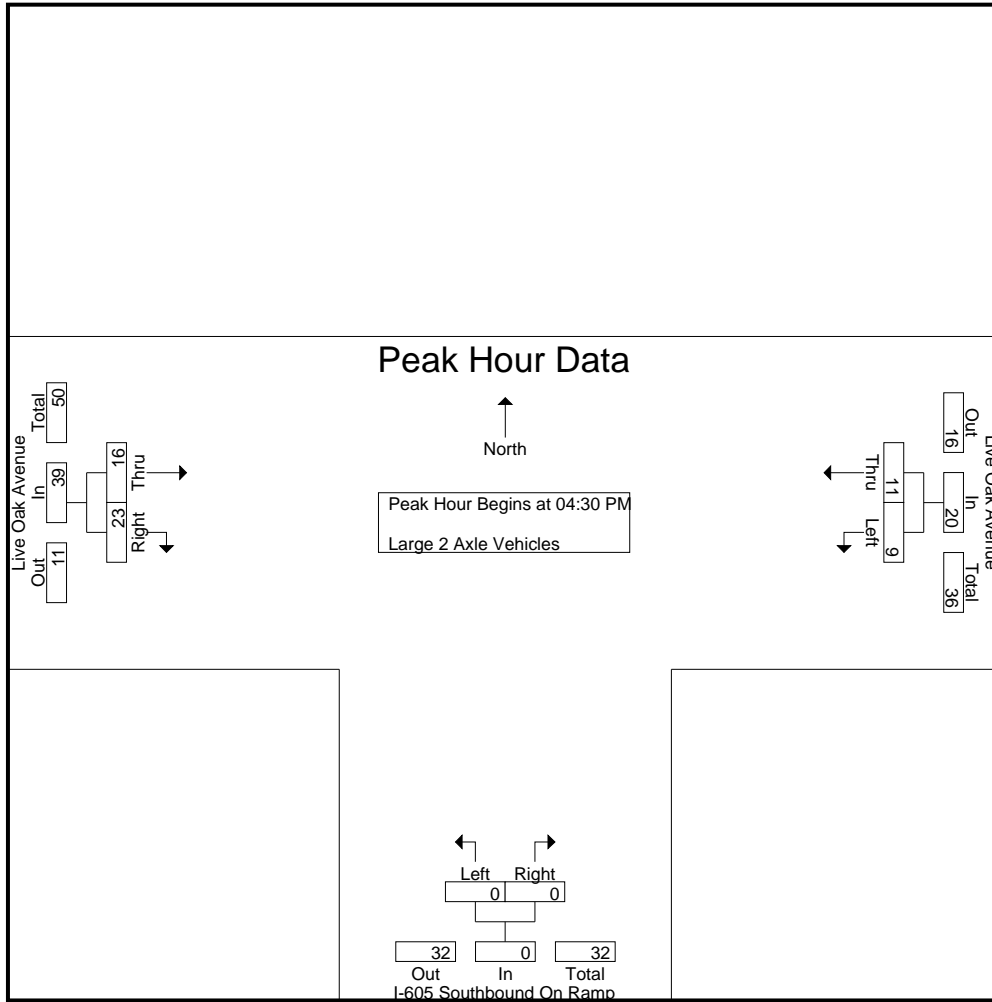
Start Time	Live Oak Avenue Westbound			I-605 Southbound On Ramp Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	2	4	6	0	0	0	8	6	14	20
04:15 PM	2	12	14	0	0	0	5	7	12	26
04:30 PM	4	4	8	0	0	0	4	4	8	16
04:45 PM	2	5	7	0	0	0	5	3	8	15
Total	10	25	35	0	0	0	22	20	42	77
05:00 PM	2	1	3	0	0	0	4	8	12	15
05:15 PM	1	1	2	0	0	0	3	8	11	13
05:30 PM	0	3	3	0	0	0	2	1	3	6
05:45 PM	2	2	4	0	0	0	1	2	3	7
Total	5	7	12	0	0	0	10	19	29	41
Grand Total	15	32	47	0	0	0	32	39	71	118
Apprch %	31.9	68.1		0	0		45.1	54.9		
Total %	12.7	27.1	39.8	0	0	0	27.1	33.1	60.2	

Start Time	Live Oak Avenue Westbound			I-605 Southbound On Ramp Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:30 PM	4	4	8	0	0	0	4	4	8	16
04:45 PM	2	5	7	0	0	0	5	3	8	15
05:00 PM	2	1	3	0	0	0	4	8	12	15
05:15 PM	1	1	2	0	0	0	3	8	11	13
Total Volume	9	11	20	0	0	0	16	23	39	59
% App. Total	45	55		0	0		41	59		
PHF	.563	.550	.625	.000	.000	.000	.800	.719	.813	.922

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

City of Irwindale
 N/S: I-605 Southbound On Ramp
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 04_IRW_605S_LO PM
 Site Code : 04223184
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Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	4	4	8	0	0	0	4	4	8
+15 mins.	2	5	7	0	0	0	5	3	8
+30 mins.	2	1	3	0	0	0	4	8	12
+45 mins.	1	1	2	0	0	0	3	8	11
Total Volume	9	11	20	0	0	0	16	23	39
% App. Total	45	55		0	0		41	59	
PHF	.563	.550	.625	.000	.000	.000	.800	.719	.813

City of Irwindale
 N/S: I-605 Southbound On Ramp
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 04_IRW_605S_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
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Groups Printed- 3 Axle Vehicles

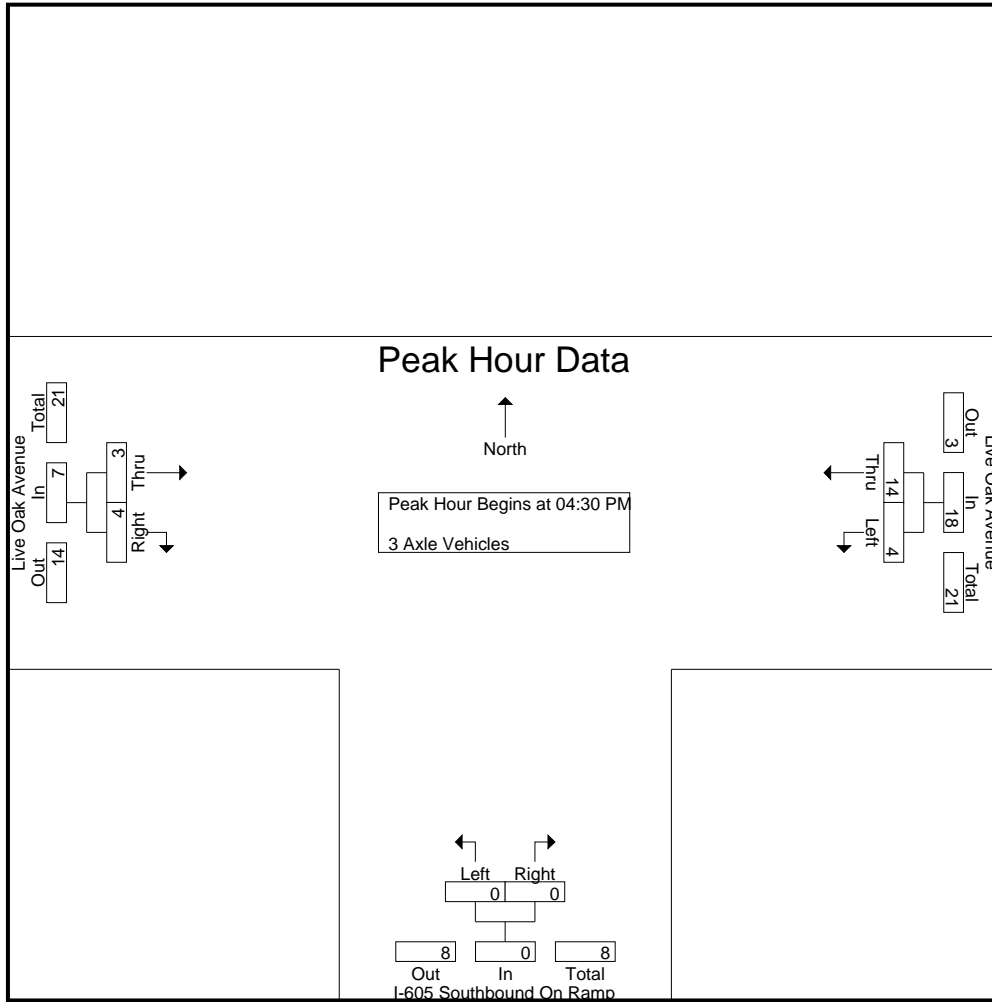
Start Time	Live Oak Avenue Westbound			I-605 Southbound On Ramp Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	0	10	10	0	0	0	2	4	6	16
04:15 PM	1	10	11	0	0	0	2	0	2	13
04:30 PM	0	5	5	0	0	0	0	0	0	5
04:45 PM	2	2	4	0	0	0	0	1	1	5
Total	3	27	30	0	0	0	4	5	9	39
05:00 PM	1	3	4	0	0	0	3	2	5	9
05:15 PM	1	4	5	0	0	0	0	1	1	6
05:30 PM	1	2	3	0	0	0	1	0	1	4
05:45 PM	2	3	5	0	0	0	1	0	1	6
Total	5	12	17	0	0	0	5	3	8	25
Grand Total	8	39	47	0	0	0	9	8	17	64
Apprch %	17	83		0	0		52.9	47.1		
Total %	12.5	60.9	73.4	0	0	0	14.1	12.5	26.6	

Start Time	Live Oak Avenue Westbound			I-605 Southbound On Ramp Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:30 PM	0	5	5	0	0	0	0	0	0	5
04:45 PM	2	2	4	0	0	0	0	1	1	5
05:00 PM	1	3	4	0	0	0	3	2	5	9
05:15 PM	1	4	5	0	0	0	0	1	1	6
Total Volume	4	14	18	0	0	0	3	4	7	25
% App. Total	22.2	77.8		0	0		42.9	57.1		
PHF	.500	.700	.900	.000	.000	.000	.250	.500	.350	.694

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

City of Irwindale
 N/S: I-605 Southbound On Ramp
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 04_IRW_605S_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
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Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	0	5	5	0	0	0	0	0	0
+15 mins.	2	2	4	0	0	0	0	1	1
+30 mins.	1	3	4	0	0	0	3	2	5
+45 mins.	1	4	5	0	0	0	0	1	1
Total Volume	4	14	18	0	0	0	3	4	7
% App. Total	22.2	77.8		0	0		42.9	57.1	
PHF	.500	.700	.900	.000	.000	.000	.250	.500	.350

City of Irwindale
 N/S: I-605 Southbound On Ramp
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 04_IRW_605S_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 4+ Axle Trucks

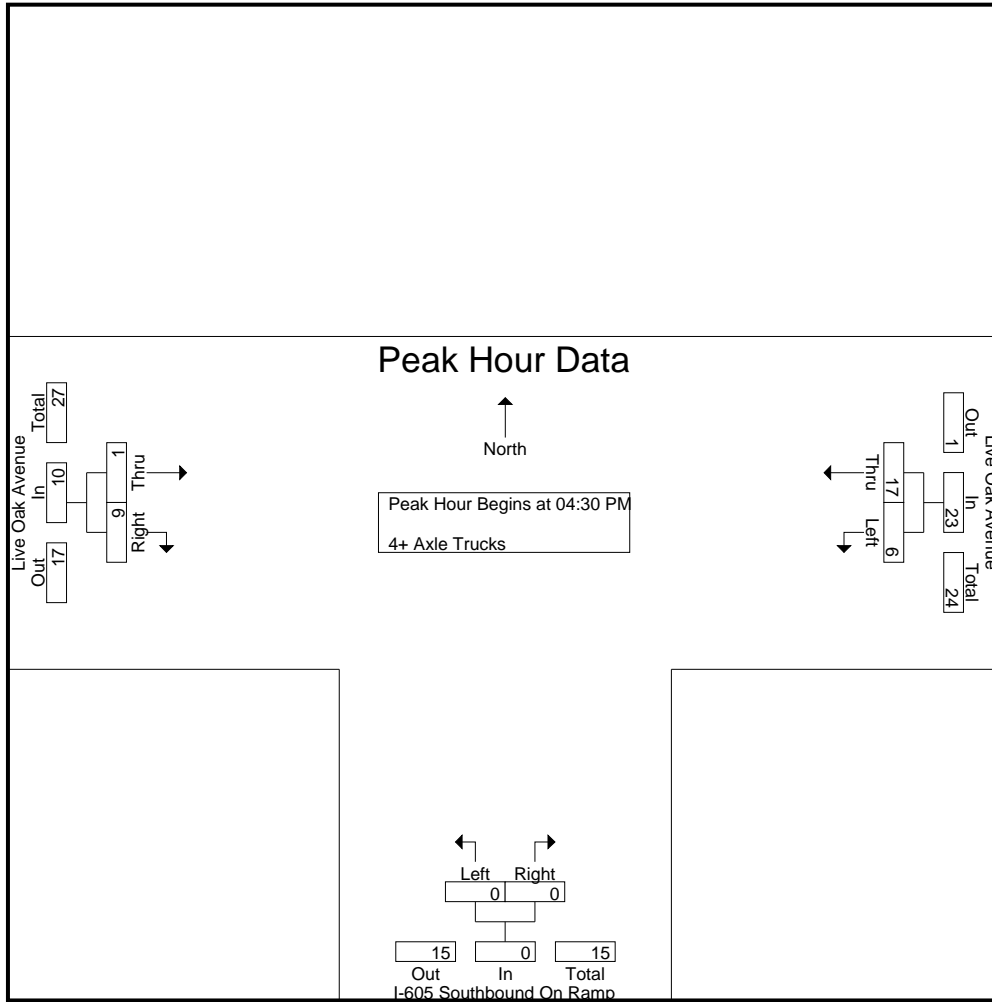
Start Time	Live Oak Avenue Westbound			I-605 Southbound On Ramp Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	2	3	5	0	0	0	0	1	1	6
04:15 PM	3	1	4	0	0	0	0	7	7	11
04:30 PM	2	2	4	0	0	0	1	3	4	8
04:45 PM	0	4	4	0	0	0	0	1	1	5
Total	7	10	17	0	0	0	1	12	13	30
05:00 PM	0	4	4	0	0	0	0	4	4	8
05:15 PM	4	7	11	0	0	0	0	1	1	12
05:30 PM	2	6	8	0	0	0	0	1	1	9
05:45 PM	5	7	12	0	0	0	1	3	4	16
Total	11	24	35	0	0	0	1	9	10	45
Grand Total	18	34	52	0	0	0	2	21	23	75
Apprch %	34.6	65.4		0	0		8.7	91.3		
Total %	24	45.3	69.3	0	0	0	2.7	28	30.7	

Start Time	Live Oak Avenue Westbound			I-605 Southbound On Ramp Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:30 PM	2	2	4	0	0	0	1	3	4	8
04:45 PM	0	4	4	0	0	0	0	1	1	5
05:00 PM	0	4	4	0	0	0	0	4	4	8
05:15 PM	4	7	11	0	0	0	0	1	1	12
Total Volume	6	17	23	0	0	0	1	9	10	33
% App. Total	26.1	73.9		0	0		10	90		
PHF	.375	.607	.523	.000	.000	.000	.250	.563	.625	.688

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

City of Irwindale
 N/S: I-605 Southbound On Ramp
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 04_IRW_605S_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
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Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	2	2	4	0	0	0	1	3	4
+15 mins.	0	4	4	0	0	0	0	1	1
+30 mins.	0	4	4	0	0	0	0	4	4
+45 mins.	4	7	11	0	0	0	0	1	1
Total Volume	6	17	23	0	0	0	1	9	10
% App. Total	26.1	73.9		0	0		10	90	
PHF	.375	.607	.523	.000	.000	.000	.250	.563	.625

City of Irwindale
 N/S: Live Oak Lane
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 05_IRW_LO Ln_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
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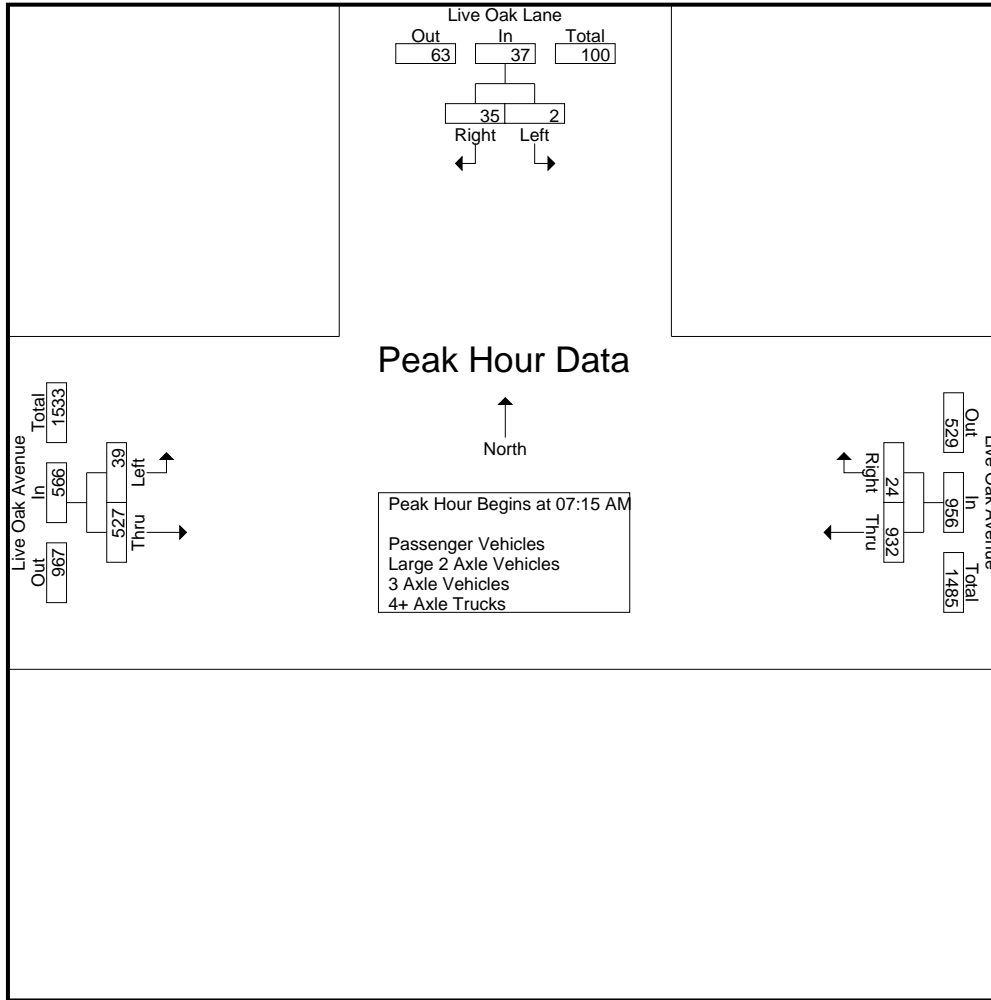
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Live Oak Lane Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:00 AM	0	4	4	219	4	223	6	109	115	342
07:15 AM	0	8	8	221	5	226	5	116	121	355
07:30 AM	0	9	9	261	6	267	11	115	126	402
07:45 AM	0	8	8	235	7	242	13	151	164	414
Total	0	29	29	936	22	958	35	491	526	1513
08:00 AM	2	10	12	215	6	221	10	145	155	388
08:15 AM	2	14	16	162	2	164	7	146	153	333
08:30 AM	1	14	15	169	8	177	7	159	166	358
08:45 AM	0	15	15	133	7	140	14	134	148	303
Total	5	53	58	679	23	702	38	584	622	1382
Grand Total	5	82	87	1615	45	1660	73	1075	1148	2895
Apprch %	5.7	94.3		97.3	2.7		6.4	93.6		
Total %	0.2	2.8	3	55.8	1.6	57.3	2.5	37.1	39.7	
Passenger Vehicles	3	15	18	1522	32	1554	30	994	1024	2596
% Passenger Vehicles	60	18.3	20.7	94.2	71.1	93.6	41.1	92.5	89.2	89.7
Large 2 Axle Vehicles	1	6	7	46	2	48	3	24	27	82
% Large 2 Axle Vehicles	20	7.3	8	2.8	4.4	2.9	4.1	2.2	2.4	2.8
3 Axle Vehicles	0	3	3	9	4	13	8	9	17	33
% 3 Axle Vehicles	0	3.7	3.4	0.6	8.9	0.8	11	0.8	1.5	1.1
4+ Axle Trucks	1	58	59	38	7	45	32	48	80	184
% 4+ Axle Trucks	20	70.7	67.8	2.4	15.6	2.7	43.8	4.5	7	6.4

Start Time	Live Oak Lane Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	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	8	8	221	5	226	5	116	121	355
07:30 AM	0	9	9	261	6	267	11	115	126	402
07:45 AM	0	8	8	235	7	242	13	151	164	414
08:00 AM	2	10	12	215	6	221	10	145	155	388
Total Volume	2	35	37	932	24	956	39	527	566	1559
% App. Total	5.4	94.6		97.5	2.5		6.9	93.1		
PHF	.250	.875	.771	.893	.857	.895	.750	.873	.863	.941

City of Irwindale
 N/S: Live Oak Lane
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 05_IRW_LO Ln_LO AM
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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:

	08:00 AM			07:00 AM			07:45 AM		
+0 mins.	2	10	12	219	4	223	13	151	164
+15 mins.	2	14	16	221	5	226	10	145	155
+30 mins.	1	14	15	261	6	267	7	146	153
+45 mins.	0	15	15	235	7	242	7	159	166
Total Volume	5	53	58	936	22	958	37	601	638
% App. Total	8.6	91.4		97.7	2.3		5.8	94.2	
PHF	.625	.883	.906	.897	.786	.897	.712	.945	.961

City of Irwindale
 N/S: Live Oak Lane
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 05_IRW_LO Ln_LO AM
 Site Code : 04223184
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Groups Printed- Passenger Vehicles

Start Time	Live Oak Lane Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:00 AM	0	1	1	201	4	205	4	101	105	311
07:15 AM	0	3	3	210	4	214	2	103	105	322
07:30 AM	0	3	3	248	3	251	6	106	112	366
07:45 AM	0	3	3	226	5	231	8	139	147	381
Total	0	10	10	885	16	901	20	449	469	1380
08:00 AM	1	1	2	205	4	209	2	138	140	351
08:15 AM	1	2	3	152	2	154	3	139	142	299
08:30 AM	1	2	3	160	6	166	3	147	150	319
08:45 AM	0	0	0	120	4	124	2	121	123	247
Total	3	5	8	637	16	653	10	545	555	1216
Grand Total	3	15	18	1522	32	1554	30	994	1024	2596
Apprch %	16.7	83.3		97.9	2.1		2.9	97.1		
Total %	0.1	0.6	0.7	58.6	1.2	59.9	1.2	38.3	39.4	

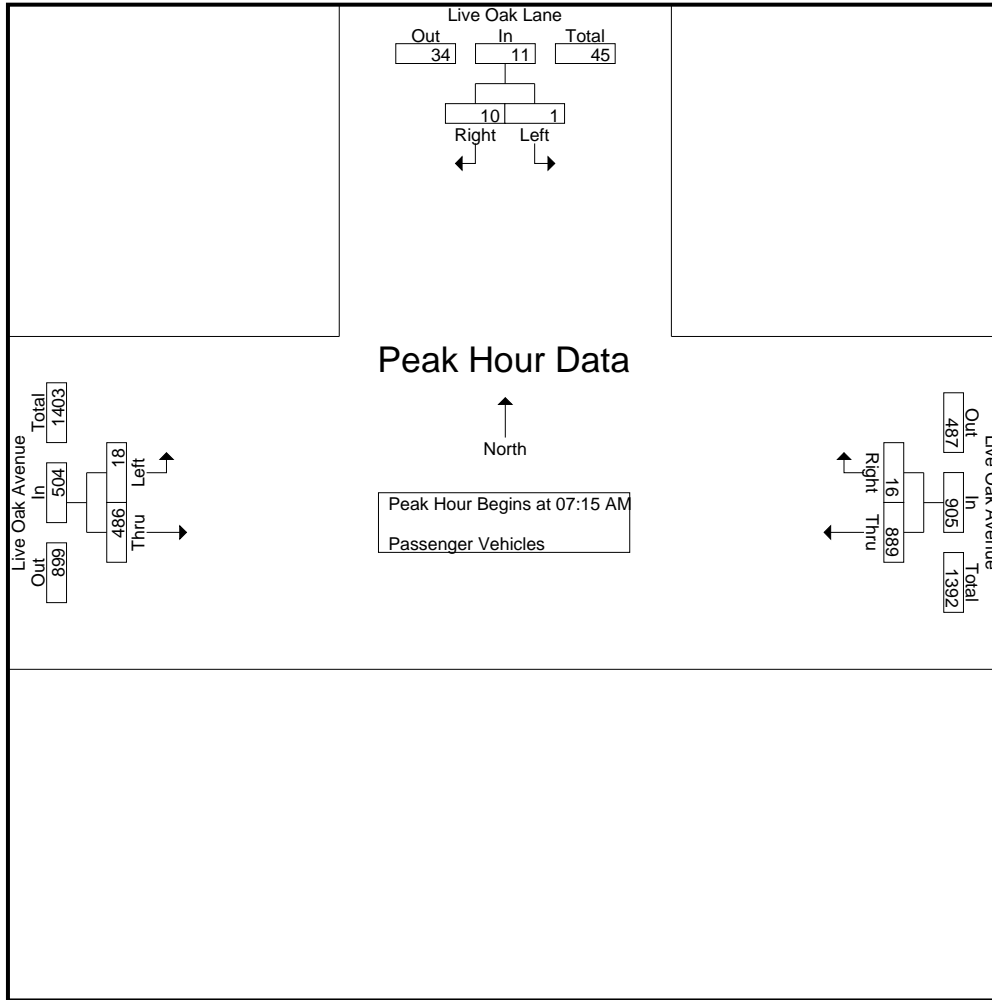
Start Time	Live Oak Lane Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:15 AM	0	3	3	210	4	214	2	103	105	322
07:30 AM	0	3	3	248	3	251	6	106	112	366
07:45 AM	0	3	3	226	5	231	8	139	147	381
08:00 AM	1	1	2	205	4	209	2	138	140	351
Total Volume	1	10	11	889	16	905	18	486	504	1420
% App. Total	9.1	90.9		98.2	1.8		3.6	96.4		
PHF	.250	.833	.917	.896	.800	.901	.563	.874	.857	.932

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:15 AM

City of Irwindale
 N/S: Live Oak Lane
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 05_IRW_LO Ln_LO AM
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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	0	3	3	210	4	214	2	103	105
+15 mins.	0	3	3	248	3	251	6	106	112
+30 mins.	0	3	3	226	5	231	8	139	147
+45 mins.	1	1	2	205	4	209	2	138	140
Total Volume	1	10	11	889	16	905	18	486	504
% App. Total	9.1	90.9		98.2	1.8		3.6	96.4	
PHF	.250	.833	.917	.896	.800	.901	.563	.874	.857

City of Irwindale
 N/S: Live Oak Lane
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 05_IRW_LO Ln_LO AM
 Site Code : 04223184
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Groups Printed- Large 2 Axle Vehicles

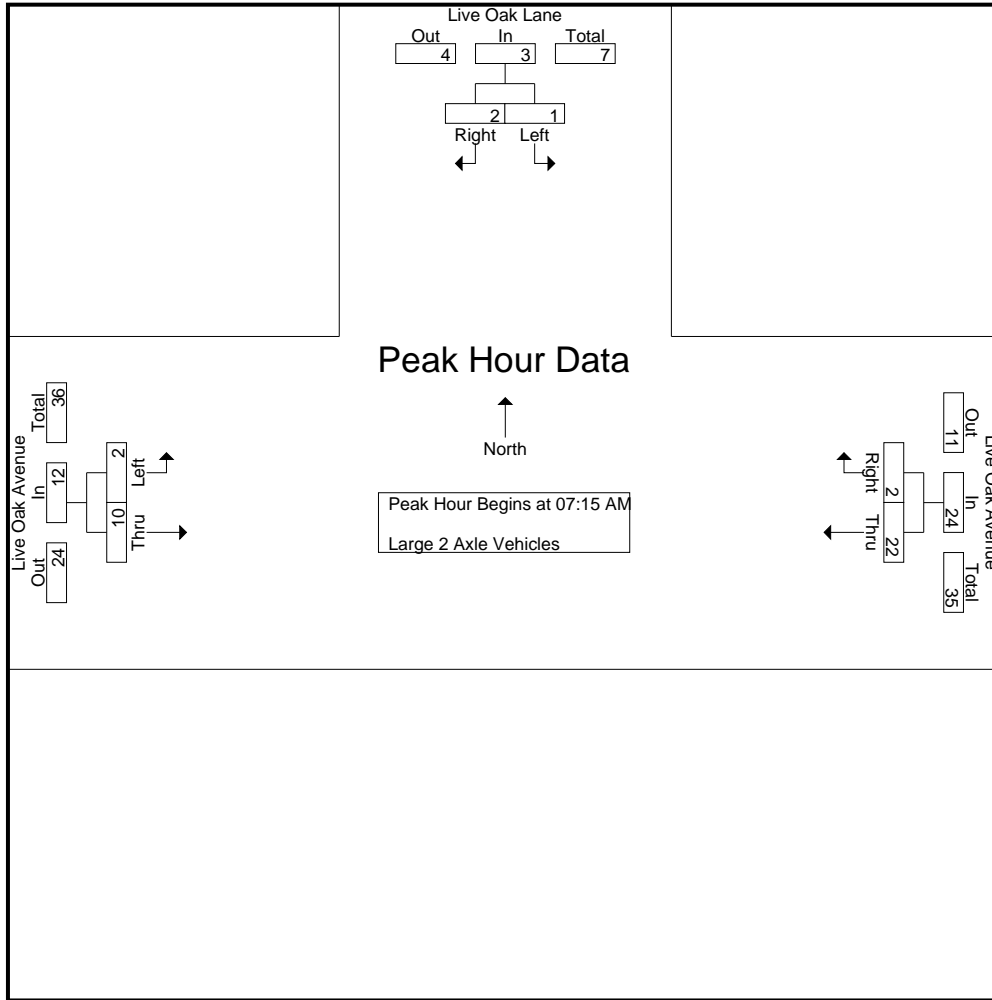
Start Time	Live Oak Lane Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:00 AM	0	1	1	10	0	10	1	4	5	16
07:15 AM	0	0	0	6	0	6	1	6	7	13
07:30 AM	0	0	0	8	1	9	1	0	1	10
07:45 AM	0	2	2	6	1	7	0	4	4	13
Total	0	3	3	30	2	32	3	14	17	52
08:00 AM	1	0	1	2	0	2	0	0	0	3
08:15 AM	0	1	1	7	0	7	0	2	2	10
08:30 AM	0	0	0	4	0	4	0	5	5	9
08:45 AM	0	2	2	3	0	3	0	3	3	8
Total	1	3	4	16	0	16	0	10	10	30
Grand Total	1	6	7	46	2	48	3	24	27	82
Apprch %	14.3	85.7		95.8	4.2		11.1	88.9		
Total %	1.2	7.3	8.5	56.1	2.4	58.5	3.7	29.3	32.9	

Start Time	Live Oak Lane Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:15 AM	0	0	0	6	0	6	1	6	7	13
07:30 AM	0	0	0	8	1	9	1	0	1	10
07:45 AM	0	2	2	6	1	7	0	4	4	13
08:00 AM	1	0	1	2	0	2	0	0	0	3
Total Volume	1	2	3	22	2	24	2	10	12	39
% App. Total	33.3	66.7		91.7	8.3		16.7	83.3		
PHF	.250	.250	.375	.688	.500	.667	.500	.417	.429	.750

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

City of Irwindale
 N/S: Live Oak Lane
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 05_IRW_LO Ln_LO AM
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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	0	0	0	6	0	6	1	6	7
+15 mins.	0	0	0	8	1	9	1	0	1
+30 mins.	0	2	2	6	1	7	0	4	4
+45 mins.	1	0	1	2	0	2	0	0	0
Total Volume	1	2	3	22	2	24	2	10	12
% App. Total	33.3	66.7		91.7	8.3		16.7	83.3	
PHF	.250	.250	.375	.688	.500	.667	.500	.417	.429

City of Irwindale
 N/S: Live Oak Lane
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 05_IRW_LO Ln_LO AM
 Site Code : 04223184
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Groups Printed- 3 Axle Vehicles

Start Time	Live Oak Lane Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	1	0	1	0	0	0	1
07:30 AM	0	0	0	1	0	1	0	1	1	2
07:45 AM	0	0	0	1	0	1	0	4	4	5
Total	0	0	0	3	0	3	0	5	5	8
08:00 AM	0	0	0	1	1	2	2	1	3	5
08:15 AM	0	0	0	0	0	0	0	2	2	2
08:30 AM	0	2	2	3	1	4	0	0	0	6
08:45 AM	0	1	1	2	2	4	6	1	7	12
Total	0	3	3	6	4	10	8	4	12	25
Grand Total	0	3	3	9	4	13	8	9	17	33
Apprch %	0	100		69.2	30.8		47.1	52.9		
Total %	0	9.1	9.1	27.3	12.1	39.4	24.2	27.3	51.5	

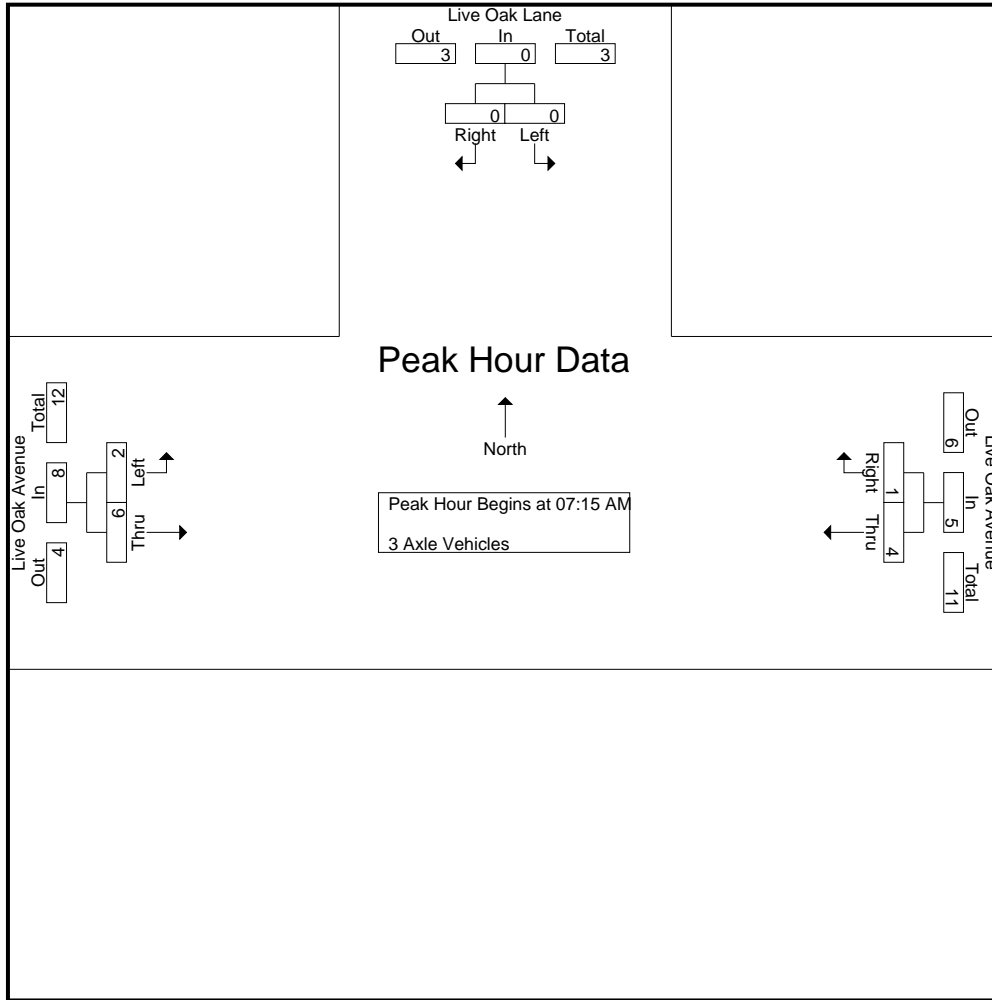
Start Time	Live Oak Lane Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:15 AM	0	0	0	1	0	1	0	0	0	1
07:30 AM	0	0	0	1	0	1	0	1	1	2
07:45 AM	0	0	0	1	0	1	0	4	4	5
08:00 AM	0	0	0	1	1	2	2	1	3	5
Total Volume	0	0	0	4	1	5	2	6	8	13
% App. Total	0	0		80	20		25	75		
PHF	.000	.000	.000	1.00	.250	.625	.250	.375	.500	.650

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:15 AM

City of Irwindale
 N/S: Live Oak Lane
 E/W: Live Oak Avenue
 Weather: Clear

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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	0	0	0	1	0	1	0	0	0
+15 mins.	0	0	0	1	0	1	0	1	1
+30 mins.	0	0	0	1	0	1	0	4	4
+45 mins.	0	0	0	1	1	2	2	1	3
Total Volume	0	0	0	4	1	5	2	6	8
% App. Total	0	0	0	80	20		25	75	
PHF	.000	.000	.000	1.000	.250	.625	.250	.375	.500

City of Irwindale
 N/S: Live Oak Lane
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 05_IRW_LO Ln_LO AM
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Groups Printed- 4+ Axle Trucks

Start Time	Live Oak Lane Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:00 AM	0	2	2	8	0	8	1	4	5	15
07:15 AM	0	5	5	4	1	5	2	7	9	19
07:30 AM	0	6	6	4	2	6	4	8	12	24
07:45 AM	0	3	3	2	1	3	5	4	9	15
Total	0	16	16	18	4	22	12	23	35	73
08:00 AM	0	9	9	7	1	8	6	6	12	29
08:15 AM	1	11	12	3	0	3	4	3	7	22
08:30 AM	0	10	10	2	1	3	4	7	11	24
08:45 AM	0	12	12	8	1	9	6	9	15	36
Total	1	42	43	20	3	23	20	25	45	111
Grand Total	1	58	59	38	7	45	32	48	80	184
Apprch %	1.7	98.3		84.4	15.6		40	60		
Total %	0.5	31.5	32.1	20.7	3.8	24.5	17.4	26.1	43.5	

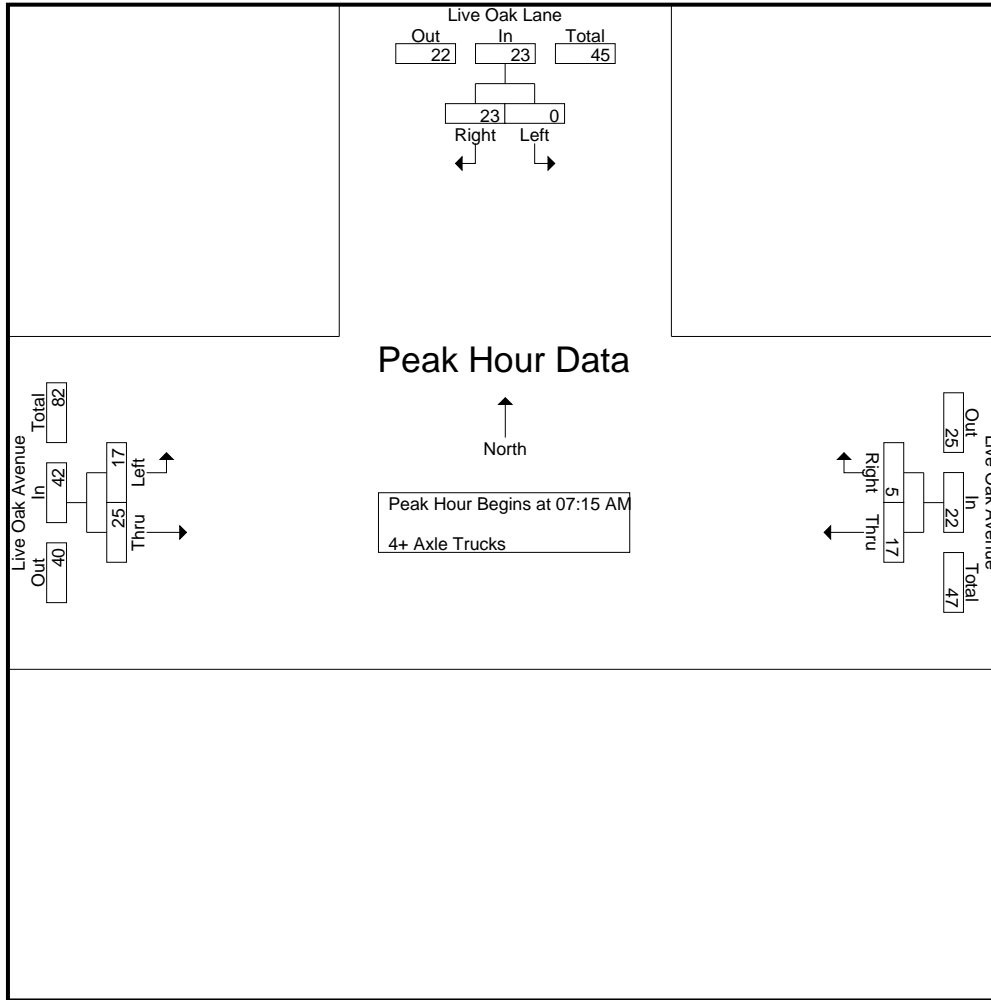
Start Time	Live Oak Lane Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:15 AM	0	5	5	4	1	5	2	7	9	19
07:30 AM	0	6	6	4	2	6	4	8	12	24
07:45 AM	0	3	3	2	1	3	5	4	9	15
08:00 AM	0	9	9	7	1	8	6	6	12	29
Total Volume	0	23	23	17	5	22	17	25	42	87
% App. Total	0	100		77.3	22.7		40.5	59.5		
PHF	.000	.639	.639	.607	.625	.688	.708	.781	.875	.750

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:15 AM

City of Irwindale
 N/S: Live Oak Lane
 E/W: Live Oak Avenue
 Weather: Clear

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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	0	5	5	4	1	5	2	7	9
+15 mins.	0	6	6	4	2	6	4	8	12
+30 mins.	0	3	3	2	1	3	5	4	9
+45 mins.	0	9	9	7	1	8	6	6	12
Total Volume	0	23	23	17	5	22	17	25	42
% App. Total	0	100		77.3	22.7		40.5	59.5	
PHF	.000	.639	.639	.607	.625	.688	.708	.781	.875

City of Irwindale
 N/S: Live Oak Lane
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 05_IRW_LO Ln_LO PM
 Site Code : 04223184
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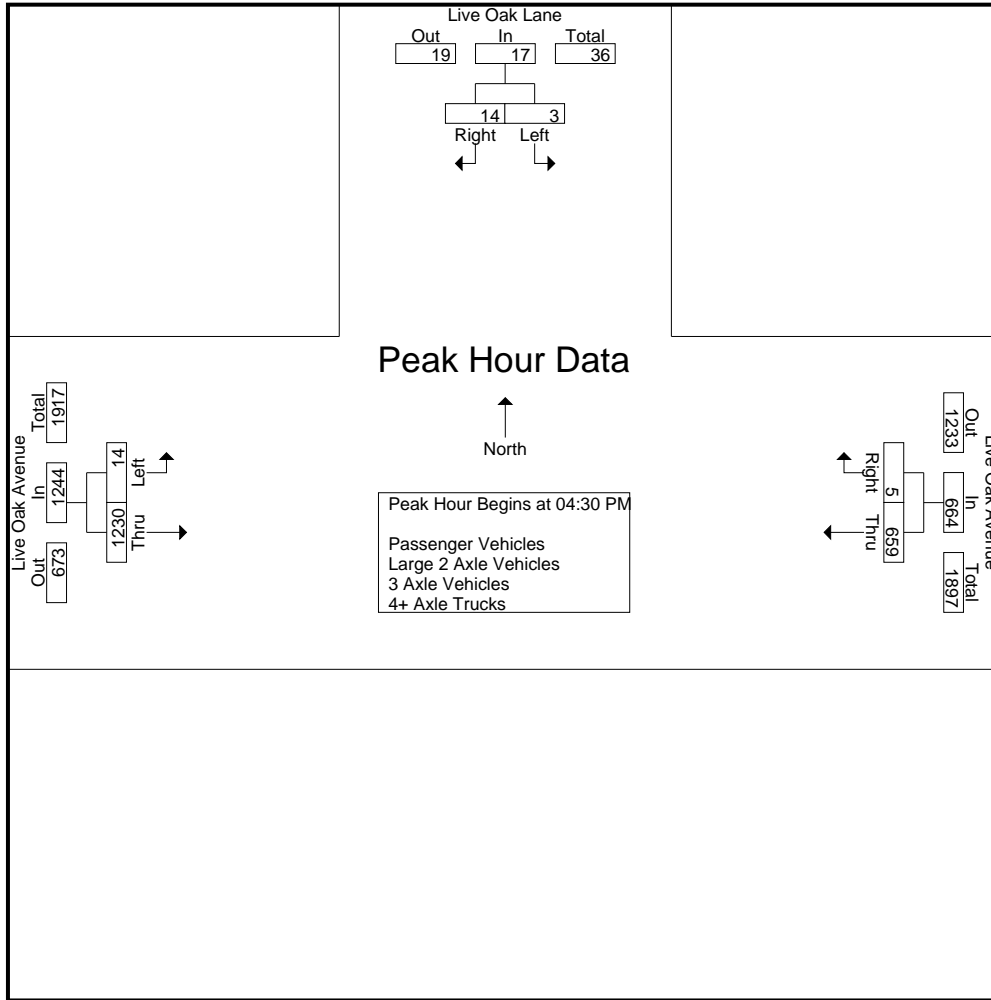
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Live Oak Lane Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
04:00 PM	0	7	7	129	0	129	0	277	277	413
04:15 PM	1	1	2	126	1	127	2	257	259	388
04:30 PM	0	5	5	159	0	159	2	313	315	479
04:45 PM	0	1	1	130	2	132	2	281	283	416
Total	1	14	15	544	3	547	6	1128	1134	1696
05:00 PM	3	6	9	219	2	221	6	333	339	569
05:15 PM	0	2	2	151	1	152	4	303	307	461
05:30 PM	0	5	5	153	1	154	2	295	297	456
05:45 PM	0	1	1	103	1	104	0	246	246	351
Total	3	14	17	626	5	631	12	1177	1189	1837
Grand Total	4	28	32	1170	8	1178	18	2305	2323	3533
Apprch %	12.5	87.5		99.3	0.7		0.8	99.2		
Total %	0.1	0.8	0.9	33.1	0.2	33.3	0.5	65.2	65.8	
Passenger Vehicles	4	19	23	1129	5	1134	8	2246	2254	3411
% Passenger Vehicles	100	67.9	71.9	96.5	62.5	96.3	44.4	97.4	97	96.5
Large 2 Axle Vehicles	0	2	2	16	0	16	0	34	34	52
% Large 2 Axle Vehicles	0	7.1	6.2	1.4	0	1.4	0	1.5	1.5	1.5
3 Axle Vehicles	0	1	1	8	0	8	3	9	12	21
% 3 Axle Vehicles	0	3.6	3.1	0.7	0	0.7	16.7	0.4	0.5	0.6
4+ Axle Trucks	0	6	6	17	3	20	7	16	23	49
% 4+ Axle Trucks	0	21.4	18.8	1.5	37.5	1.7	38.9	0.7	1	1.4

Start Time	Live Oak Lane Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	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	5	5	159	0	159	2	313	315	479
04:45 PM	0	1	1	130	2	132	2	281	283	416
05:00 PM	3	6	9	219	2	221	6	333	339	569
05:15 PM	0	2	2	151	1	152	4	303	307	461
Total Volume	3	14	17	659	5	664	14	1230	1244	1925
% App. Total	17.6	82.4		99.2	0.8		1.1	98.9		
PHF	.250	.583	.472	.752	.625	.751	.583	.923	.917	.846

City of Irwindale
 N/S: Live Oak Lane
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 05_IRW_LO Ln_LO PM
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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:

	04:15 PM			04:30 PM			04:30 PM		
+0 mins.	1	1	2	159	0	159	2	313	315
+15 mins.	0	5	5	130	2	132	2	281	283
+30 mins.	0	1	1	219	2	221	6	333	339
+45 mins.	3	6	9	151	1	152	4	303	307
Total Volume	4	13	17	659	5	664	14	1230	1244
% App. Total	23.5	76.5		99.2	0.8		1.1	98.9	
PHF	.333	.542	.472	.752	.625	.751	.583	.923	.917

City of Irwindale
 N/S: Live Oak Lane
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 05_IRW_LO Ln_LO PM
 Site Code : 04223184
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Groups Printed- Passenger Vehicles

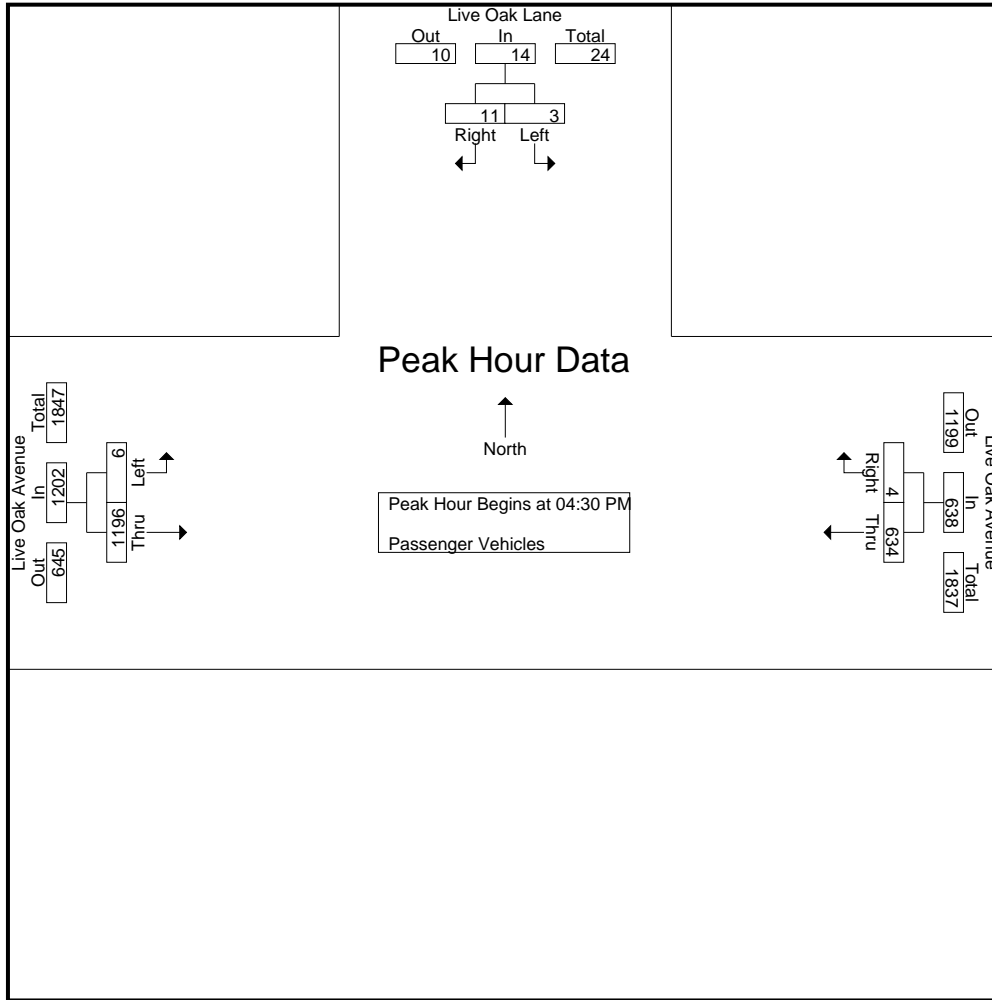
Start Time	Live Oak Lane Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
04:00 PM	0	4	4	127	0	127	0	267	267	398
04:15 PM	1	1	2	123	0	123	1	249	250	375
04:30 PM	0	4	4	147	0	147	2	307	309	460
04:45 PM	0	1	1	126	2	128	1	275	276	405
Total	1	10	11	523	2	525	4	1098	1102	1638
05:00 PM	3	4	7	215	1	216	3	318	321	544
05:15 PM	0	2	2	146	1	147	0	296	296	445
05:30 PM	0	3	3	147	0	147	1	293	294	444
05:45 PM	0	0	0	98	1	99	0	241	241	340
Total	3	9	12	606	3	609	4	1148	1152	1773
Grand Total	4	19	23	1129	5	1134	8	2246	2254	3411
Apprch %	17.4	82.6		99.6	0.4		0.4	99.6		
Total %	0.1	0.6	0.7	33.1	0.1	33.2	0.2	65.8	66.1	

Start Time	Live Oak Lane Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
04:30 PM	0	4	4	147	0	147	2	307	309	460
04:45 PM	0	1	1	126	2	128	1	275	276	405
05:00 PM	3	4	7	215	1	216	3	318	321	544
05:15 PM	0	2	2	146	1	147	0	296	296	445
Total Volume	3	11	14	634	4	638	6	1196	1202	1854
% App. Total	21.4	78.6		99.4	0.6		0.5	99.5		
PHF	.250	.688	.500	.737	.500	.738	.500	.940	.936	.852

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

City of Irwindale
 N/S: Live Oak Lane
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 05_IRW_LO Ln_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	0	4	4	147	0	147	2	307	309
+15 mins.	0	1	1	126	2	128	1	275	276
+30 mins.	3	4	7	215	1	216	3	318	321
+45 mins.	0	2	2	146	1	147	0	296	296
Total Volume	3	11	14	634	4	638	6	1196	1202
% App. Total	21.4	78.6		99.4	0.6		0.5	99.5	
PHF	.250	.688	.500	.737	.500	.738	.500	.940	.936

City of Irwindale
 N/S: Live Oak Lane
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 05_IRW_LO Ln_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	Live Oak Lane Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
04:00 PM	0	1	1	1	0	1	0	8	8	10
04:15 PM	0	0	0	2	0	2	0	3	3	5
04:30 PM	0	0	0	5	0	5	0	3	3	8
04:45 PM	0	0	0	2	0	2	0	5	5	7
Total	0	1	1	10	0	10	0	19	19	30
05:00 PM	0	1	1	1	0	1	0	6	6	8
05:15 PM	0	0	0	0	0	0	0	4	4	4
05:30 PM	0	0	0	1	0	1	0	1	1	2
05:45 PM	0	0	0	4	0	4	0	4	4	8
Total	0	1	1	6	0	6	0	15	15	22
Grand Total	0	2	2	16	0	16	0	34	34	52
Apprch %	0	100		100	0		0	100		
Total %	0	3.8	3.8	30.8	0	30.8	0	65.4	65.4	

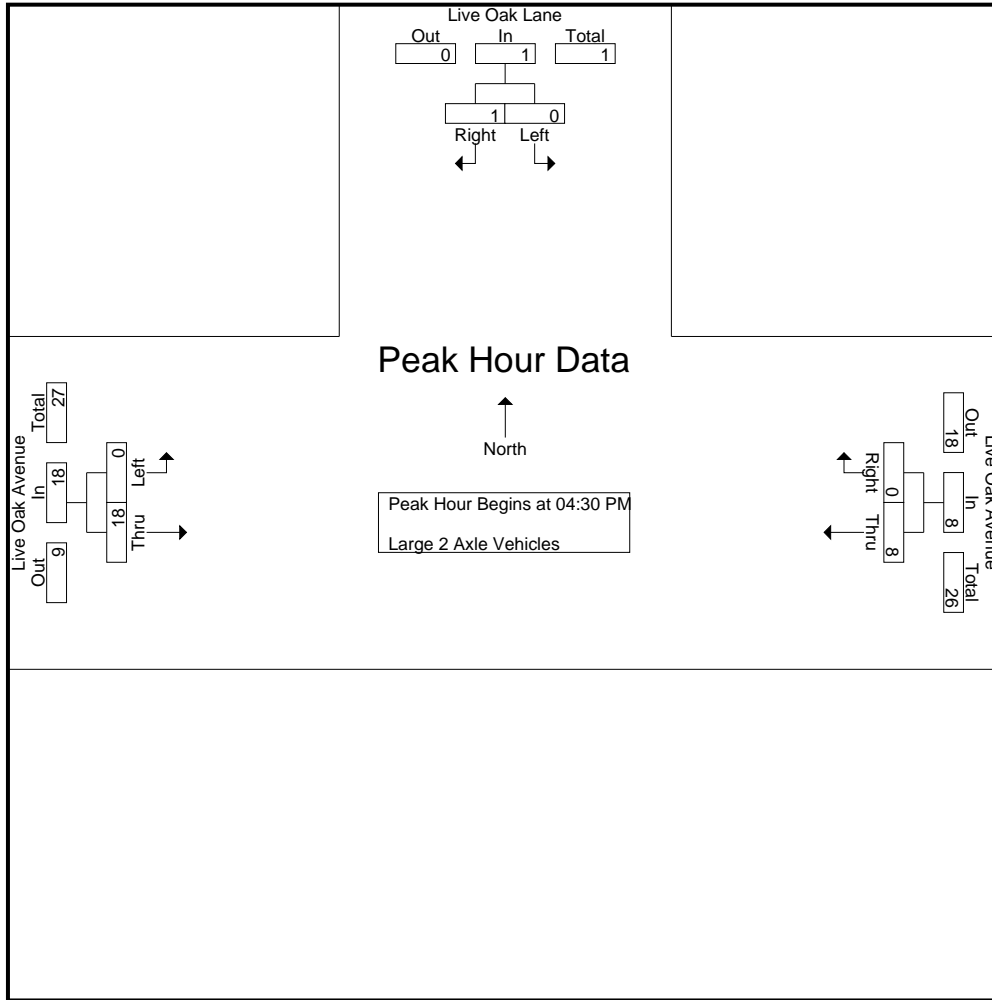
Start Time	Live Oak Lane Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
04:30 PM	0	0	0	5	0	5	0	3	3	8
04:45 PM	0	0	0	2	0	2	0	5	5	7
05:00 PM	0	1	1	1	0	1	0	6	6	8
05:15 PM	0	0	0	0	0	0	0	4	4	4
Total Volume	0	1	1	8	0	8	0	18	18	27
% App. Total	0	100		100	0		0	100		
PHF	.000	.250	.250	.400	.000	.400	.000	.750	.750	.844

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:30 PM

City of Irwindale
 N/S: Live Oak Lane
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 05_IRW_LO Ln_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	0	0	0	5	0	5	0	3	3
+15 mins.	0	0	0	2	0	2	0	5	5
+30 mins.	0	1	1	1	0	1	0	6	6
+45 mins.	0	0	0	0	0	0	0	4	4
Total Volume	0	1	1	8	0	8	0	18	18
% App. Total	0	100		100	0		0	100	
PHF	.000	.250	.250	.400	.000	.400	.000	.750	.750

City of Irwindale
 N/S: Live Oak Lane
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 05_IRW_LO Ln_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 3 Axle Vehicles

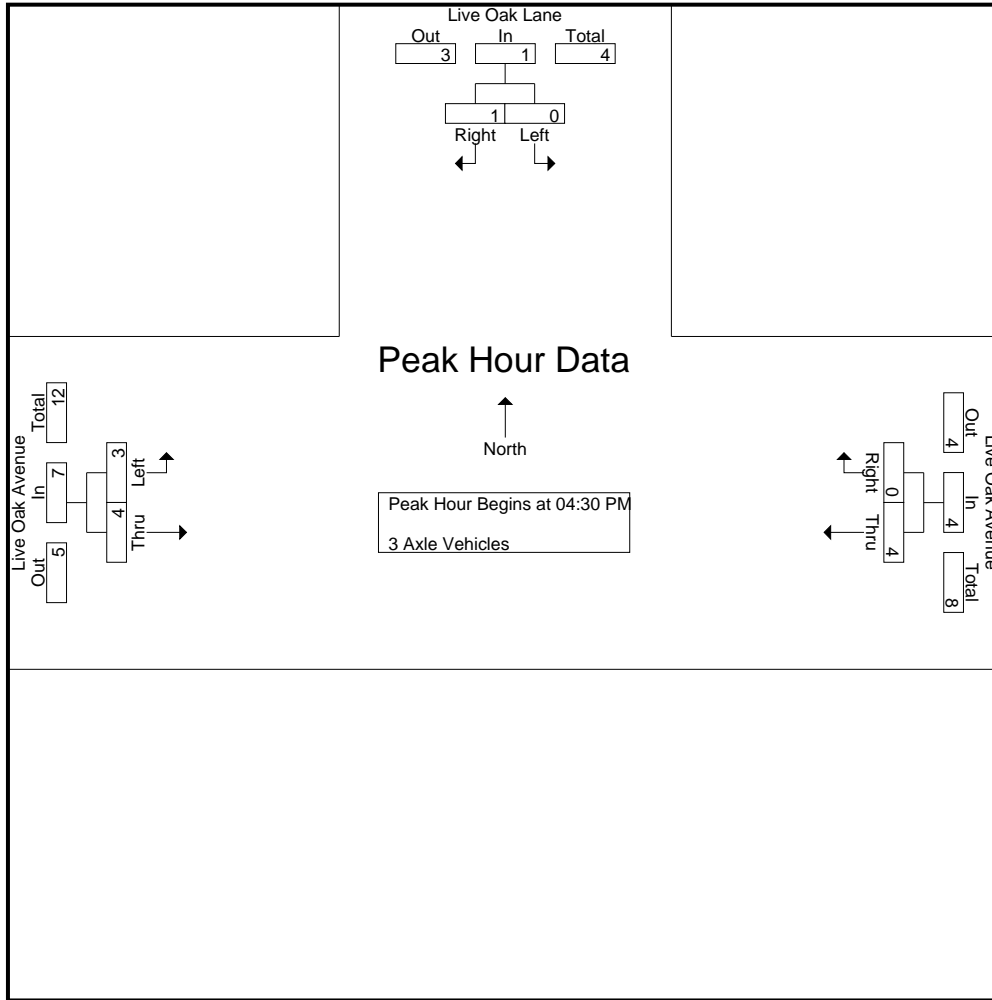
Start Time	Live Oak Lane Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
04:00 PM	0	0	0	0	0	0	0	2	2	2
04:15 PM	0	0	0	1	0	1	0	1	1	2
04:30 PM	0	1	1	3	0	3	0	1	1	5
04:45 PM	0	0	0	1	0	1	0	0	0	1
Total	0	1	1	5	0	5	0	4	4	10
05:00 PM	0	0	0	0	0	0	1	2	3	3
05:15 PM	0	0	0	0	0	0	2	1	3	3
05:30 PM	0	0	0	3	0	3	0	1	1	4
05:45 PM	0	0	0	0	0	0	0	1	1	1
Total	0	0	0	3	0	3	3	5	8	11
Grand Total	0	1	1	8	0	8	3	9	12	21
Apprch %	0	100		100	0		25	75		
Total %	0	4.8	4.8	38.1	0	38.1	14.3	42.9	57.1	

Start Time	Live Oak Lane Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
04:30 PM	0	1	1	3	0	3	0	1	1	5
04:45 PM	0	0	0	1	0	1	0	0	0	1
05:00 PM	0	0	0	0	0	0	1	2	3	3
05:15 PM	0	0	0	0	0	0	2	1	3	3
Total Volume	0	1	1	4	0	4	3	4	7	12
% App. Total	0	100		100	0		42.9	57.1		
PHF	.000	.250	.250	.333	.000	.333	.375	.500	.583	.600

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

City of Irwindale
 N/S: Live Oak Lane
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 05_IRW_LO Ln_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	0	1	1	3	0	3	0	1	1
+15 mins.	0	0	0	1	0	1	0	0	0
+30 mins.	0	0	0	0	0	0	1	2	3
+45 mins.	0	0	0	0	0	0	2	1	3
Total Volume	0	1	1	4	0	4	3	4	7
% App. Total	0	100		100	0		42.9	57.1	
PHF	.000	.250	.250	.333	.000	.333	.375	.500	.583

City of Irwindale
 N/S: Live Oak Lane
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 05_IRW_LO Ln_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 4+ Axle Trucks

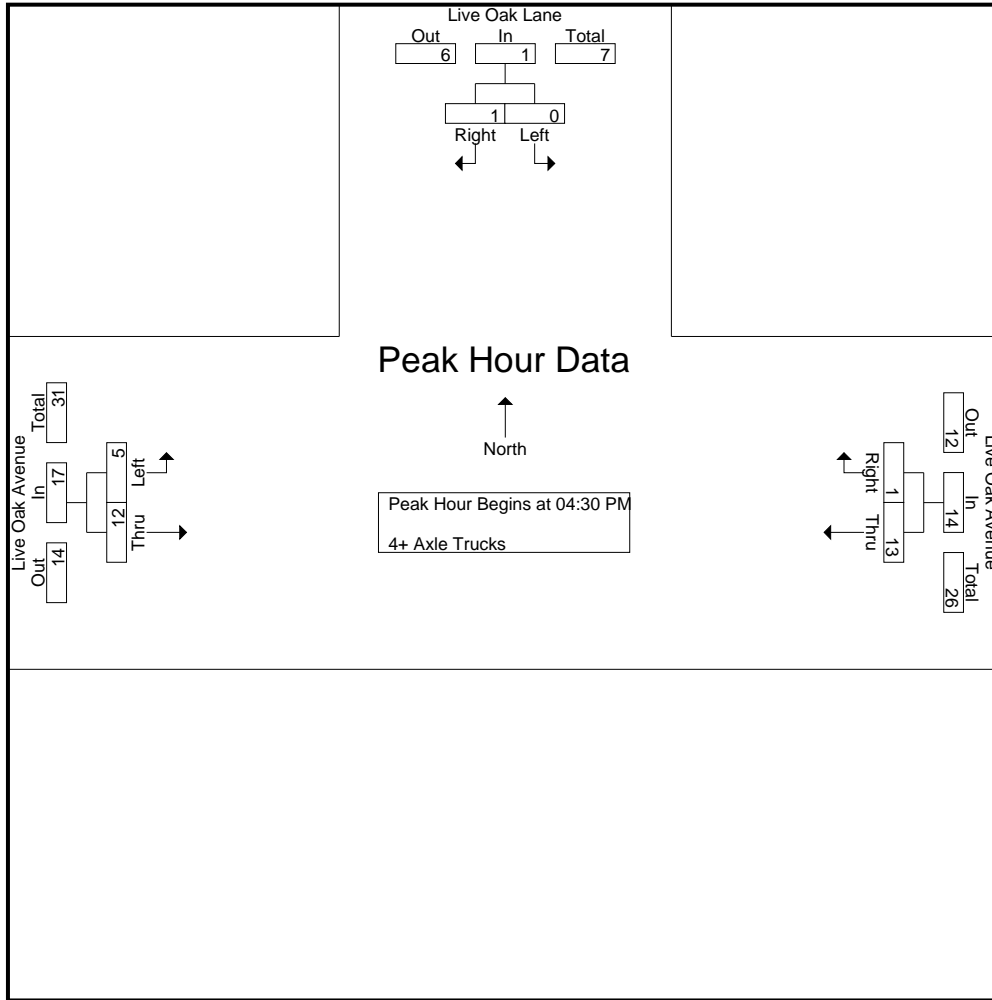
Start Time	Live Oak Lane Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
04:00 PM	0	2	2	1	0	1	0	0	0	3
04:15 PM	0	0	0	0	1	1	1	4	5	6
04:30 PM	0	0	0	4	0	4	0	2	2	6
04:45 PM	0	0	0	1	0	1	1	1	2	3
Total	0	2	2	6	1	7	2	7	9	18
05:00 PM	0	1	1	3	1	4	2	7	9	14
05:15 PM	0	0	0	5	0	5	2	2	4	9
05:30 PM	0	2	2	2	1	3	1	0	1	6
05:45 PM	0	1	1	1	0	1	0	0	0	2
Total	0	4	4	11	2	13	5	9	14	31
Grand Total	0	6	6	17	3	20	7	16	23	49
Apprch %	0	100		85	15		30.4	69.6		
Total %	0	12.2	12.2	34.7	6.1	40.8	14.3	32.7	46.9	

Start Time	Live Oak Lane Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
04:30 PM	0	0	0	4	0	4	0	2	2	6
04:45 PM	0	0	0	1	0	1	1	1	2	3
05:00 PM	0	1	1	3	1	4	2	7	9	14
05:15 PM	0	0	0	5	0	5	2	2	4	9
Total Volume	0	1	1	13	1	14	5	12	17	32
% App. Total	0	100		92.9	7.1		29.4	70.6		
PHF	.000	.250	.250	.650	.250	.700	.625	.429	.472	.571

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

City of Irwindale
 N/S: Live Oak Lane
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 05_IRW_LO Ln_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
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Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	0	0	0	4	0	4	0	2	2
+15 mins.	0	0	0	1	0	1	1	1	2
+30 mins.	0	1	1	3	1	4	2	7	9
+45 mins.	0	0	0	5	0	5	2	2	4
Total Volume	0	1	1	13	1	14	5	12	17
% App. Total	0	100		92.9	7.1		29.4	70.6	
PHF	.000	.250	.250	.650	.250	.700	.625	.429	.472

City of Irwindale
 N/S: Graham Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 06_IRW_Grah_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

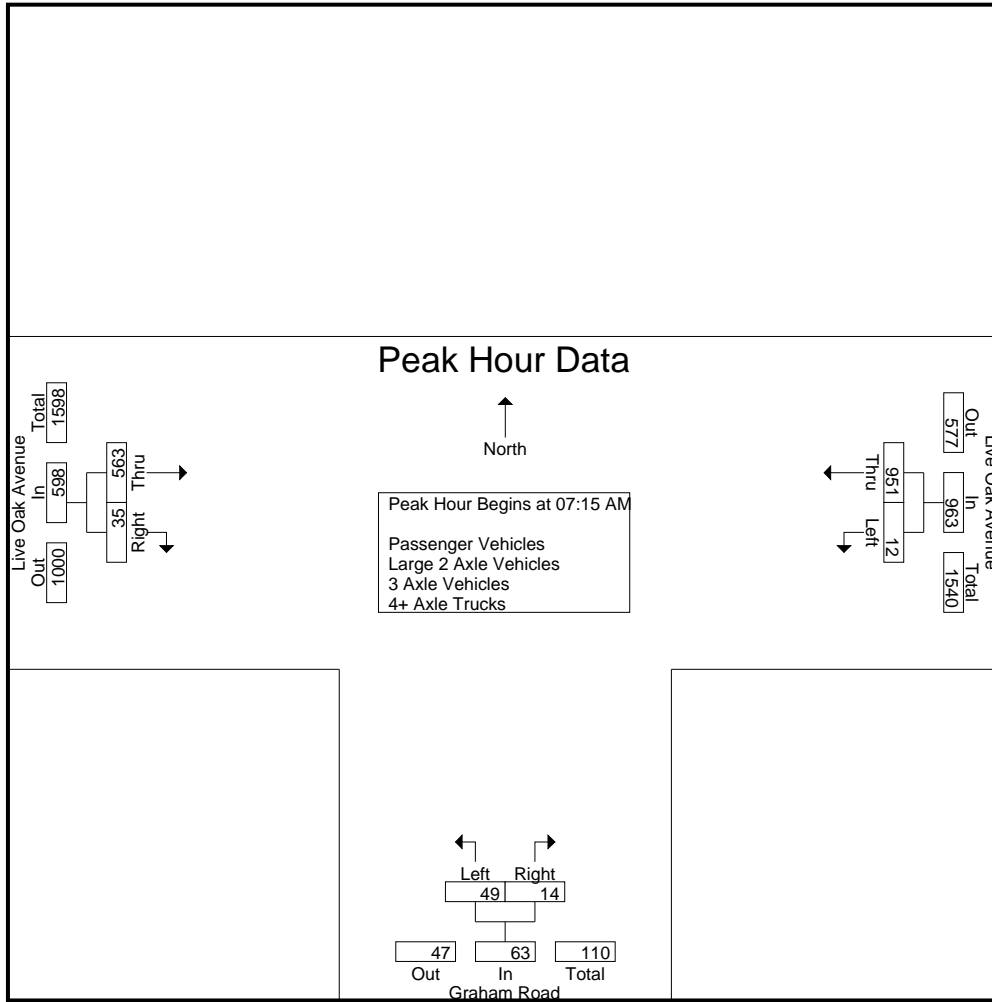
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Live Oak Avenue Westbound			Graham Road Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	3	207	210	8	4	12	111	13	124	346
07:15 AM	2	232	234	12	4	16	126	13	139	389
07:30 AM	2	268	270	14	5	19	121	7	128	417
07:45 AM	5	235	240	16	3	19	163	4	167	426
Total	12	942	954	50	16	66	521	37	558	1578
08:00 AM	3	216	219	7	2	9	153	11	164	392
08:15 AM	4	169	173	5	4	9	148	12	160	342
08:30 AM	3	168	171	10	4	14	159	8	167	352
08:45 AM	2	145	147	8	3	11	151	7	158	316
Total	12	698	710	30	13	43	611	38	649	1402
Grand Total	24	1640	1664	80	29	109	1132	75	1207	2980
Apprch %	1.4	98.6		73.4	26.6		93.8	6.2		
Total %	0.8	55	55.8	2.7	1	3.7	38	2.5	40.5	
Passenger Vehicles	9	1494	1503	21	13	34	1023	20	1043	2580
% Passenger Vehicles	37.5	91.1	90.3	26.2	44.8	31.2	90.4	26.7	86.4	86.6
Large 2 Axle Vehicles	4	52	56	3	2	5	28	5	33	94
% Large 2 Axle Vehicles	16.7	3.2	3.4	3.8	6.9	4.6	2.5	6.7	2.7	3.2
3 Axle Vehicles	2	10	12	7	2	9	17	4	21	42
% 3 Axle Vehicles	8.3	0.6	0.7	8.8	6.9	8.3	1.5	5.3	1.7	1.4
4+ Axle Trucks	9	84	93	49	12	61	64	46	110	264
% 4+ Axle Trucks	37.5	5.1	5.6	61.2	41.4	56	5.7	61.3	9.1	8.9

Start Time	Live Oak Avenue Westbound			Graham Road Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	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	2	232	234	12	4	16	126	13	139	389
07:30 AM	2	268	270	14	5	19	121	7	128	417
07:45 AM	5	235	240	16	3	19	163	4	167	426
08:00 AM	3	216	219	7	2	9	153	11	164	392
Total Volume	12	951	963	49	14	63	563	35	598	1624
% App. Total	1.2	98.8		77.8	22.2		94.1	5.9		
PHF	.600	.887	.892	.766	.700	.829	.863	.673	.895	.953

City of Irwindale
 N/S: Graham Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 06_IRW_Grah_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 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			07:45 AM		
+0 mins.	2	232	234	8	4	12	163	4	167
+15 mins.	2	268	270	12	4	16	153	11	164
+30 mins.	5	235	240	14	5	19	148	12	160
+45 mins.	3	216	219	16	3	19	159	8	167
Total Volume	12	951	963	50	16	66	623	35	658
% App. Total	1.2	98.8		75.8	24.2		94.7	5.3	
PHF	.600	.887	.892	.781	.800	.868	.956	.729	.985

City of Irwindale
 N/S: Graham Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 06_IRW_Grah_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Passenger Vehicles

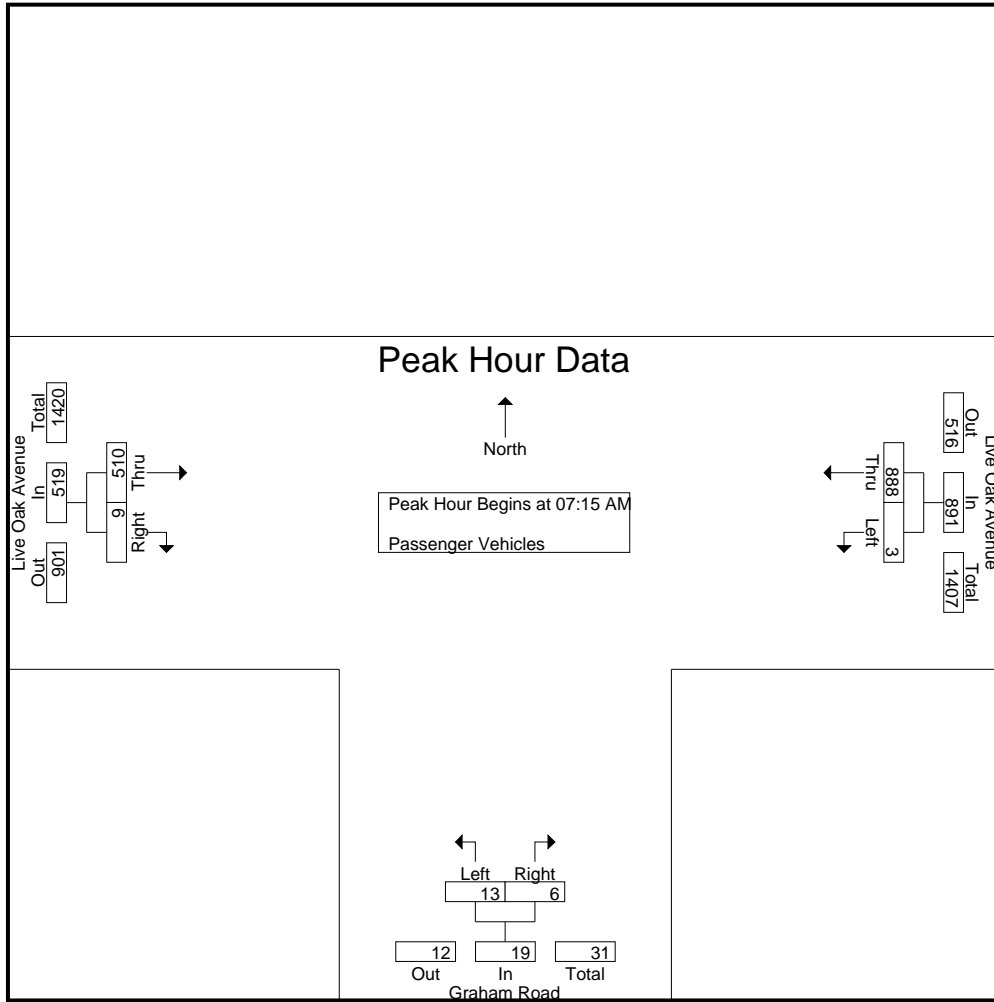
Start Time	Live Oak Avenue Westbound			Graham Road Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	1	190	191	1	3	4	100	2	102	297
07:15 AM	0	216	216	7	2	9	112	3	115	340
07:30 AM	1	250	251	3	2	5	111	1	112	368
07:45 AM	1	225	226	2	1	3	148	2	150	379
Total	3	881	884	13	8	21	471	8	479	1384
08:00 AM	1	197	198	1	1	2	139	3	142	342
08:15 AM	4	147	151	2	2	4	139	5	144	299
08:30 AM	1	150	151	4	2	6	143	3	146	303
08:45 AM	0	119	119	1	0	1	131	1	132	252
Total	6	613	619	8	5	13	552	12	564	1196
Grand Total	9	1494	1503	21	13	34	1023	20	1043	2580
Apprch %	0.6	99.4		61.8	38.2		98.1	1.9		
Total %	0.3	57.9	58.3	0.8	0.5	1.3	39.7	0.8	40.4	

Start Time	Live Oak Avenue Westbound			Graham Road Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:15 AM	0	216	216	7	2	9	112	3	115	340
07:30 AM	1	250	251	3	2	5	111	1	112	368
07:45 AM	1	225	226	2	1	3	148	2	150	379
08:00 AM	1	197	198	1	1	2	139	3	142	342
Total Volume	3	888	891	13	6	19	510	9	519	1429
% App. Total	0.3	99.7		68.4	31.6		98.3	1.7		
PHF	.750	.888	.887	.464	.750	.528	.861	.750	.865	.943

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

City of Irwindale
 N/S: Graham Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 06_IRW_Grah_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	0	216	216	7	2	9	112	3	115
+15 mins.	1	250	251	3	2	5	111	1	112
+30 mins.	1	225	226	2	1	3	148	2	150
+45 mins.	1	197	198	1	1	2	139	3	142
Total Volume	3	888	891	13	6	19	510	9	519
% App. Total	0.3	99.7		68.4	31.6		98.3	1.7	
PHF	.750	.888	.887	.464	.750	.528	.861	.750	.865

City of Irwindale
 N/S: Graham Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 06_IRW_Grah_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	Live Oak Avenue Westbound			Graham Road Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	1	9	10	1	0	1	7	1	8	19
07:15 AM	0	7	7	1	1	2	6	1	7	16
07:30 AM	0	9	9	0	0	0	1	0	1	10
07:45 AM	2	5	7	1	0	1	4	1	5	13
Total	3	30	33	3	1	4	18	3	21	58
08:00 AM	0	4	4	0	0	0	0	1	1	5
08:15 AM	0	8	8	0	0	0	2	0	2	10
08:30 AM	1	5	6	0	1	1	5	0	5	12
08:45 AM	0	5	5	0	0	0	3	1	4	9
Total	1	22	23	0	1	1	10	2	12	36
Grand Total	4	52	56	3	2	5	28	5	33	94
Apprch %	7.1	92.9		60	40		84.8	15.2		
Total %	4.3	55.3	59.6	3.2	2.1	5.3	29.8	5.3	35.1	

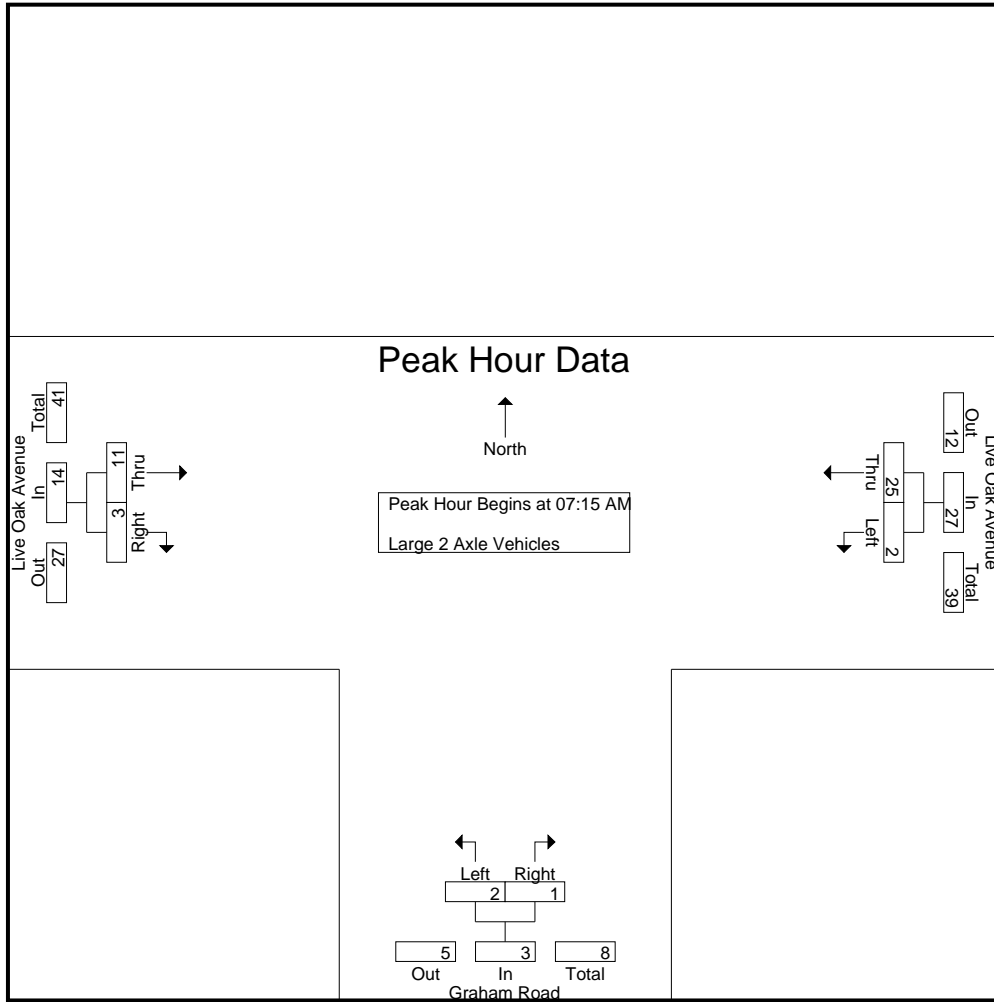
Start Time	Live Oak Avenue Westbound			Graham Road Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:15 AM	0	7	7	1	1	2	6	1	7	16
07:30 AM	0	9	9	0	0	0	1	0	1	10
07:45 AM	2	5	7	1	0	1	4	1	5	13
08:00 AM	0	4	4	0	0	0	0	1	1	5
Total Volume	2	25	27	2	1	3	11	3	14	44
% App. Total	7.4	92.6		66.7	33.3		78.6	21.4		
PHF	.250	.694	.750	.500	.250	.375	.458	.750	.500	.688

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:15 AM

City of Irwindale
 N/S: Graham Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 06_IRW_Grah_LO AM
 Site Code : 04223184
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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	0	7	7	1	1	2	6	1	7
+15 mins.	0	9	9	0	0	0	1	0	1
+30 mins.	2	5	7	1	0	1	4	1	5
+45 mins.	0	4	4	0	0	0	0	1	1
Total Volume	2	25	27	2	1	3	11	3	14
% App. Total	7.4	92.6		66.7	33.3		78.6	21.4	
PHF	.250	.694	.750	.500	.250	.375	.458	.750	.500

City of Irwindale
 N/S: Graham Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 06_IRW_Grah_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	Live Oak Avenue Westbound			Graham Road Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	1	0	1	4	0	4	0	1	1	6
07:30 AM	0	2	2	2	1	3	1	0	1	6
07:45 AM	1	0	1	0	0	0	4	0	4	5
Total	2	2	4	6	1	7	5	1	6	17
08:00 AM	0	1	1	0	0	0	3	0	3	4
08:15 AM	0	1	1	0	0	0	2	2	4	5
08:30 AM	0	3	3	1	0	1	1	0	1	5
08:45 AM	0	3	3	0	1	1	6	1	7	11
Total	0	8	8	1	1	2	12	3	15	25
Grand Total	2	10	12	7	2	9	17	4	21	42
Apprch %	16.7	83.3		77.8	22.2		81	19		
Total %	4.8	23.8	28.6	16.7	4.8	21.4	40.5	9.5	50	

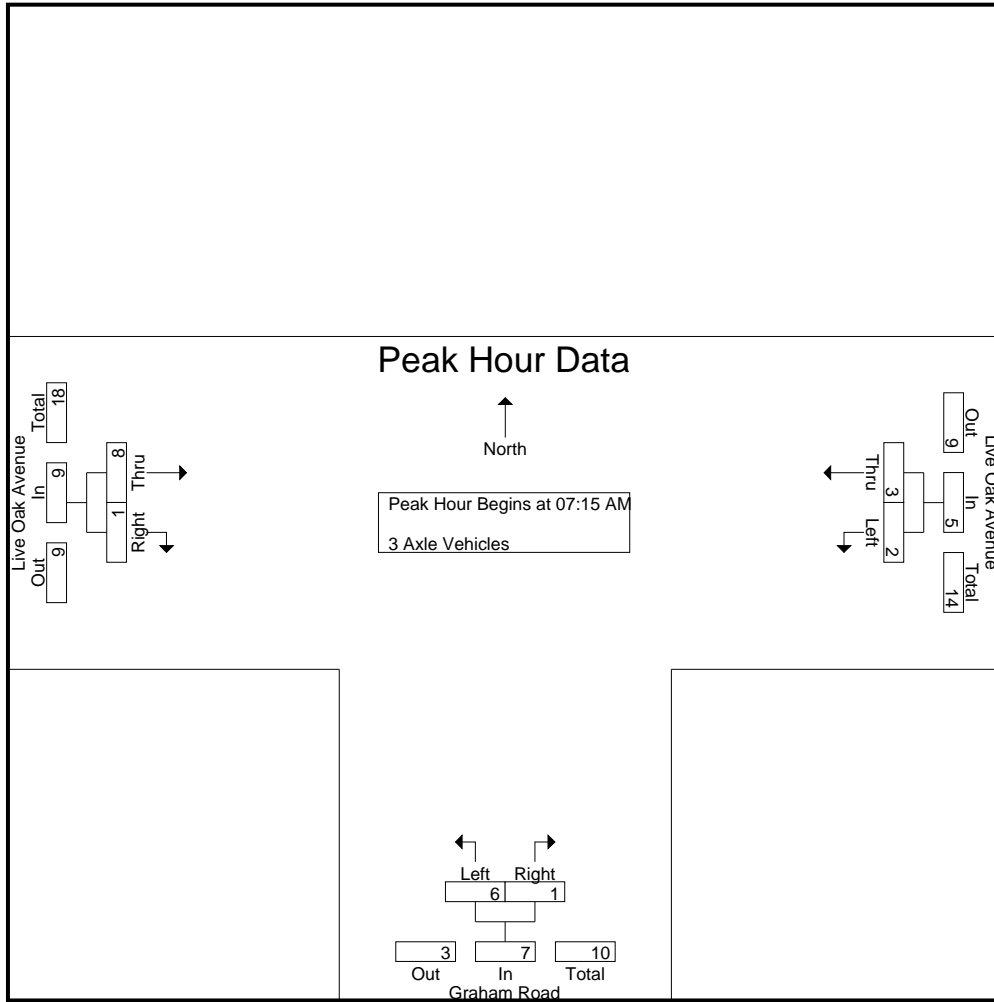
Start Time	Live Oak Avenue Westbound			Graham Road Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:15 AM	1	0	1	4	0	4	0	1	1	6
07:30 AM	0	2	2	2	1	3	1	0	1	6
07:45 AM	1	0	1	0	0	0	4	0	4	5
08:00 AM	0	1	1	0	0	0	3	0	3	4
Total Volume	2	3	5	6	1	7	8	1	9	21
% App. Total	40	60		85.7	14.3		88.9	11.1		
PHF	.500	.375	.625	.375	.250	.438	.500	.250	.563	.875

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:15 AM

City of Irwindale
 N/S: Graham Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 06_IRW_Grah_LO AM
 Site Code : 04223184
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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	1	0	1	4	0	4	0	1	1
+15 mins.	0	2	2	2	1	3	1	0	1
+30 mins.	1	0	1	0	0	0	4	0	4
+45 mins.	0	1	1	0	0	0	3	0	3
Total Volume	2	3	5	6	1	7	8	1	9
% App. Total	40	60		85.7	14.3		88.9	11.1	
PHF	.500	.375	.625	.375	.250	.438	.500	.250	.563

City of Irwindale
 N/S: Graham Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 06_IRW_Grah_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 4+ Axle Trucks

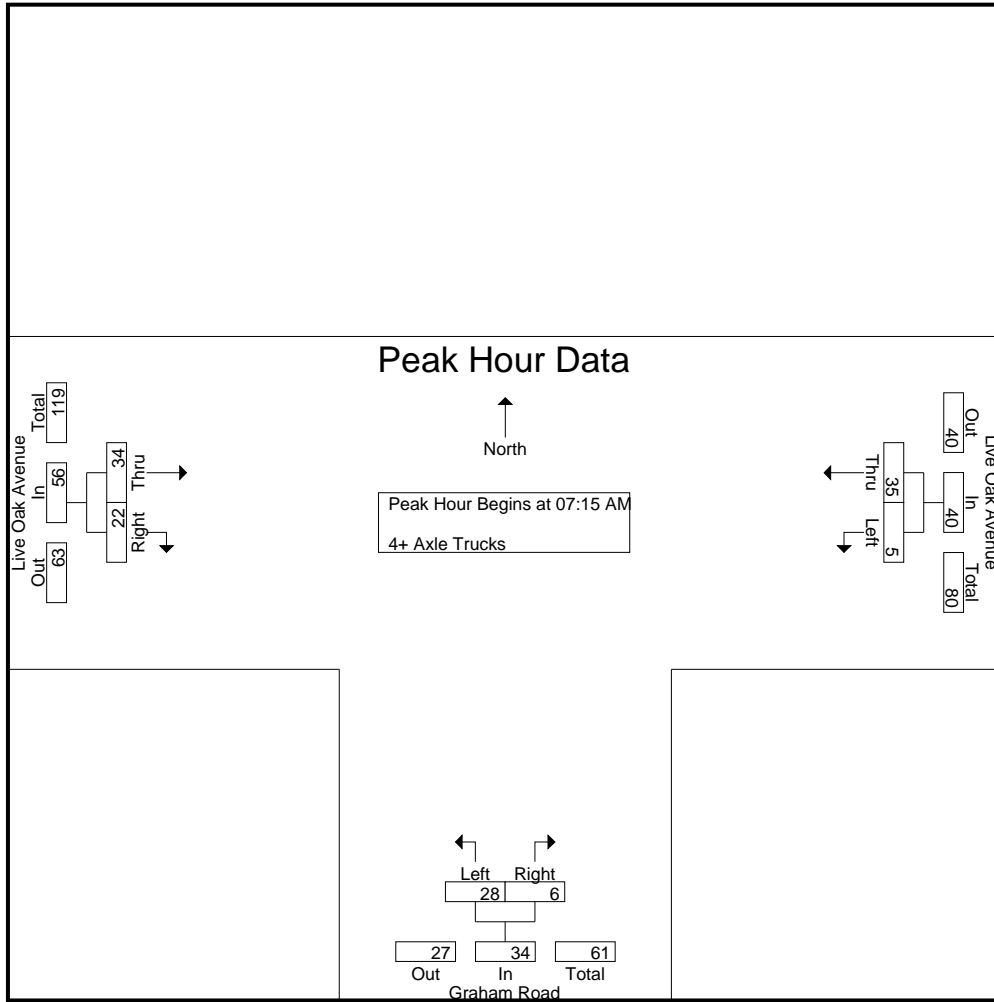
Start Time	Live Oak Avenue Westbound			Graham Road Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	1	8	9	6	1	7	4	10	14	30
07:15 AM	1	9	10	0	1	1	8	8	16	27
07:30 AM	1	7	8	9	2	11	8	6	14	33
07:45 AM	1	5	6	13	2	15	7	1	8	29
Total	4	29	33	28	6	34	27	25	52	119
08:00 AM	2	14	16	6	1	7	11	7	18	41
08:15 AM	0	13	13	3	2	5	5	5	10	28
08:30 AM	1	10	11	5	1	6	10	5	15	32
08:45 AM	2	18	20	7	2	9	11	4	15	44
Total	5	55	60	21	6	27	37	21	58	145
Grand Total	9	84	93	49	12	61	64	46	110	264
Apprch %	9.7	90.3		80.3	19.7		58.2	41.8		
Total %	3.4	31.8	35.2	18.6	4.5	23.1	24.2	17.4	41.7	

Start Time	Live Oak Avenue Westbound			Graham Road Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:15 AM	1	9	10	0	1	1	8	8	16	27
07:30 AM	1	7	8	9	2	11	8	6	14	33
07:45 AM	1	5	6	13	2	15	7	1	8	29
08:00 AM	2	14	16	6	1	7	11	7	18	41
Total Volume	5	35	40	28	6	34	34	22	56	130
% App. Total	12.5	87.5		82.4	17.6		60.7	39.3		
PHF	.625	.625	.625	.538	.750	.567	.773	.688	.778	.793

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

City of Irwindale
 N/S: Graham Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 06_IRW_Grah_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	1	9	10	0	1	1	8	8	16
+15 mins.	1	7	8	9	2	11	8	6	14
+30 mins.	1	5	6	13	2	15	7	1	8
+45 mins.	2	14	16	6	1	7	11	7	18
Total Volume	5	35	40	28	6	34	34	22	56
% App. Total	12.5	87.5		82.4	17.6		60.7	39.3	
PHF	.625	.625	.625	.538	.750	.567	.773	.688	.778

City of Irwindale
 N/S: Graham Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 06_IRW_Grah_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

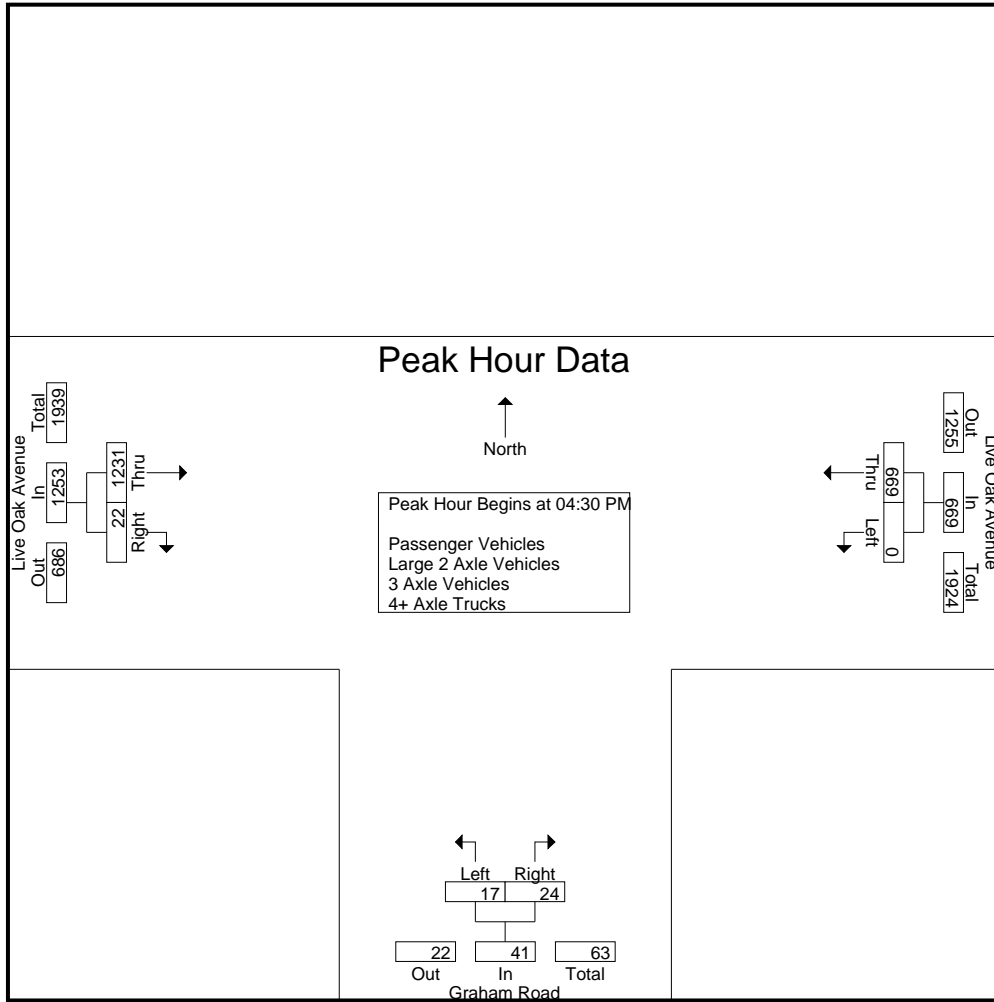
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Live Oak Avenue Westbound			Graham Road Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	2	130	132	4	6	10	268	8	276	418
04:15 PM	0	127	127	5	4	9	259	3	262	398
04:30 PM	0	162	162	3	8	11	302	5	307	480
04:45 PM	0	134	134	7	5	12	279	7	286	432
Total	2	553	555	19	23	42	1108	23	1131	1728
05:00 PM	0	212	212	4	10	14	336	4	340	566
05:15 PM	0	161	161	3	1	4	314	6	320	485
05:30 PM	2	150	152	3	0	3	293	0	293	448
05:45 PM	0	116	116	4	4	8	259	0	259	383
Total	2	639	641	14	15	29	1202	10	1212	1882
Grand Total	4	1192	1196	33	38	71	2310	33	2343	3610
Apprch %	0.3	99.7		46.5	53.5		98.6	1.4		
Total %	0.1	33	33.1	0.9	1.1	2	64	0.9	64.9	
Passenger Vehicles	4	1144	1148	31	35	66	2234	14	2248	3462
% Passenger Vehicles	100	96	96	93.9	92.1	93	96.7	42.4	95.9	95.9
Large 2 Axle Vehicles	0	16	16	2	2	4	38	8	46	66
% Large 2 Axle Vehicles	0	1.3	1.3	6.1	5.3	5.6	1.6	24.2	2	1.8
3 Axle Vehicles	0	9	9	0	1	1	12	3	15	25
% 3 Axle Vehicles	0	0.8	0.8	0	2.6	1.4	0.5	9.1	0.6	0.7
4+ Axle Trucks	0	23	23	0	0	0	26	8	34	57
% 4+ Axle Trucks	0	1.9	1.9	0	0	0	1.1	24.2	1.5	1.6

Start Time	Live Oak Avenue Westbound			Graham Road Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	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	162	162	3	8	11	302	5	307	480
04:45 PM	0	134	134	7	5	12	279	7	286	432
05:00 PM	0	212	212	4	10	14	336	4	340	566
05:15 PM	0	161	161	3	1	4	314	6	320	485
Total Volume	0	669	669	17	24	41	1231	22	1253	1963
% App. Total	0	100		41.5	58.5		98.2	1.8		
PHF	.000	.789	.789	.607	.600	.732	.916	.786	.921	.867

City of Irwindale
 N/S: Graham Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 06_IRW_Grah_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
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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			04:15 PM			04:30 PM		
+0 mins.	0	162	162	5	4	9	302	5	307
+15 mins.	0	134	134	3	8	11	279	7	286
+30 mins.	0	212	212	7	5	12	336	4	340
+45 mins.	0	161	161	4	10	14	314	6	320
Total Volume	0	669	669	19	27	46	1231	22	1253
% App. Total	0	100		41.3	58.7		98.2	1.8	
PHF	.000	.789	.789	.679	.675	.821	.916	.786	.921

City of Irwindale
 N/S: Graham Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 06_IRW_Grah_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Passenger Vehicles

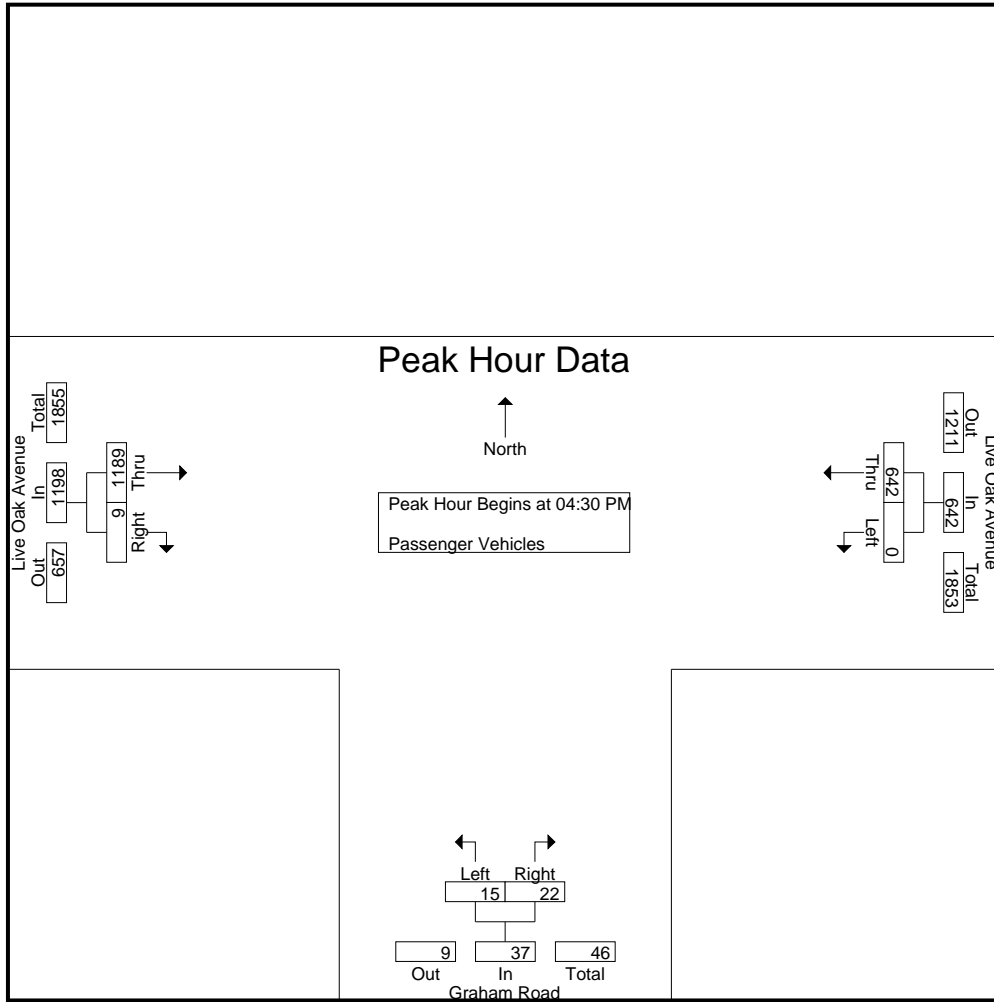
Start Time	Live Oak Avenue Westbound			Graham Road Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	2	125	127	4	6	10	256	2	258	395
04:15 PM	0	124	124	5	4	9	250	3	253	386
04:30 PM	0	150	150	3	8	11	296	1	297	458
04:45 PM	0	129	129	7	3	10	273	4	277	416
Total	2	528	530	19	21	40	1075	10	1085	1655
05:00 PM	0	207	207	4	10	14	317	1	318	539
05:15 PM	0	156	156	1	1	2	303	3	306	464
05:30 PM	2	144	146	3	0	3	290	0	290	439
05:45 PM	0	109	109	4	3	7	249	0	249	365
Total	2	616	618	12	14	26	1159	4	1163	1807
Grand Total	4	1144	1148	31	35	66	2234	14	2248	3462
Apprch %	0.3	99.7		47	53		99.4	0.6		
Total %	0.1	33	33.2	0.9	1	1.9	64.5	0.4	64.9	

Start Time	Live Oak Avenue Westbound			Graham Road Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:30 PM	0	150	150	3	8	11	296	1	297	458
04:45 PM	0	129	129	7	3	10	273	4	277	416
05:00 PM	0	207	207	4	10	14	317	1	318	539
05:15 PM	0	156	156	1	1	2	303	3	306	464
Total Volume	0	642	642	15	22	37	1189	9	1198	1877
% App. Total	0	100		40.5	59.5		99.2	0.8		
PHF	.000	.775	.775	.536	.550	.661	.938	.563	.942	.871

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

City of Irwindale
 N/S: Graham Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 06_IRW_Grah_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
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Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	0	150	150	3	8	11	296	1	297
+15 mins.	0	129	129	7	3	10	273	4	277
+30 mins.	0	207	207	4	10	14	317	1	318
+45 mins.	0	156	156	1	1	2	303	3	306
Total Volume	0	642	642	15	22	37	1189	9	1198
% App. Total	0	100		40.5	59.5		99.2	0.8	
PHF	.000	.775	.775	.536	.550	.661	.938	.563	.942

City of Irwindale
 N/S: Graham Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 06_IRW_Grah_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

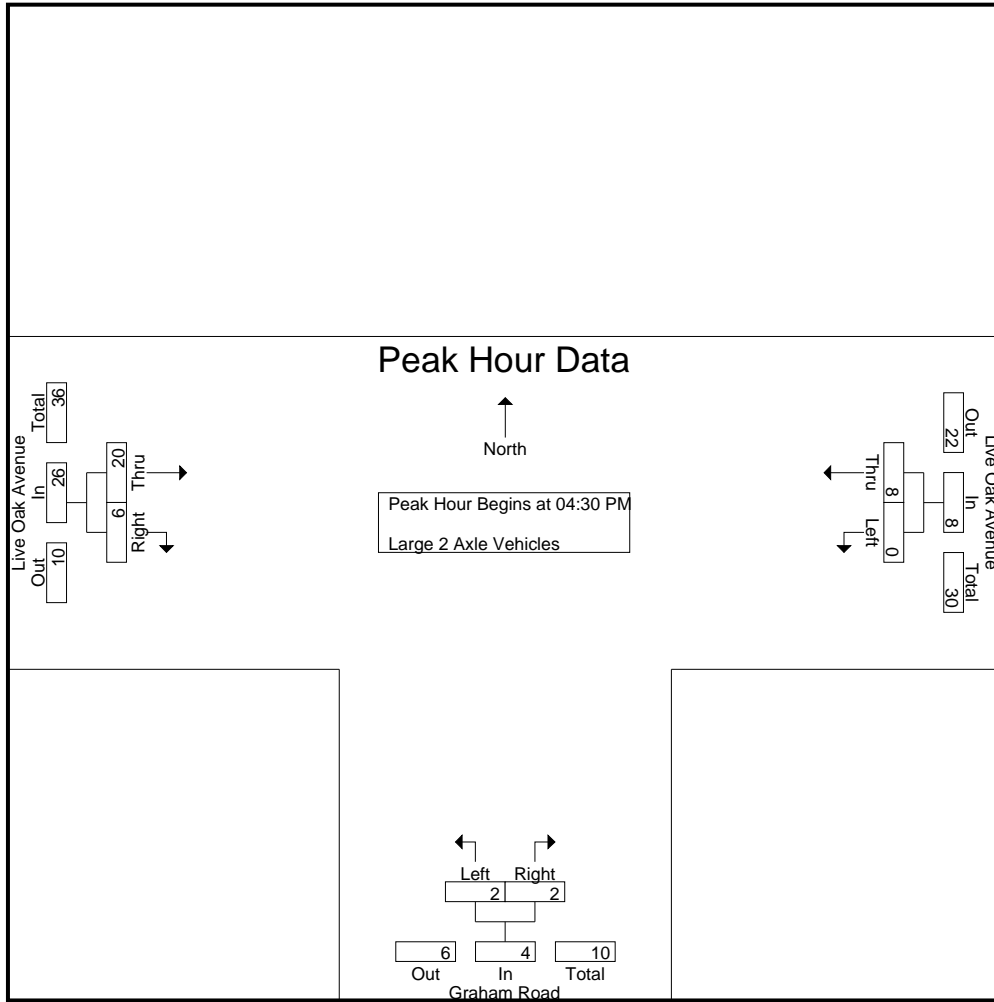
Start Time	Live Oak Avenue Westbound			Graham Road Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	0	2	2	0	0	0	10	2	12	14
04:15 PM	0	2	2	0	0	0	3	0	3	5
04:30 PM	0	4	4	0	0	0	3	2	5	9
04:45 PM	0	3	3	0	2	2	4	1	5	10
Total	0	11	11	0	2	2	20	5	25	38
05:00 PM	0	1	1	0	0	0	8	1	9	10
05:15 PM	0	0	0	2	0	2	5	2	7	9
05:30 PM	0	1	1	0	0	0	1	0	1	2
05:45 PM	0	3	3	0	0	0	4	0	4	7
Total	0	5	5	2	0	2	18	3	21	28
Grand Total	0	16	16	2	2	4	38	8	46	66
Apprch %	0	100		50	50		82.6	17.4		
Total %	0	24.2	24.2	3	3	6.1	57.6	12.1	69.7	

Start Time	Live Oak Avenue Westbound			Graham Road Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:30 PM	0	4	4	0	0	0	3	2	5	9
04:45 PM	0	3	3	0	2	2	4	1	5	10
05:00 PM	0	1	1	0	0	0	8	1	9	10
05:15 PM	0	0	0	2	0	2	5	2	7	9
Total Volume	0	8	8	2	2	4	20	6	26	38
% App. Total	0	100		50	50		76.9	23.1		
PHF	.000	.500	.500	.250	.250	.500	.625	.750	.722	.950

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

City of Irwindale
 N/S: Graham Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 06_IRW_Grah_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
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Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	0	4	4	0	0	0	3	2	5
+15 mins.	0	3	3	0	2	2	4	1	5
+30 mins.	0	1	1	0	0	0	8	1	9
+45 mins.	0	0	0	2	0	2	5	2	7
Total Volume	0	8	8	2	2	4	20	6	26
% App. Total	0	100		50	50		76.9	23.1	
PHF	.000	.500	.500	.250	.250	.500	.625	.750	.722

City of Irwindale
 N/S: Graham Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 06_IRW_Grah_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 3 Axle Vehicles

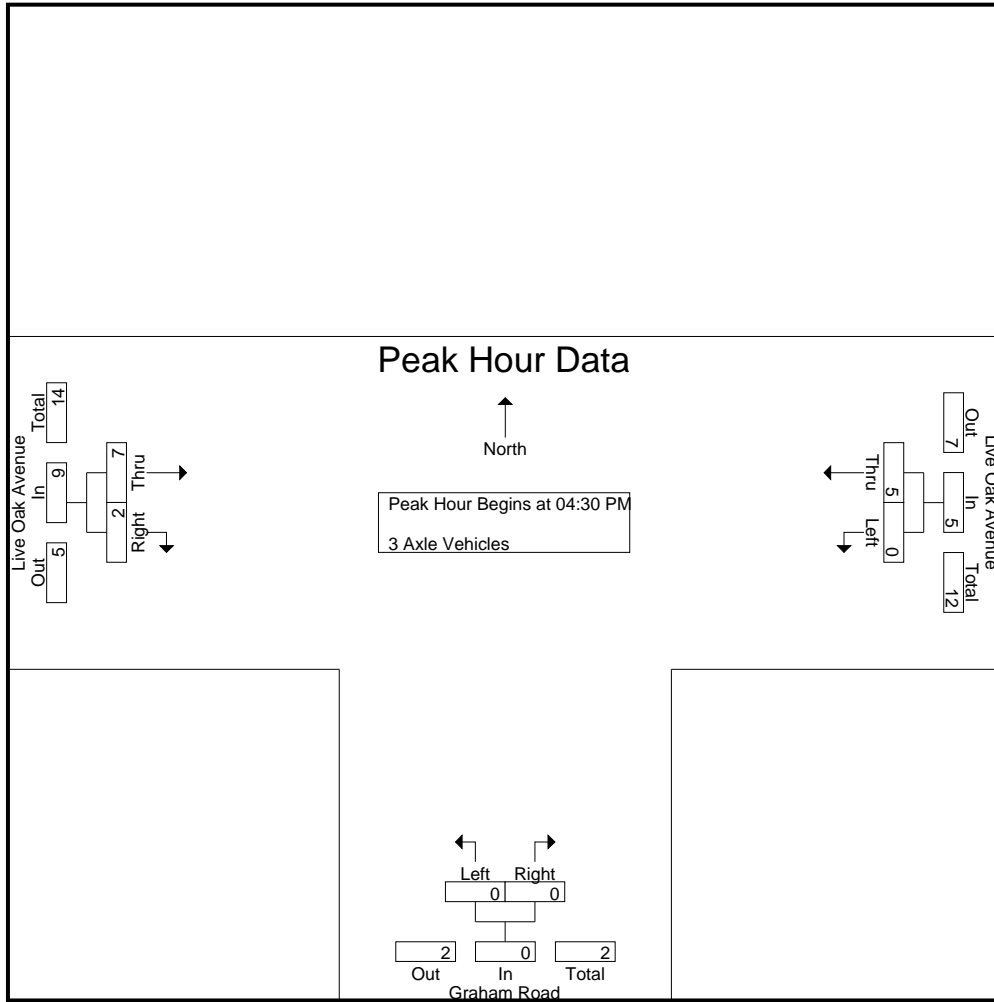
Start Time	Live Oak Avenue Westbound			Graham Road Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	0	2	1	3	3
04:15 PM	0	1	1	0	0	0	1	0	1	2
04:30 PM	0	4	4	0	0	0	1	1	2	6
04:45 PM	0	1	1	0	0	0	0	0	0	1
Total	0	6	6	0	0	0	4	2	6	12
05:00 PM	0	0	0	0	0	0	3	0	3	3
05:15 PM	0	0	0	0	0	0	3	1	4	4
05:30 PM	0	2	2	0	0	0	1	0	1	3
05:45 PM	0	1	1	0	1	1	1	0	1	3
Total	0	3	3	0	1	1	8	1	9	13
Grand Total	0	9	9	0	1	1	12	3	15	25
Apprch %	0	100		0	100		80	20		
Total %	0	36	36	0	4	4	48	12	60	

Start Time	Live Oak Avenue Westbound			Graham Road Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:30 PM	0	4	4	0	0	0	1	1	2	6
04:45 PM	0	1	1	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	3	0	3	3
05:15 PM	0	0	0	0	0	0	3	1	4	4
Total Volume	0	5	5	0	0	0	7	2	9	14
% App. Total	0	100		0	0		77.8	22.2		
PHF	.000	.313	.313	.000	.000	.000	.583	.500	.563	.583

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

City of Irwindale
 N/S: Graham Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 06_IRW_Grah_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	0	4	4	0	0	0	1	1	2
+15 mins.	0	1	1	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	3	0	3
+45 mins.	0	0	0	0	0	0	3	1	4
Total Volume	0	5	5	0	0	0	7	2	9
% App. Total	0	100		0	0		77.8	22.2	
PHF	.000	.313	.313	.000	.000	.000	.583	.500	.563

City of Irwindale
 N/S: Graham Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 06_IRW_Grah_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 4+ Axle Trucks

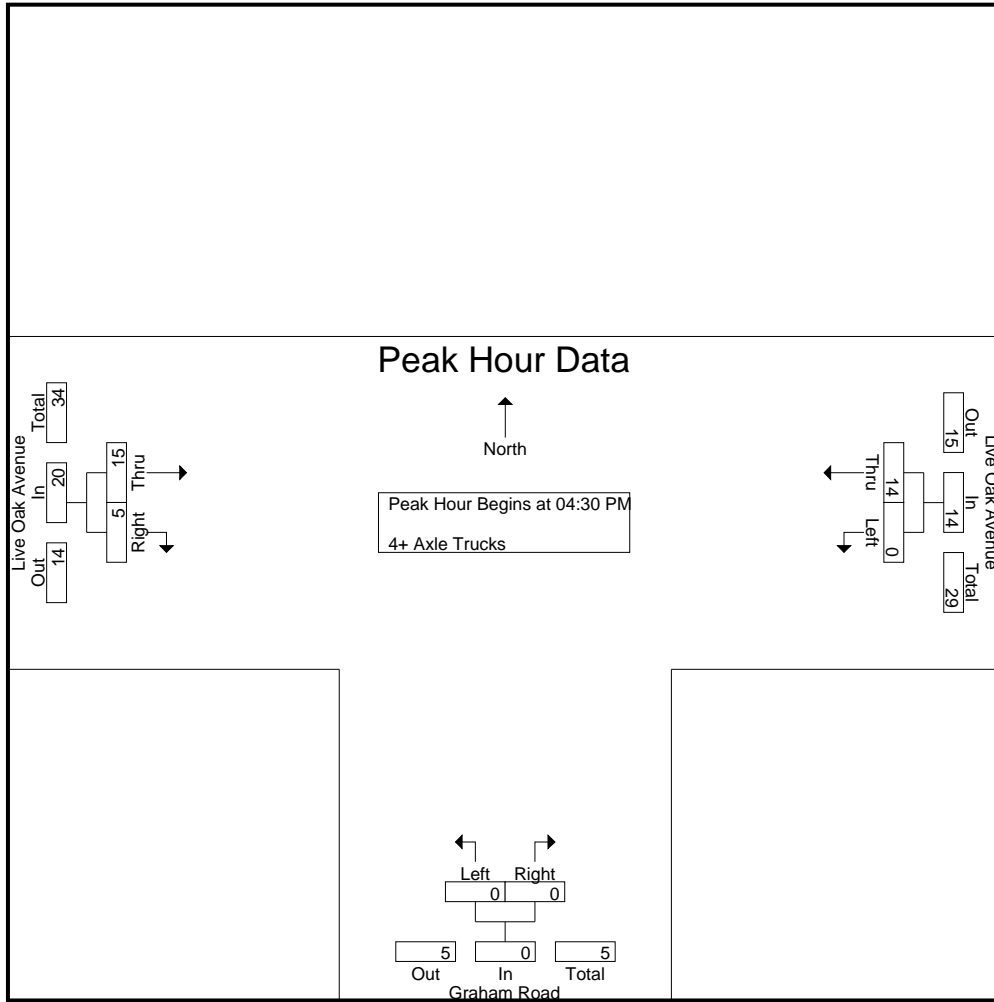
Start Time	Live Oak Avenue Westbound			Graham Road Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	0	3	3	0	0	0	0	3	3	6
04:15 PM	0	0	0	0	0	0	5	0	5	5
04:30 PM	0	4	4	0	0	0	2	1	3	7
04:45 PM	0	1	1	0	0	0	2	2	4	5
Total	0	8	8	0	0	0	9	6	15	23
05:00 PM	0	4	4	0	0	0	8	2	10	14
05:15 PM	0	5	5	0	0	0	3	0	3	8
05:30 PM	0	3	3	0	0	0	1	0	1	4
05:45 PM	0	3	3	0	0	0	5	0	5	8
Total	0	15	15	0	0	0	17	2	19	34
Grand Total	0	23	23	0	0	0	26	8	34	57
Apprch %	0	100		0	0		76.5	23.5		
Total %	0	40.4	40.4	0	0	0	45.6	14	59.6	

Start Time	Live Oak Avenue Westbound			Graham Road Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:30 PM	0	4	4	0	0	0	2	1	3	7
04:45 PM	0	1	1	0	0	0	2	2	4	5
05:00 PM	0	4	4	0	0	0	8	2	10	14
05:15 PM	0	5	5	0	0	0	3	0	3	8
Total Volume	0	14	14	0	0	0	15	5	20	34
% App. Total	0	100		0	0		75	25		
PHF	.000	.700	.700	.000	.000	.000	.469	.625	.500	.607

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

City of Irwindale
 N/S: Graham Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 06_IRW_Grah_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	0	4	4	0	0	0	2	1	3
+15 mins.	0	1	1	0	0	0	2	2	4
+30 mins.	0	4	4	0	0	0	8	2	10
+45 mins.	0	5	5	0	0	0	3	0	3
Total Volume	0	14	14	0	0	0	15	5	20
% App. Total	0	100		0	0		75	25	
PHF	.000	.700	.700	.000	.000	.000	.469	.625	.500

City of Irwindale
 N/S: Rivergrade Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 07_IRW_River_LO AM
 Site Code : 04223184
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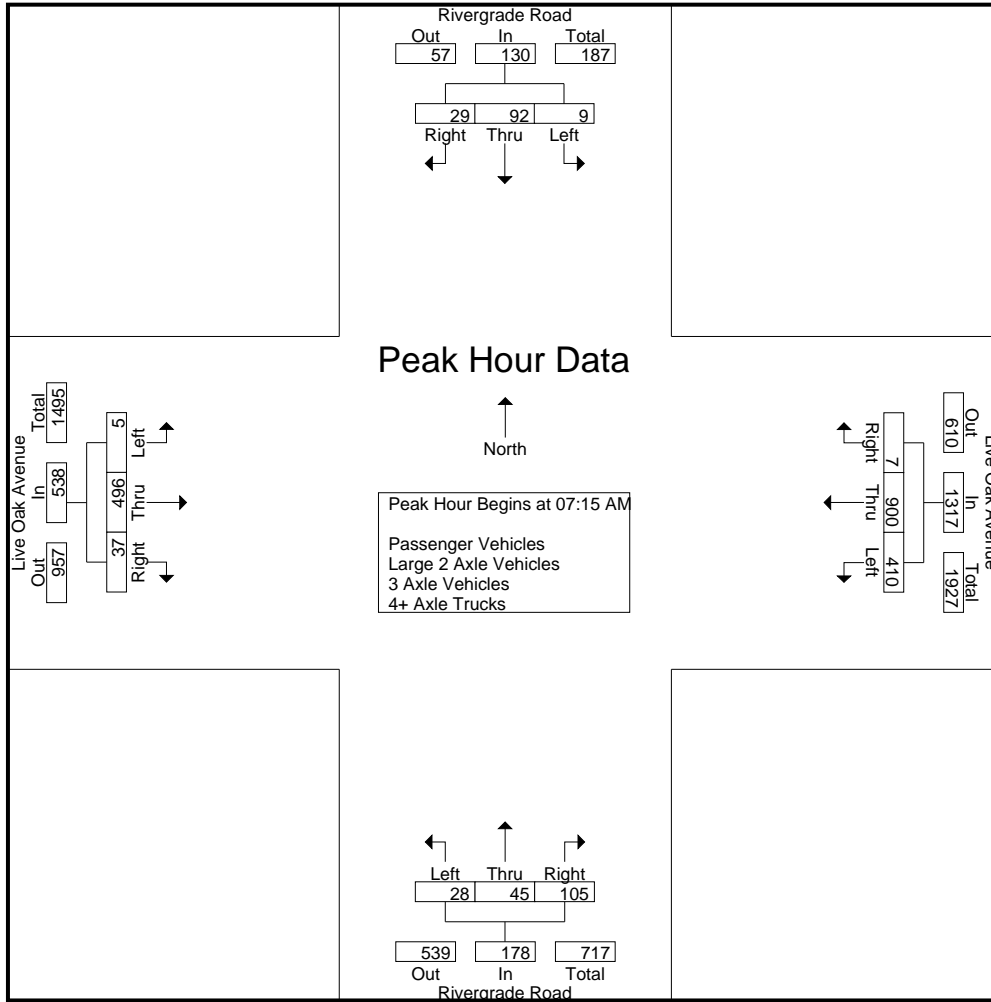
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Rivergrade Road Southbound				Live Oak Avenue Westbound				Rivergrade Road Northbound				Live Oak 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	0	10	2	12	76	208	2	286	5	2	19	26	1	105	4	110	434
07:15 AM	1	17	9	27	96	215	2	313	7	6	18	31	2	110	3	115	486
07:30 AM	3	20	6	29	114	251	3	368	8	12	22	42	1	115	6	122	561
07:45 AM	3	31	9	43	95	229	1	325	8	15	31	54	1	131	18	150	572
Total	7	78	26	111	381	903	8	1292	28	35	90	153	5	461	31	497	2053
08:00 AM	2	24	5	31	105	205	1	311	5	12	34	51	1	140	10	151	544
08:15 AM	3	24	6	33	77	152	1	230	2	7	27	36	0	127	15	142	441
08:30 AM	3	18	0	21	84	173	3	260	6	7	30	43	1	141	11	153	477
08:45 AM	2	14	6	22	77	122	3	202	6	7	22	35	0	137	8	145	404
Total	10	80	17	107	343	652	8	1003	19	33	113	165	2	545	44	591	1866
Grand Total	17	158	43	218	724	1555	16	2295	47	68	203	318	7	1006	75	1088	3919
Apprch %	7.8	72.5	19.7		31.5	67.8	0.7		14.8	21.4	63.8		0.6	92.5	6.9		
Total %	0.4	4	1.1	5.6	18.5	39.7	0.4	58.6	1.2	1.7	5.2	8.1	0.2	25.7	1.9	27.8	
Passenger Vehicles	16	133	20	169	697	1480	12	2189	39	59	193	291	3	930	70	1003	3652
% Passenger Vehicles	94.1	84.2	46.5	77.5	96.3	95.2	75	95.4	83	86.8	95.1	91.5	42.9	92.4	93.3	92.2	93.2
Large 2 Axle Vehicles	0	12	9	21	16	39	3	58	0	2	3	5	0	30	0	30	114
% Large 2 Axle Vehicles	0	7.6	20.9	9.6	2.2	2.5	18.8	2.5	0	2.9	1.5	1.6	0	3	0	2.8	2.9
3 Axle Vehicles	0	1	3	4	2	9	0	11	1	1	3	5	0	8	0	8	28
% 3 Axle Vehicles	0	0.6	7	1.8	0.3	0.6	0	0.5	2.1	1.5	1.5	1.6	0	0.8	0	0.7	0.7
4+ Axle Trucks	1	12	11	24	9	27	1	37	7	6	4	17	4	38	5	47	125
% 4+ Axle Trucks	5.9	7.6	25.6	11	1.2	1.7	6.2	1.6	14.9	8.8	2	5.3	57.1	3.8	6.7	4.3	3.2

Start Time	Rivergrade Road Southbound				Live Oak Avenue Westbound				Rivergrade Road Northbound				Live Oak 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 07:15 AM																	
07:15 AM	1	17	9	27	96	215	2	313	7	6	18	31	2	110	3	115	486
07:30 AM	3	20	6	29	114	251	3	368	8	12	22	42	1	115	6	122	561
07:45 AM	3	31	9	43	95	229	1	325	8	15	31	54	1	131	18	150	572
08:00 AM	2	24	5	31	105	205	1	311	5	12	34	51	1	140	10	151	544
Total Volume	9	92	29	130	410	900	7	1317	28	45	105	178	5	496	37	538	2163
% App. Total	6.9	70.8	22.3		31.1	68.3	0.5		15.7	25.3	59		0.9	92.2	6.9		
PHF	.750	.742	.806	.756	.899	.896	.583	.895	.875	.750	.772	.824	.625	.886	.514	.891	.945

City of Irwindale
 N/S: Rivergrade Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 07_IRW_River_LO AM
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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:

	07:30 AM				07:15 AM				07:45 AM				07:45 AM			
+0 mins.	3	20	6	29	96	215	2	313	8	15	31	54	1	131	18	150
+15 mins.	3	31	9	43	114	251	3	368	5	12	34	51	1	140	10	151
+30 mins.	2	24	5	31	95	229	1	325	2	7	27	36	0	127	15	142
+45 mins.	3	24	6	33	105	205	1	311	6	7	30	43	1	141	11	153
Total Volume	11	99	26	136	410	900	7	1317	21	41	122	184	3	539	54	596
% App. Total	8.1	72.8	19.1		31.1	68.3	0.5		11.4	22.3	66.3		0.5	90.4	9.1	
PHF	.917	.798	.722	.791	.899	.896	.583	.895	.656	.683	.897	.852	.750	.956	.750	.974

City of Irwindale
 N/S: Rivergrade Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 07_IRW_River_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Passenger Vehicles

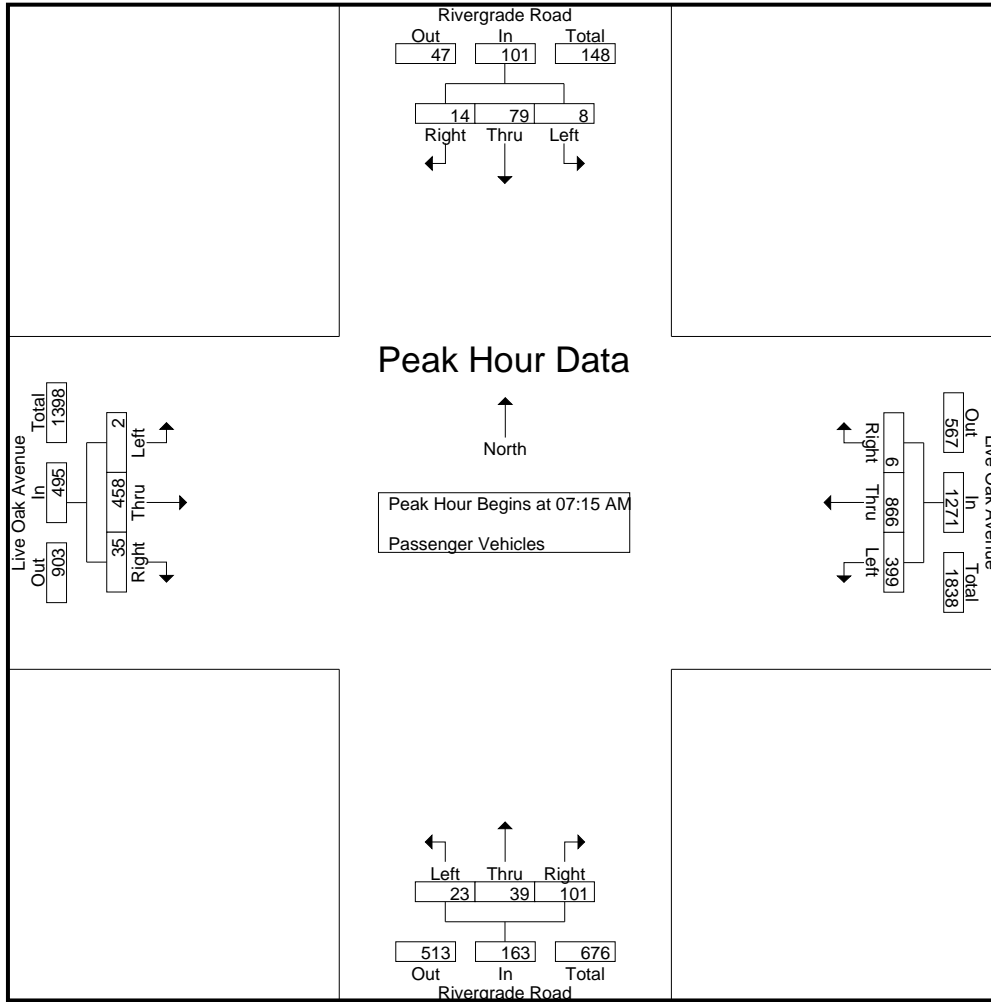
Start Time	Rivergrade Road Southbound				Live Oak Avenue Westbound				Rivergrade Road Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	6	1	7	73	194	2	269	3	2	17	22	1	95	3	99	397
07:15 AM	1	12	2	15	95	209	2	306	6	5	17	28	0	99	3	102	451
07:30 AM	2	17	3	22	111	241	2	354	6	10	21	37	0	107	6	113	526
07:45 AM	3	29	7	39	92	219	1	312	8	14	31	53	1	121	17	139	543
Total	6	64	13	83	371	863	7	1241	23	31	86	140	2	422	29	453	1917
08:00 AM	2	21	2	25	101	197	1	299	3	10	32	45	1	131	9	141	510
08:15 AM	3	22	5	30	74	144	1	219	2	5	25	32	0	120	13	133	414
08:30 AM	3	14	0	17	81	161	2	244	6	7	28	41	0	131	11	142	444
08:45 AM	2	12	0	14	70	115	1	186	5	6	22	33	0	126	8	134	367
Total	10	69	7	86	326	617	5	948	16	28	107	151	1	508	41	550	1735
Grand Total	16	133	20	169	697	1480	12	2189	39	59	193	291	3	930	70	1003	3652
Apprch %	9.5	78.7	11.8		31.8	67.6	0.5		13.4	20.3	66.3		0.3	92.7	7		
Total %	0.4	3.6	0.5	4.6	19.1	40.5	0.3	59.9	1.1	1.6	5.3	8	0.1	25.5	1.9	27.5	

Start Time	Rivergrade Road Southbound				Live Oak Avenue Westbound				Rivergrade Road Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:15 AM	1	12	2	15	95	209	2	306	6	5	17	28	0	99	3	102	451
07:30 AM	2	17	3	22	111	241	2	354	6	10	21	37	0	107	6	113	526
07:45 AM	3	29	7	39	92	219	1	312	8	14	31	53	1	121	17	139	543
08:00 AM	2	21	2	25	101	197	1	299	3	10	32	45	1	131	9	141	510
Total Volume	8	79	14	101	399	866	6	1271	23	39	101	163	2	458	35	495	2030
% App. Total	7.9	78.2	13.9		31.4	68.1	0.5		14.1	23.9	62		0.4	92.5	7.1		
PHF	.667	.681	.500	.647	.899	.898	.750	.898	.719	.696	.789	.769	.500	.874	.515	.878	.935

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

City of Irwindale
 N/S: Rivergrade Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 07_IRW_River_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	1	12	2	15	95	209	2	306	6	5	17	28	0	99	3	102
+15 mins.	2	17	3	22	111	241	2	354	6	10	21	37	0	107	6	113
+30 mins.	3	29	7	39	92	219	1	312	8	14	31	53	1	121	17	139
+45 mins.	2	21	2	25	101	197	1	299	3	10	32	45	1	131	9	141
Total Volume	8	79	14	101	399	866	6	1271	23	39	101	163	2	458	35	495
% App. Total	7.9	78.2	13.9		31.4	68.1	0.5		14.1	23.9	62		0.4	92.5	7.1	
PHF	.667	.681	.500	.647	.899	.898	.750	.898	.719	.696	.789	.769	.500	.874	.515	.878

City of Irwindale
 N/S: Rivergrade Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 07_IRW_River_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

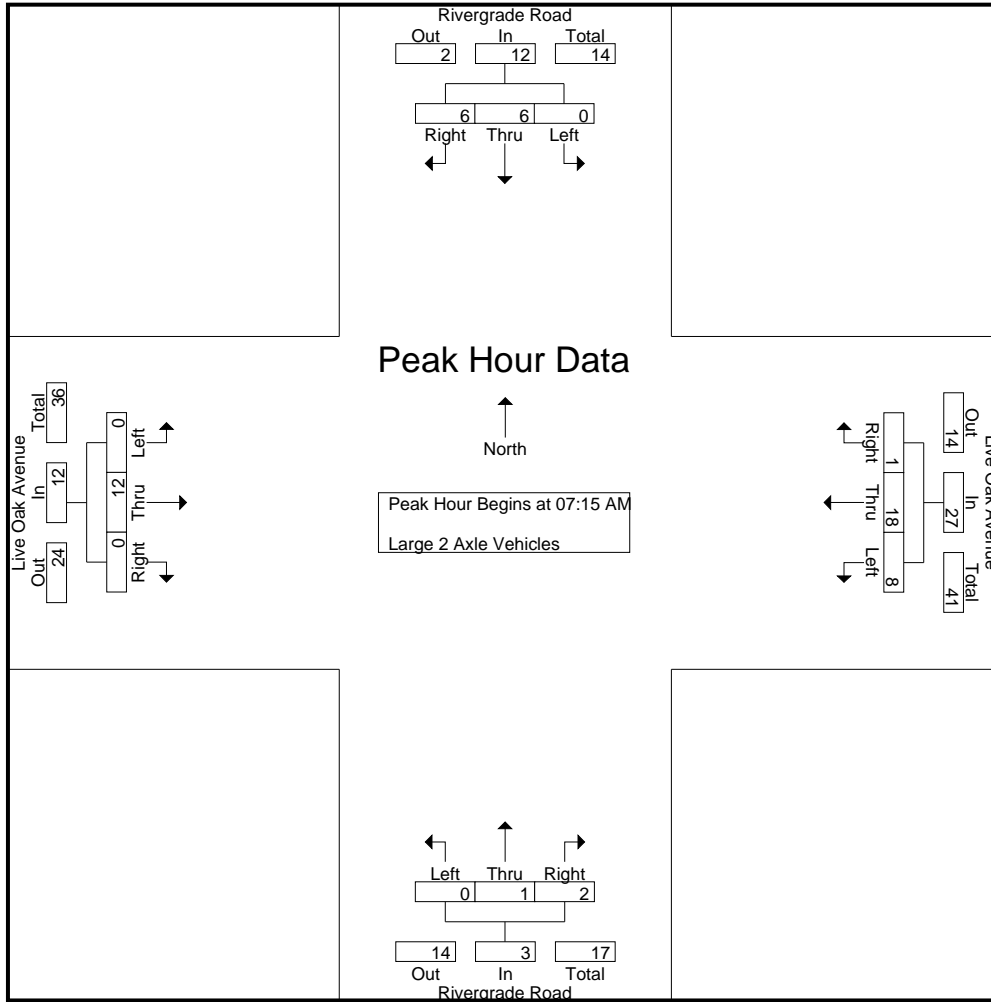
Start Time	Rivergrade Road Southbound				Live Oak Avenue Westbound				Rivergrade Road Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	2	1	3	1	8	0	9	0	0	1	1	0	7	0	7	20
07:15 AM	0	1	4	5	1	4	0	5	0	0	0	0	0	6	0	6	16
07:30 AM	0	2	1	3	2	7	1	10	0	0	1	1	0	0	0	0	14
07:45 AM	0	2	0	2	2	7	0	9	0	0	0	0	0	5	0	5	16
Total	0	7	6	13	6	26	1	33	0	0	2	2	0	18	0	18	66
08:00 AM	0	1	1	2	3	0	0	3	0	1	1	2	0	1	0	1	8
08:15 AM	0	0	0	0	2	8	0	10	0	0	0	0	0	3	0	3	13
08:30 AM	0	2	0	2	1	4	0	5	0	0	0	0	0	5	0	5	12
08:45 AM	0	2	2	4	4	1	2	7	0	1	0	1	0	3	0	3	15
Total	0	5	3	8	10	13	2	25	0	2	1	3	0	12	0	12	48
Grand Total	0	12	9	21	16	39	3	58	0	2	3	5	0	30	0	30	114
Apprch %	0	57.1	42.9		27.6	67.2	5.2		0	40	60		0	100	0		
Total %	0	10.5	7.9	18.4	14	34.2	2.6	50.9	0	1.8	2.6	4.4	0	26.3	0	26.3	

Start Time	Rivergrade Road Southbound				Live Oak Avenue Westbound				Rivergrade Road Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:15 AM	0	1	4	5	1	4	0	5	0	0	0	0	0	6	0	6	16
07:30 AM	0	2	1	3	2	7	1	10	0	0	1	1	0	0	0	0	14
07:45 AM	0	2	0	2	2	7	0	9	0	0	0	0	0	5	0	5	16
08:00 AM	0	1	1	2	3	0	0	3	0	1	1	2	0	1	0	1	8
Total Volume	0	6	6	12	8	18	1	27	0	1	2	3	0	12	0	12	54
% App. Total	0	50	50		29.6	66.7	3.7		0	33.3	66.7		0	100	0		
PHF	.000	.750	.375	.600	.667	.643	.250	.675	.000	.250	.500	.375	.000	.500	.000	.500	.844

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

City of Irwindale
 N/S: Rivergrade Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 07_IRW_River_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	1	4	5	1	4	0	5	0	0	0	0	0	6	0	6
+15 mins.	0	2	1	3	2	7	1	10	0	0	1	1	0	0	0	0
+30 mins.	0	2	0	2	2	7	0	9	0	0	0	0	0	5	0	5
+45 mins.	0	1	1	2	3	0	0	3	0	1	1	2	0	1	0	1
Total Volume	0	6	6	12	8	18	1	27	0	1	2	3	0	12	0	12
% App. Total	0	50	50		29.6	66.7	3.7		0	33.3	66.7		0	100	0	
PHF	.000	.750	.375	.600	.667	.643	.250	.675	.000	.250	.500	.375	.000	.500	.000	.500

City of Irwindale
 N/S: Rivergrade Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 07_IRW_River_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 3 Axle Vehicles

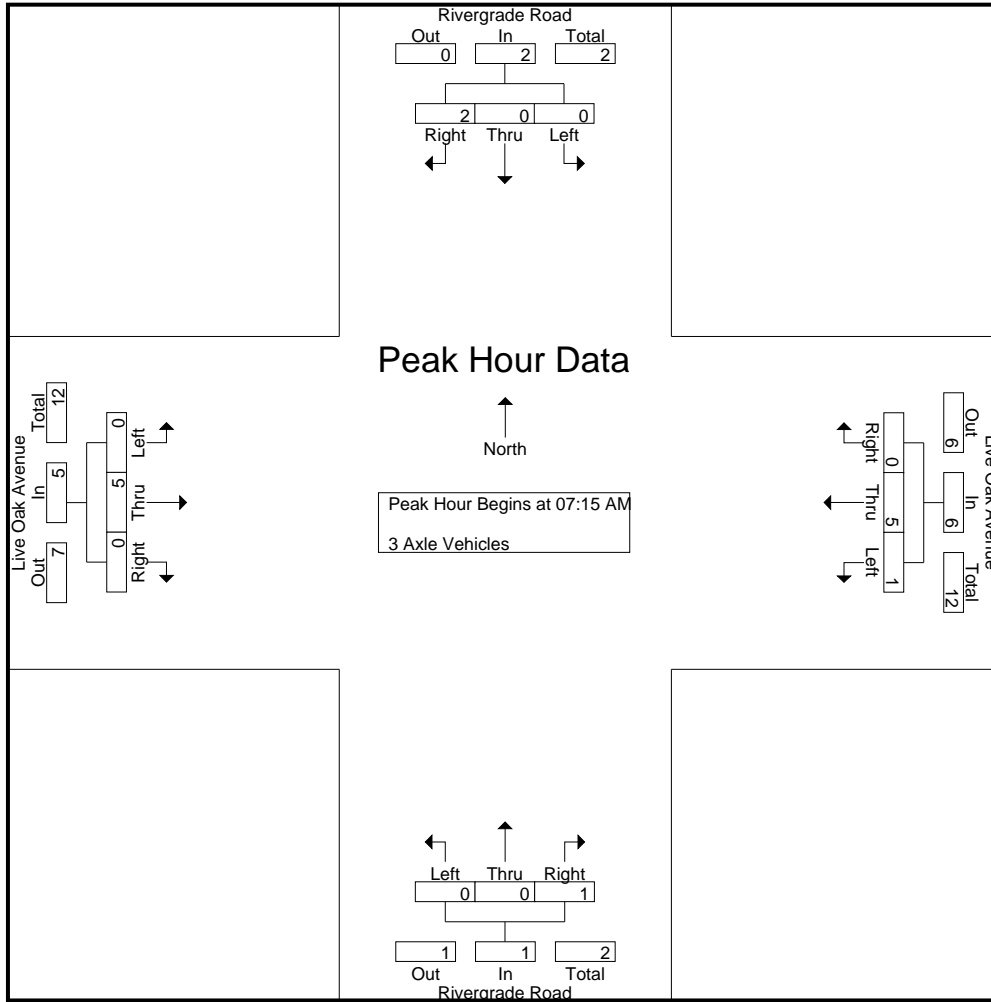
Start Time	Rivergrade Road Southbound				Live Oak Avenue Westbound				Rivergrade Road Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	1	2	0	3	0	0	0	0	0	1	0	1	4
07:45 AM	0	0	1	1	0	1	0	1	0	0	0	0	0	4	0	4	6
Total	0	0	2	2	2	3	0	5	0	0	0	0	0	5	0	5	12
08:00 AM	0	0	0	0	0	2	0	2	0	0	1	1	0	0	0	0	3
08:15 AM	0	1	0	1	0	0	0	0	0	1	1	2	0	2	0	2	5
08:30 AM	0	0	0	0	0	3	0	3	0	0	1	1	0	0	0	0	4
08:45 AM	0	0	1	1	0	1	0	1	1	0	0	1	0	1	0	1	4
Total	0	1	1	2	0	6	0	6	1	1	3	5	0	3	0	3	16
Grand Total	0	1	3	4	2	9	0	11	1	1	3	5	0	8	0	8	28
Apprch %	0	25	75		18.2	81.8	0		20	20	60		0	100	0		
Total %	0	3.6	10.7	14.3	7.1	32.1	0	39.3	3.6	3.6	10.7	17.9	0	28.6	0	28.6	

Start Time	Rivergrade Road Southbound				Live Oak Avenue Westbound				Rivergrade Road Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:15 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	1	2	0	3	0	0	0	0	0	1	0	1	4
07:45 AM	0	0	1	1	0	1	0	1	0	0	0	0	0	4	0	4	6
08:00 AM	0	0	0	0	0	2	0	2	0	0	1	1	0	0	0	0	3
Total Volume	0	0	2	2	1	5	0	6	0	0	1	1	0	5	0	5	14
% App. Total	0	0	100		16.7	83.3	0		0	0	100		0	100	0		
PHF	.000	.000	.500	.500	.250	.625	.000	.500	.000	.000	.250	.250	.000	.313	.000	.313	.583

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

City of Irwindale
 N/S: Rivergrade Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 07_IRW_River_LO AM
 Site Code : 04223184
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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	1	2	0	3	0	0	0	0	0	1	0	1
+30 mins.	0	0	1	1	0	1	0	1	0	0	0	0	0	4	0	4
+45 mins.	0	0	0	0	0	2	0	2	0	0	1	1	0	0	0	0
Total Volume	0	0	2	2	1	5	0	6	0	0	1	1	0	5	0	5
% App. Total	0	0	100		16.7	83.3	0		0	0	100		0	100	0	
PHF	.000	.000	.500	.500	.250	.625	.000	.500	.000	.000	.250	.250	.000	.313	.000	.313

City of Irwindale
 N/S: Rivergrade Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 07_IRW_River_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 4+ Axle Trucks

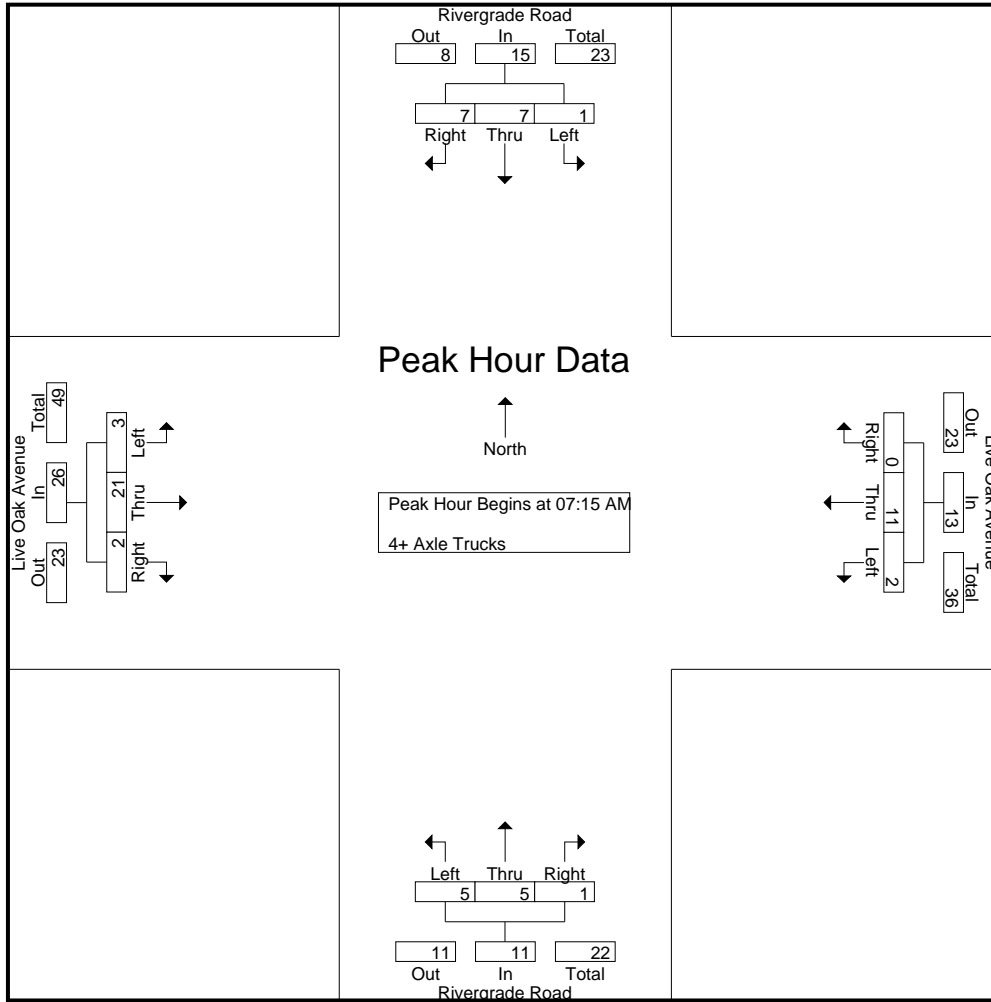
Start Time	Rivergrade Road Southbound				Live Oak Avenue Westbound				Rivergrade Road Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	2	0	2	1	6	0	7	2	0	1	3	0	3	1	4	16
07:15 AM	0	4	2	6	0	2	0	2	1	1	1	3	2	5	0	7	18
07:30 AM	1	1	2	4	0	1	0	1	2	2	0	4	1	7	0	8	17
07:45 AM	0	0	1	1	1	2	0	3	0	1	0	1	0	1	1	2	7
Total	1	7	5	13	2	11	0	13	5	4	2	11	3	16	2	21	58
08:00 AM	0	2	2	4	1	6	0	7	2	1	0	3	0	8	1	9	23
08:15 AM	0	1	1	2	1	0	0	1	0	1	1	2	0	2	2	4	9
08:30 AM	0	2	0	2	2	5	1	8	0	0	1	1	1	5	0	6	17
08:45 AM	0	0	3	3	3	5	0	8	0	0	0	0	0	7	0	7	18
Total	0	5	6	11	7	16	1	24	2	2	2	6	1	22	3	26	67
Grand Total	1	12	11	24	9	27	1	37	7	6	4	17	4	38	5	47	125
Apprch %	4.2	50	45.8		24.3	73	2.7		41.2	35.3	23.5		8.5	80.9	10.6		
Total %	0.8	9.6	8.8	19.2	7.2	21.6	0.8	29.6	5.6	4.8	3.2	13.6	3.2	30.4	4	37.6	

Start Time	Rivergrade Road Southbound				Live Oak Avenue Westbound				Rivergrade Road Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:15 AM	0	4	2	6	0	2	0	2	1	1	1	3	2	5	0	7	18
07:30 AM	1	1	2	4	0	1	0	1	2	2	0	4	1	7	0	8	17
07:45 AM	0	0	1	1	1	2	0	3	0	1	0	1	0	1	1	2	7
08:00 AM	0	2	2	4	1	6	0	7	2	1	0	3	0	8	1	9	23
Total Volume	1	7	7	15	2	11	0	13	5	5	1	11	3	21	2	26	65
% App. Total	6.7	46.7	46.7		15.4	84.6	0		45.5	45.5	9.1		11.5	80.8	7.7		
PHF	.250	.438	.875	.625	.500	.458	.000	.464	.625	.625	.250	.688	.375	.656	.500	.722	.707

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

City of Irwindale
 N/S: Rivergrade Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 07_IRW_River_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	4	2	6	0	2	0	2	1	1	1	3	2	5	0	7
+15 mins.	1	1	2	4	0	1	0	1	2	2	0	4	1	7	0	8
+30 mins.	0	0	1	1	1	2	0	3	0	1	0	1	0	1	1	2
+45 mins.	0	2	2	4	1	6	0	7	2	1	0	3	0	8	1	9
Total Volume	1	7	7	15	2	11	0	13	5	5	1	11	3	21	2	26
% App. Total	6.7	46.7	46.7		15.4	84.6	0		45.5	45.5	9.1		11.5	80.8	7.7	
PHF	.250	.438	.875	.625	.500	.458	.000	.464	.625	.625	.250	.688	.375	.656	.500	.722

City of Irwindale
 N/S: Rivergrade Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 07_IRW_River_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

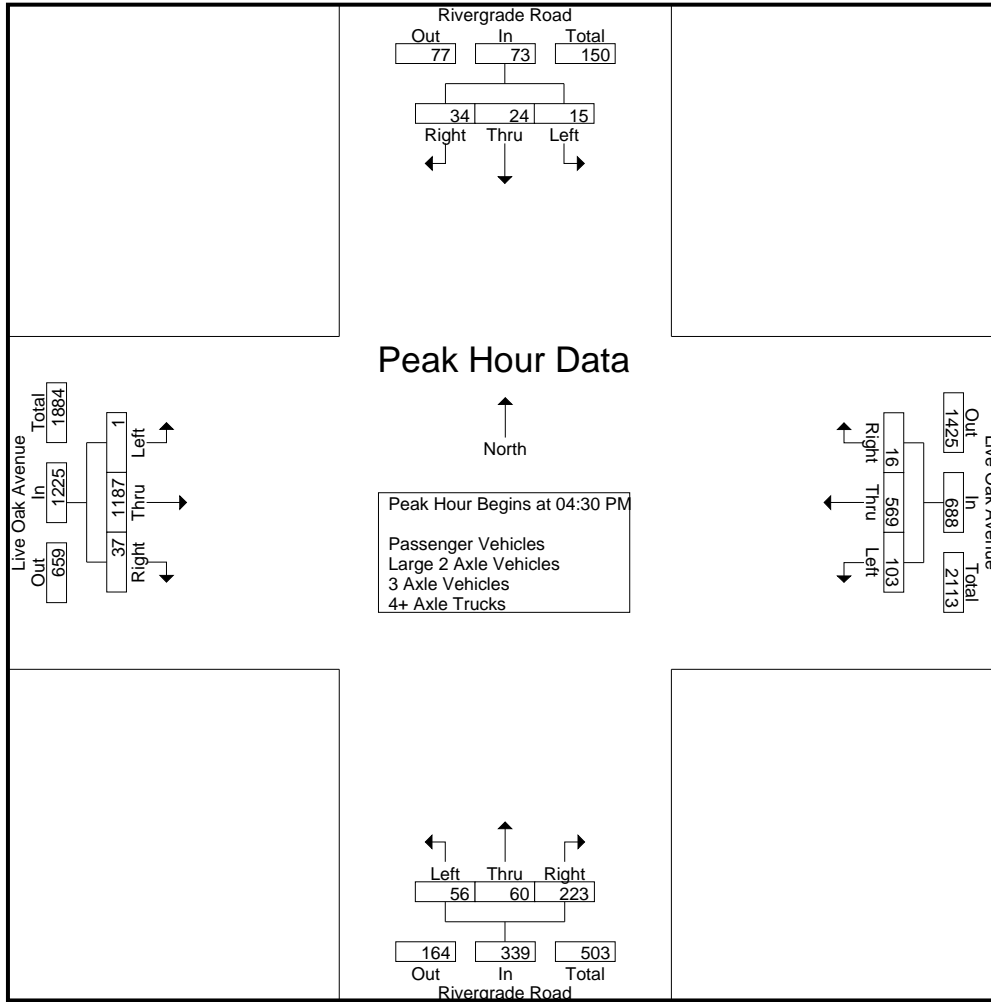
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Rivergrade Road Southbound				Live Oak Avenue Westbound				Rivergrade Road Northbound				Live Oak 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	4	5	3	12	29	123	5	157	3	15	52	70	2	275	4	281	520
04:15 PM	1	13	6	20	25	115	3	143	6	12	50	68	0	256	4	260	491
04:30 PM	3	8	5	16	35	151	3	189	9	19	70	98	1	296	11	308	611
04:45 PM	5	4	4	13	20	120	8	148	6	15	45	66	0	270	9	279	506
Total	13	30	18	61	109	509	19	637	24	61	217	302	3	1097	28	1128	2128
05:00 PM	4	3	16	23	25	171	3	199	29	19	63	111	0	316	12	328	661
05:15 PM	3	9	9	21	23	127	2	152	12	7	45	64	0	305	5	310	547
05:30 PM	0	6	6	12	25	139	6	170	10	11	50	71	2	303	2	307	560
05:45 PM	7	8	6	21	22	92	6	120	4	10	28	42	2	236	11	249	432
Total	14	26	37	77	95	529	17	641	55	47	186	288	4	1160	30	1194	2200
Grand Total	27	56	55	138	204	1038	36	1278	79	108	403	590	7	2257	58	2322	4328
Apprch %	19.6	40.6	39.9		16	81.2	2.8		13.4	18.3	68.3		0.3	97.2	2.5		
Total %	0.6	1.3	1.3	3.2	4.7	24	0.8	29.5	1.8	2.5	9.3	13.6	0.2	52.1	1.3	53.7	
Passenger Vehicles	27	47	49	123	195	1001	33	1229	77	92	390	559	6	2195	54	2255	4166
% Passenger Vehicles	100	83.9	89.1	89.1	95.6	96.4	91.7	96.2	97.5	85.2	96.8	94.7	85.7	97.3	93.1	97.1	96.3
Large 2 Axle Vehicles	0	3	1	4	2	14	1	17	1	8	5	14	1	39	2	42	77
% Large 2 Axle Vehicles	0	5.4	1.8	2.9	1	1.3	2.8	1.3	1.3	7.4	1.2	2.4	14.3	1.7	3.4	1.8	1.8
3 Axle Vehicles	0	1	0	1	2	8	0	10	0	0	3	3	0	7	1	8	22
% 3 Axle Vehicles	0	1.8	0	0.7	1	0.8	0	0.8	0	0	0.7	0.5	0	0.3	1.7	0.3	0.5
4+ Axle Trucks	0	5	5	10	5	15	2	22	1	8	5	14	0	16	1	17	63
% 4+ Axle Trucks	0	8.9	9.1	7.2	2.5	1.4	5.6	1.7	1.3	7.4	1.2	2.4	0	0.7	1.7	0.7	1.5

Start Time	Rivergrade Road Southbound				Live Oak Avenue Westbound				Rivergrade Road Northbound				Live Oak 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	3	8	5	16	35	151	3	189	9	19	70	98	1	296	11	308	611
04:45 PM	5	4	4	13	20	120	8	148	6	15	45	66	0	270	9	279	506
05:00 PM	4	3	16	23	25	171	3	199	29	19	63	111	0	316	12	328	661
05:15 PM	3	9	9	21	23	127	2	152	12	7	45	64	0	305	5	310	547
Total Volume	15	24	34	73	103	569	16	688	56	60	223	339	1	1187	37	1225	2325
% App. Total	20.5	32.9	46.6		15	82.7	2.3		16.5	17.7	65.8		0.1	96.9	3		
PHF	.750	.667	.531	.793	.736	.832	.500	.864	.483	.789	.796	.764	.250	.939	.771	.934	.879

City of Irwindale
 N/S: Rivergrade Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 07_IRW_River_LO PM
 Site Code : 04223184
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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				04:30 PM				04:15 PM				04:30 PM			
+0 mins.	4	3	16	23	35	151	3	189	6	12	50	68	1	296	11	308
+15 mins.	3	9	9	21	20	120	8	148	9	19	70	98	0	270	9	279
+30 mins.	0	6	6	12	25	171	3	199	6	15	45	66	0	316	12	328
+45 mins.	7	8	6	21	23	127	2	152	29	19	63	111	0	305	5	310
Total Volume	14	26	37	77	103	569	16	688	50	65	228	343	1	1187	37	1225
% App. Total	18.2	33.8	48.1		15	82.7	2.3		14.6	19	66.5		0.1	96.9	3	
PHF	.500	.722	.578	.837	.736	.832	.500	.864	.431	.855	.814	.773	.250	.939	.771	.934

City of Irwindale
 N/S: Rivergrade Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 07_IRW_River_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Passenger Vehicles

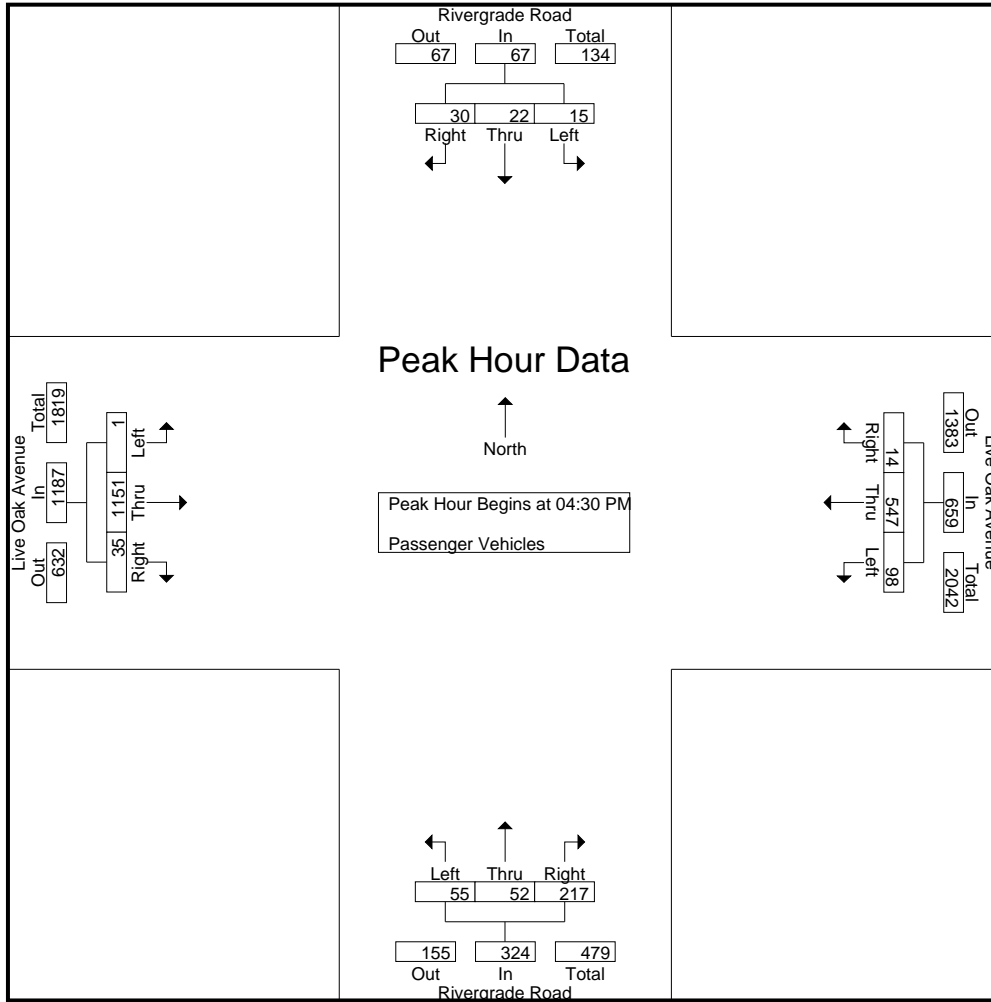
Start Time	Rivergrade Road Southbound				Live Oak Avenue Westbound				Rivergrade Road Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	4	4	2	10	28	121	4	153	3	11	50	64	2	264	3	269	496
04:15 PM	1	10	6	17	24	112	3	139	6	11	45	62	0	247	4	251	469
04:30 PM	3	8	4	15	35	140	3	178	9	18	70	97	1	292	10	303	593
04:45 PM	5	3	3	11	19	116	6	141	6	10	42	58	0	265	8	273	483
Total	13	25	15	53	106	489	16	611	24	50	207	281	3	1068	25	1096	2041
05:00 PM	4	3	15	22	25	169	3	197	28	17	62	107	0	300	12	312	638
05:15 PM	3	8	8	19	19	122	2	143	12	7	43	62	0	294	5	299	523
05:30 PM	0	5	5	10	23	132	6	161	10	9	50	69	2	301	2	305	545
05:45 PM	7	6	6	19	22	89	6	117	3	9	28	40	1	232	10	243	419
Total	14	22	34	70	89	512	17	618	53	42	183	278	3	1127	29	1159	2125
Grand Total	27	47	49	123	195	1001	33	1229	77	92	390	559	6	2195	54	2255	4166
Apprch %	22	38.2	39.8		15.9	81.4	2.7		13.8	16.5	69.8		0.3	97.3	2.4		
Total %	0.6	1.1	1.2	3	4.7	24	0.8	29.5	1.8	2.2	9.4	13.4	0.1	52.7	1.3	54.1	

Start Time	Rivergrade Road Southbound				Live Oak Avenue Westbound				Rivergrade Road Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:30 PM	3	8	4	15	35	140	3	178	9	18	70	97	1	292	10	303	593
04:45 PM	5	3	3	11	19	116	6	141	6	10	42	58	0	265	8	273	483
05:00 PM	4	3	15	22	25	169	3	197	28	17	62	107	0	300	12	312	638
05:15 PM	3	8	8	19	19	122	2	143	12	7	43	62	0	294	5	299	523
Total Volume	15	22	30	67	98	547	14	659	55	52	217	324	1	1151	35	1187	2237
% App. Total	22.4	32.8	44.8		14.9	83	2.1		17	16	67		0.1	97	2.9		
PHF	.750	.688	.500	.761	.700	.809	.583	.836	.491	.722	.775	.757	.250	.959	.729	.951	.877

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

City of Irwindale
 N/S: Rivergrade Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 07_IRW_River_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	3	8	4	15	35	140	3	178	9	18	70	97	1	292	10	303
+15 mins.	5	3	3	11	19	116	6	141	6	10	42	58	0	265	8	273
+30 mins.	4	3	15	22	25	169	3	197	28	17	62	107	0	300	12	312
+45 mins.	3	8	8	19	19	122	2	143	12	7	43	62	0	294	5	299
Total Volume	15	22	30	67	98	547	14	659	55	52	217	324	1	1151	35	1187
% App. Total	22.4	32.8	44.8		14.9	83	2.1		17	16	67		0.1	97	2.9	
PHF	.750	.688	.500	.761	.700	.809	.583	.836	.491	.722	.775	.757	.250	.959	.729	.951

City of Irwindale
 N/S: Rivergrade Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 07_IRW_River_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

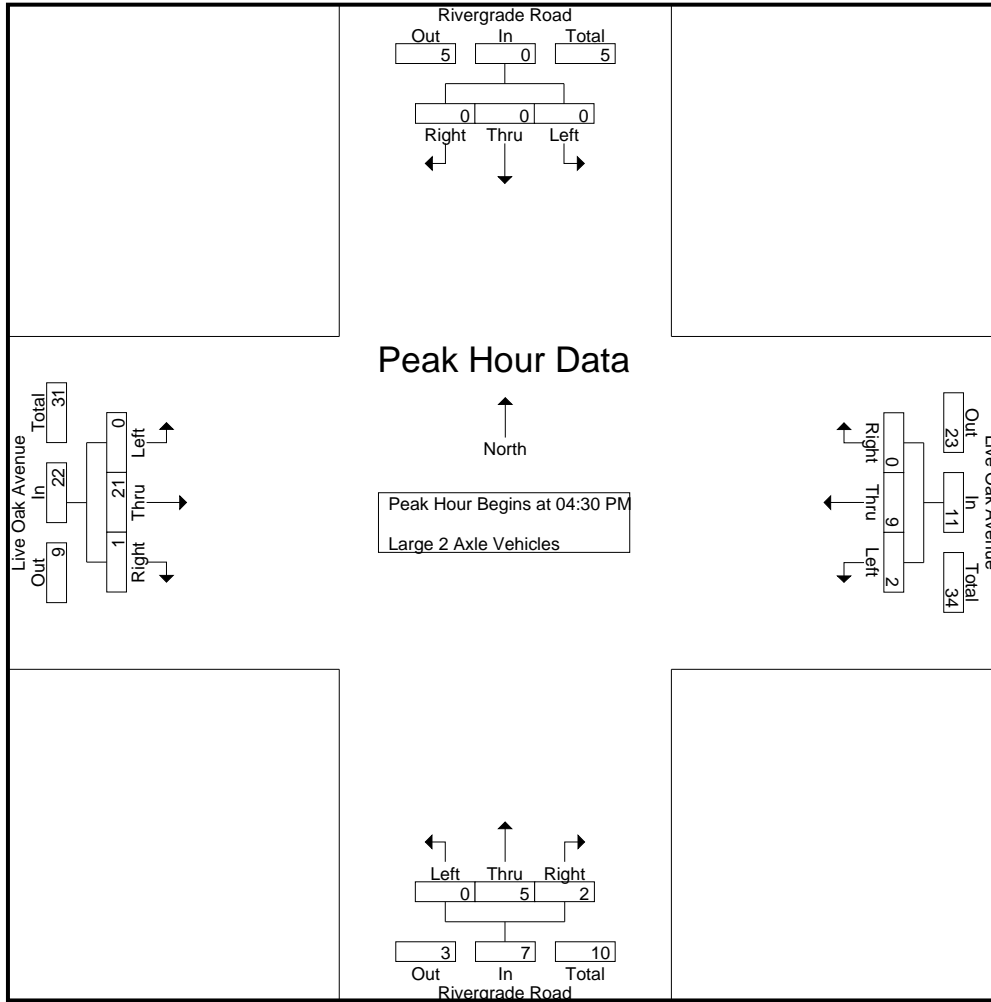
Start Time	Rivergrade Road Southbound				Live Oak Avenue Westbound				Rivergrade Road Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	1	1	0	0	1	1	0	1	1	2	0	9	1	10	14
04:15 PM	0	2	0	2	0	1	0	1	0	0	2	2	0	4	0	4	9
04:30 PM	0	0	0	0	0	5	0	5	0	1	0	1	0	2	1	3	9
04:45 PM	0	0	0	0	0	2	0	2	0	3	1	4	0	4	0	4	10
Total	0	2	1	3	0	8	1	9	0	5	4	9	0	19	2	21	42
05:00 PM	0	0	0	0	0	1	0	1	0	1	1	2	0	7	0	7	10
05:15 PM	0	0	0	0	2	1	0	3	0	0	0	0	0	8	0	8	11
05:30 PM	0	0	0	0	0	1	0	1	0	1	0	1	0	1	0	1	3
05:45 PM	0	1	0	1	0	3	0	3	1	1	0	2	1	4	0	5	11
Total	0	1	0	1	2	6	0	8	1	3	1	5	1	20	0	21	35
Grand Total	0	3	1	4	2	14	1	17	1	8	5	14	1	39	2	42	77
Apprch %	0	75	25		11.8	82.4	5.9		7.1	57.1	35.7		2.4	92.9	4.8		
Total %	0	3.9	1.3	5.2	2.6	18.2	1.3	22.1	1.3	10.4	6.5	18.2	1.3	50.6	2.6	54.5	

Start Time	Rivergrade Road Southbound				Live Oak Avenue Westbound				Rivergrade Road Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:30 PM	0	0	0	0	0	5	0	5	0	1	0	1	0	2	1	3	9
04:45 PM	0	0	0	0	0	2	0	2	0	3	1	4	0	4	0	4	10
05:00 PM	0	0	0	0	0	1	0	1	0	1	1	2	0	7	0	7	10
05:15 PM	0	0	0	0	2	1	0	3	0	0	0	0	0	8	0	8	11
Total Volume	0	0	0	0	2	9	0	11	0	5	2	7	0	21	1	22	40
% App. Total	0	0	0		18.2	81.8	0		0	71.4	28.6		0	95.5	4.5		
PHF	.000	.000	.000	.000	.250	.450	.000	.550	.000	.417	.500	.438	.000	.656	.250	.688	.909

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

City of Irwindale
 N/S: Rivergrade Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 07_IRW_River_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	0	5	0	5	0	1	0	1	0	2	1	3
+15 mins.	0	0	0	0	0	2	0	2	0	3	1	4	0	4	0	4
+30 mins.	0	0	0	0	0	1	0	1	0	1	1	2	0	7	0	7
+45 mins.	0	0	0	0	2	1	0	3	0	0	0	0	0	8	0	8
Total Volume	0	0	0	0	2	9	0	11	0	5	2	7	0	21	1	22
% App. Total	0	0	0	0	18.2	81.8	0	0	0	71.4	28.6	0	0	95.5	4.5	0
PHF	.000	.000	.000	.000	.250	.450	.000	.550	.000	.417	.500	.438	.000	.656	.250	.688

City of Irwindale
 N/S: Rivergrade Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 07_IRW_River_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 3 Axle Vehicles

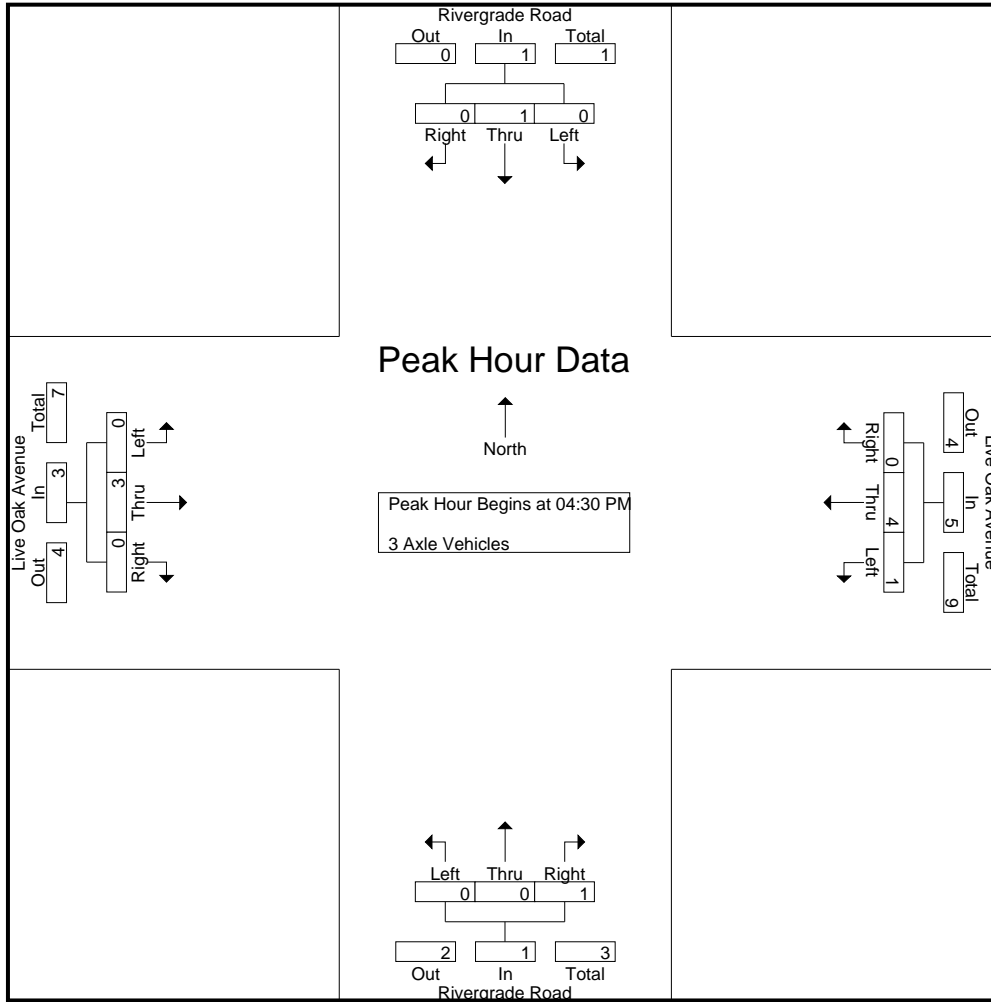
Start Time	Rivergrade Road Southbound				Live Oak Avenue Westbound				Rivergrade Road Northbound				Live Oak Avenue Eastbound				Int. Total		
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total			
04:00 PM	0	0	0	0	1	1	0	2	0	0	0	0	0	2	0	2	0	2	4
04:15 PM	0	0	0	0	0	1	0	1	0	0	2	2	0	1	0	1	0	1	4
04:30 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	1	0	1	0	1	4
04:45 PM	0	0	0	0	1	1	0	2	0	0	1	1	0	0	0	0	0	0	3
Total	0	0	0	0	2	6	0	8	0	0	3	3	0	4	0	4	0	4	15
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	2	2
05:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	0	1	3
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1
Total	0	1	0	1	0	2	0	2	0	0	0	0	0	3	1	4	0	4	7
Grand Total	0	1	0	1	2	8	0	10	0	0	3	3	0	7	1	8	0	8	22
Apprch %	0	100	0		20	80	0		0	0	100		0	87.5	12.5				
Total %	0	4.5	0	4.5	9.1	36.4	0	45.5	0	0	13.6	13.6	0	31.8	4.5	36.4			

Start Time	Rivergrade Road Southbound				Live Oak Avenue Westbound				Rivergrade Road Northbound				Live Oak Avenue Eastbound				Int. Total		
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total			
04:30 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	1	0	1	0	1	4
04:45 PM	0	0	0	0	1	1	0	2	0	0	1	1	0	0	0	0	0	0	3
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	2	2
05:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	1	0	1	1	4	0	5	0	0	1	1	0	3	0	3	0	3	10
% App. Total	0	100	0		20	80	0		0	0	100		0	100	0				
PHF	.000	.250	.000	.250	.250	.333	.000	.417	.000	.000	.250	.250	.000	.375	.000	.375	.000	.375	.625

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

City of Irwindale
 N/S: Rivergrade Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 07_IRW_River_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	0	3	0	3	0	0	0	0	0	1	0	1
+15 mins.	0	0	0	0	1	1	0	2	0	0	1	1	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
+45 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	1	4	0	5	0	0	1	1	0	3	0	3
% App. Total	0	100	0	0	20	80	0	0	0	0	100	0	0	100	0	0
PHF	.000	.250	.000	.250	.250	.333	.000	.417	.000	.000	.250	.250	.000	.375	.000	.375

City of Irwindale
 N/S: Rivergrade Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 07_IRW_River_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 4+ Axle Trucks

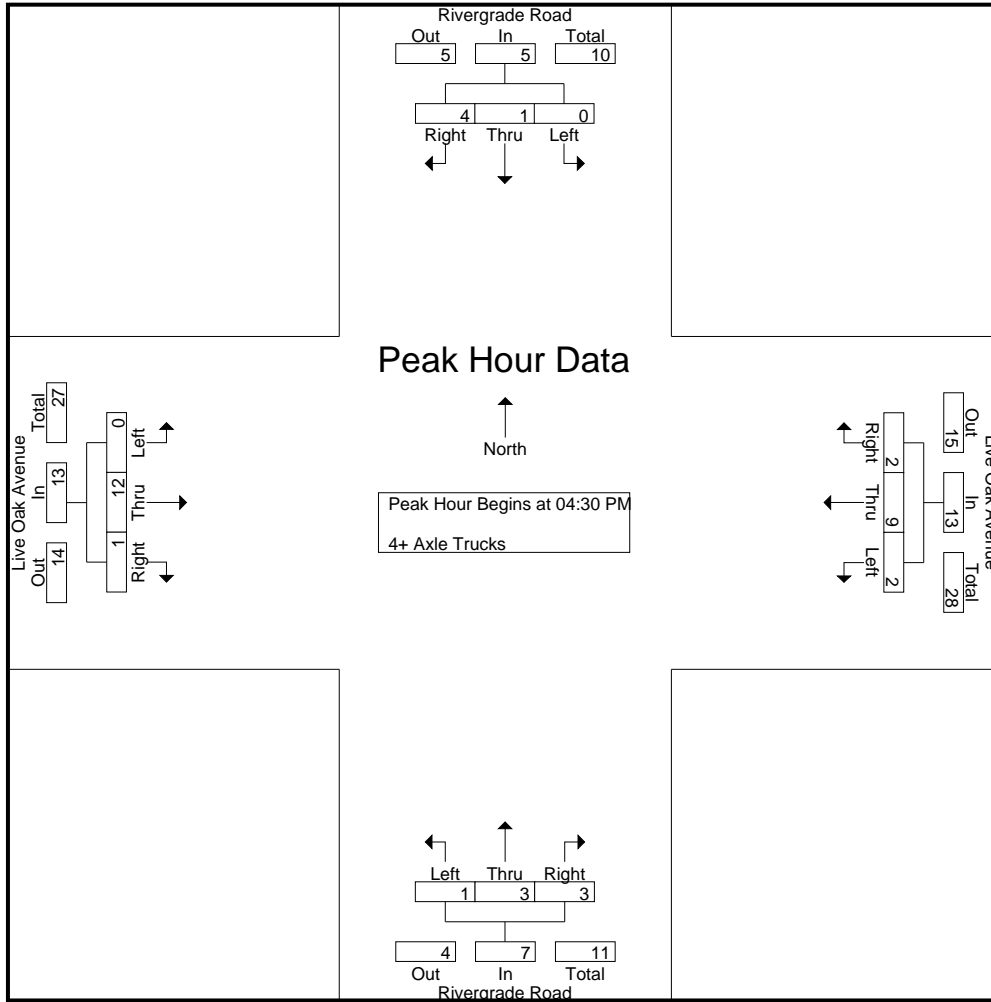
Start Time	Rivergrade Road Southbound				Live Oak Avenue Westbound				Rivergrade Road Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	1	0	1	0	1	0	1	0	3	1	4	0	0	0	0	6
04:15 PM	0	1	0	1	1	1	0	2	0	1	1	2	0	4	0	4	9
04:30 PM	0	0	1	1	0	3	0	3	0	0	0	0	0	1	0	1	5
04:45 PM	0	1	1	2	0	1	2	3	0	2	1	3	0	1	1	2	10
Total	0	3	2	5	1	6	2	9	0	6	3	9	0	6	1	7	30
05:00 PM	0	0	1	1	0	1	0	1	1	1	0	2	0	7	0	7	11
05:15 PM	0	0	1	1	2	4	0	6	0	0	2	2	0	3	0	3	12
05:30 PM	0	1	1	2	2	4	0	6	0	1	0	1	0	0	0	0	9
05:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	2	3	5	4	9	0	13	1	2	2	5	0	10	0	10	33
Grand Total	0	5	5	10	5	15	2	22	1	8	5	14	0	16	1	17	63
Apprch %	0	50	50		22.7	68.2	9.1		7.1	57.1	35.7		0	94.1	5.9		
Total %	0	7.9	7.9	15.9	7.9	23.8	3.2	34.9	1.6	12.7	7.9	22.2	0	25.4	1.6	27	

Start Time	Rivergrade Road Southbound				Live Oak Avenue Westbound				Rivergrade Road Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:30 PM	0	0	1	1	0	3	0	3	0	0	0	0	0	1	0	1	5
04:45 PM	0	1	1	2	0	1	2	3	0	2	1	3	0	1	1	2	10
05:00 PM	0	0	1	1	0	1	0	1	1	1	0	2	0	7	0	7	11
05:15 PM	0	0	1	1	2	4	0	6	0	0	2	2	0	3	0	3	12
Total Volume	0	1	4	5	2	9	2	13	1	3	3	7	0	12	1	13	38
% App. Total	0	20	80		15.4	69.2	15.4		14.3	42.9	42.9		0	92.3	7.7		
PHF	.000	.250	1.00	.625	.250	.563	.250	.542	.250	.375	.375	.583	.000	.429	.250	.464	.792

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

City of Irwindale
 N/S: Rivergrade Road
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 07_IRW_River_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	1	1	0	3	0	3	0	0	0	0	0	1	0	1
+15 mins.	0	1	1	2	0	1	2	3	0	2	1	3	0	1	1	2
+30 mins.	0	0	1	1	0	1	0	1	1	1	0	2	0	7	0	7
+45 mins.	0	0	1	1	2	4	0	6	0	0	2	2	0	3	0	3
Total Volume	0	1	4	5	2	9	2	13	1	3	3	7	0	12	1	13
% App. Total	0	20	80		15.4	69.2	15.4		14.3	42.9	42.9		0	92.3	7.7	
PHF	.000	.250	1.000	.625	.250	.563	.250	.542	.250	.375	.375	.583	.000	.429	.250	.464

City of Irwindale
 N/S: Stewart Avenue
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 08_IRW_Stew_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

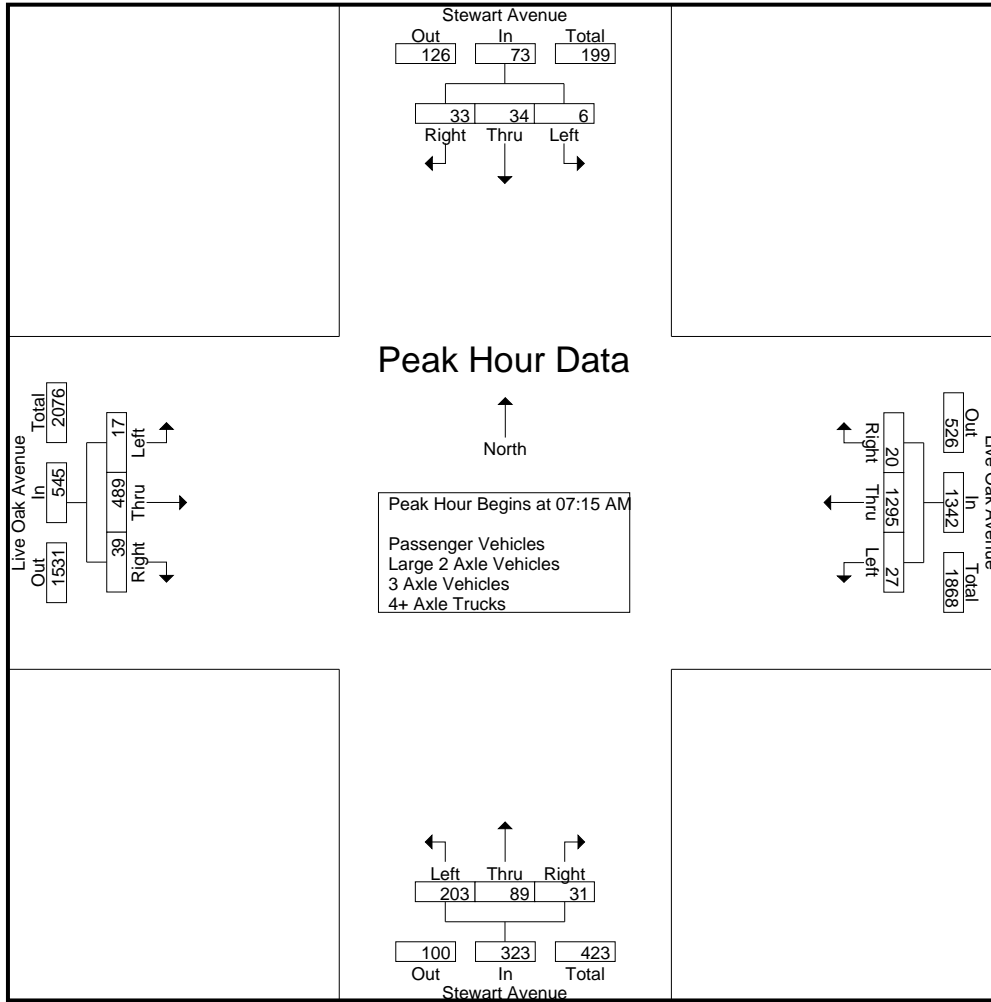
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Stewart Avenue Southbound				Live Oak Avenue Westbound				Stewart Avenue Northbound				Live Oak 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	5	3	29	37	4	287	5	296	37	17	8	62	4	111	4	119	514
07:15 AM	2	6	12	20	3	312	4	319	50	18	5	73	4	109	8	121	533
07:30 AM	1	11	6	18	8	349	2	359	67	25	9	101	4	107	8	119	597
07:45 AM	1	12	7	20	10	328	6	344	48	22	13	83	4	132	8	144	591
Total	9	32	54	95	25	1276	17	1318	202	82	35	319	16	459	28	503	2235
08:00 AM	2	5	8	15	6	306	8	320	38	24	4	66	5	141	15	161	562
08:15 AM	3	7	10	20	8	240	8	256	18	12	4	34	4	129	13	146	456
08:30 AM	2	16	11	29	6	236	4	246	27	16	5	48	6	132	13	151	474
08:45 AM	1	8	6	15	4	207	1	212	23	16	7	46	8	148	7	163	436
Total	8	36	35	79	24	989	21	1034	106	68	20	194	23	550	48	621	1928
Grand Total	17	68	89	174	49	2265	38	2352	308	150	55	513	39	1009	76	1124	4163
Apprch %	9.8	39.1	51.1		2.1	96.3	1.6		60	29.2	10.7		3.5	89.8	6.8		
Total %	0.4	1.6	2.1	4.2	1.2	54.4	0.9	56.5	7.4	3.6	1.3	12.3	0.9	24.2	1.8	27	
Passenger Vehicles	16	65	83	164	49	2166	34	2249	306	146	53	505	23	937	71	1031	3949
% Passenger Vehicles	94.1	95.6	93.3	94.3	100	95.6	89.5	95.6	99.4	97.3	96.4	98.4	59	92.9	93.4	91.7	94.9
Large 2 Axle Vehicles	1	2	3	6	0	53	3	56	2	3	1	6	4	33	4	41	109
% Large 2 Axle Vehicles	5.9	2.9	3.4	3.4	0	2.3	7.9	2.4	0.6	2	1.8	1.2	10.3	3.3	5.3	3.6	2.6
3 Axle Vehicles	0	1	0	1	0	12	1	13	0	1	0	1	0	8	0	8	23
% 3 Axle Vehicles	0	1.5	0	0.6	0	0.5	2.6	0.6	0	0.7	0	0.2	0	0.8	0	0.7	0.6
4+ Axle Trucks	0	0	3	3	0	34	0	34	0	0	1	1	12	31	1	44	82
% 4+ Axle Trucks	0	0	3.4	1.7	0	1.5	0	1.4	0	0	1.8	0.2	30.8	3.1	1.3	3.9	2

Start Time	Stewart Avenue Southbound				Live Oak Avenue Westbound				Stewart Avenue Northbound				Live Oak 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 07:15 AM																	
07:15 AM	2	6	12	20	3	312	4	319	50	18	5	73	4	109	8	121	533
07:30 AM	1	11	6	18	8	349	2	359	67	25	9	101	4	107	8	119	597
07:45 AM	1	12	7	20	10	328	6	344	48	22	13	83	4	132	8	144	591
08:00 AM	2	5	8	15	6	306	8	320	38	24	4	66	5	141	15	161	562
Total Volume	6	34	33	73	27	1295	20	1342	203	89	31	323	17	489	39	545	2283
% App. Total	8.2	46.6	45.2		2	96.5	1.5		62.8	27.6	9.6		3.1	89.7	7.2		
PHF	.750	.708	.688	.913	.675	.928	.625	.935	.757	.890	.596	.800	.850	.867	.650	.846	.956

City of Irwindale
 N/S: Stewart Avenue
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 08_IRW_Stew_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 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				07:15 AM				08:00 AM			
+0 mins.	5	3	29	37	3	312	4	319	50	18	5	73	5	141	15	161
+15 mins.	2	6	12	20	8	349	2	359	67	25	9	101	4	129	13	146
+30 mins.	1	11	6	18	10	328	6	344	48	22	13	83	6	132	13	151
+45 mins.	1	12	7	20	6	306	8	320	38	24	4	66	8	148	7	163
Total Volume	9	32	54	95	27	1295	20	1342	203	89	31	323	23	550	48	621
% App. Total	9.5	33.7	56.8		2	96.5	1.5		62.8	27.6	9.6		3.7	88.6	7.7	
PHF	.450	.667	.466	.642	.675	.928	.625	.935	.757	.890	.596	.800	.719	.929	.800	.952

City of Irwindale
 N/S: Stewart Avenue
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 08_IRW_Stew_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Passenger Vehicles

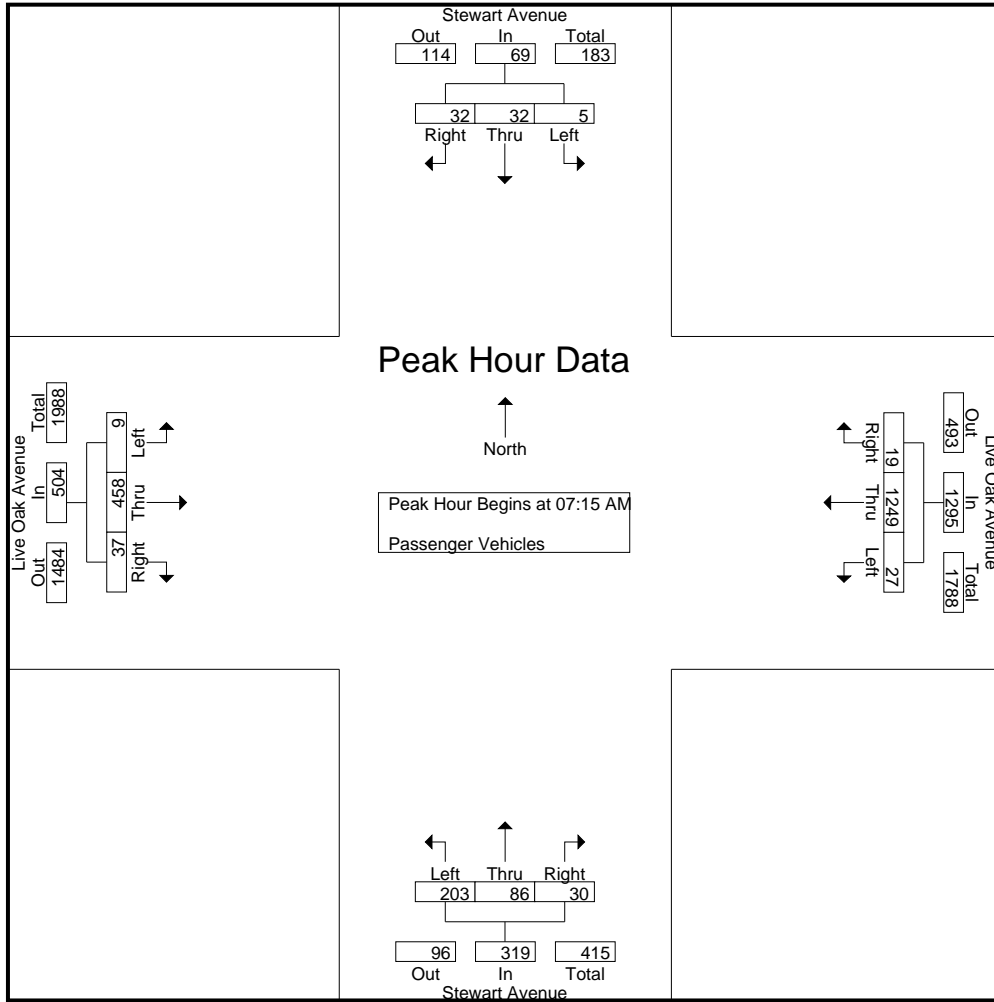
Start Time	Stewart Avenue Southbound				Live Oak Avenue Westbound				Stewart Avenue Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	5	2	25	32	4	271	4	279	37	17	8	62	4	99	4	107	480
07:15 AM	1	6	12	19	3	302	4	309	50	18	5	73	2	100	7	109	510
07:30 AM	1	10	6	17	8	337	2	347	67	23	8	98	2	104	7	113	575
07:45 AM	1	11	7	19	10	315	5	330	48	22	13	83	3	123	8	134	566
Total	8	29	50	87	25	1225	15	1265	202	80	34	316	11	426	26	463	2131
08:00 AM	2	5	7	14	6	295	8	309	38	23	4	65	2	131	15	148	536
08:15 AM	3	7	10	20	8	232	8	248	17	12	4	33	3	120	12	135	436
08:30 AM	2	16	10	28	6	223	2	231	27	16	5	48	3	124	11	138	445
08:45 AM	1	8	6	15	4	191	1	196	22	15	6	43	4	136	7	147	401
Total	8	36	33	77	24	941	19	984	104	66	19	189	12	511	45	568	1818
Grand Total	16	65	83	164	49	2166	34	2249	306	146	53	505	23	937	71	1031	3949
Apprch %	9.8	39.6	50.6		2.2	96.3	1.5		60.6	28.9	10.5		2.2	90.9	6.9		
Total %	0.4	1.6	2.1	4.2	1.2	54.8	0.9	57	7.7	3.7	1.3	12.8	0.6	23.7	1.8	26.1	

Start Time	Stewart Avenue Southbound				Live Oak Avenue Westbound				Stewart Avenue Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:15 AM	1	6	12	19	3	302	4	309	50	18	5	73	2	100	7	109	510
07:30 AM	1	10	6	17	8	337	2	347	67	23	8	98	2	104	7	113	575
07:45 AM	1	11	7	19	10	315	5	330	48	22	13	83	3	123	8	134	566
08:00 AM	2	5	7	14	6	295	8	309	38	23	4	65	2	131	15	148	536
Total Volume	5	32	32	69	27	1249	19	1295	203	86	30	319	9	458	37	504	2187
% App. Total	7.2	46.4	46.4		2.1	96.4	1.5		63.6	27	9.4		1.8	90.9	7.3		
PHF	.625	.727	.667	.908	.675	.927	.594	.933	.757	.935	.577	.814	.750	.874	.617	.851	.951

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

City of Irwindale
 N/S: Stewart Avenue
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 08_IRW_Stew_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	1	6	12	19	3	302	4	309	50	18	5	73	2	100	7	109
+15 mins.	1	10	6	17	8	337	2	347	67	23	8	98	2	104	7	113
+30 mins.	1	11	7	19	10	315	5	330	48	22	13	83	3	123	8	134
+45 mins.	2	5	7	14	6	295	8	309	38	23	4	65	2	131	15	148
Total Volume	5	32	32	69	27	1249	19	1295	203	86	30	319	9	458	37	504
% App. Total	7.2	46.4	46.4		2.1	96.4	1.5		63.6	27	9.4		1.8	90.9	7.3	
PHF	.625	.727	.667	.908	.675	.927	.594	.933	.757	.935	.577	.814	.750	.874	.617	.851

City of Irwindale
 N/S: Stewart Avenue
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 08_IRW_Stew_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

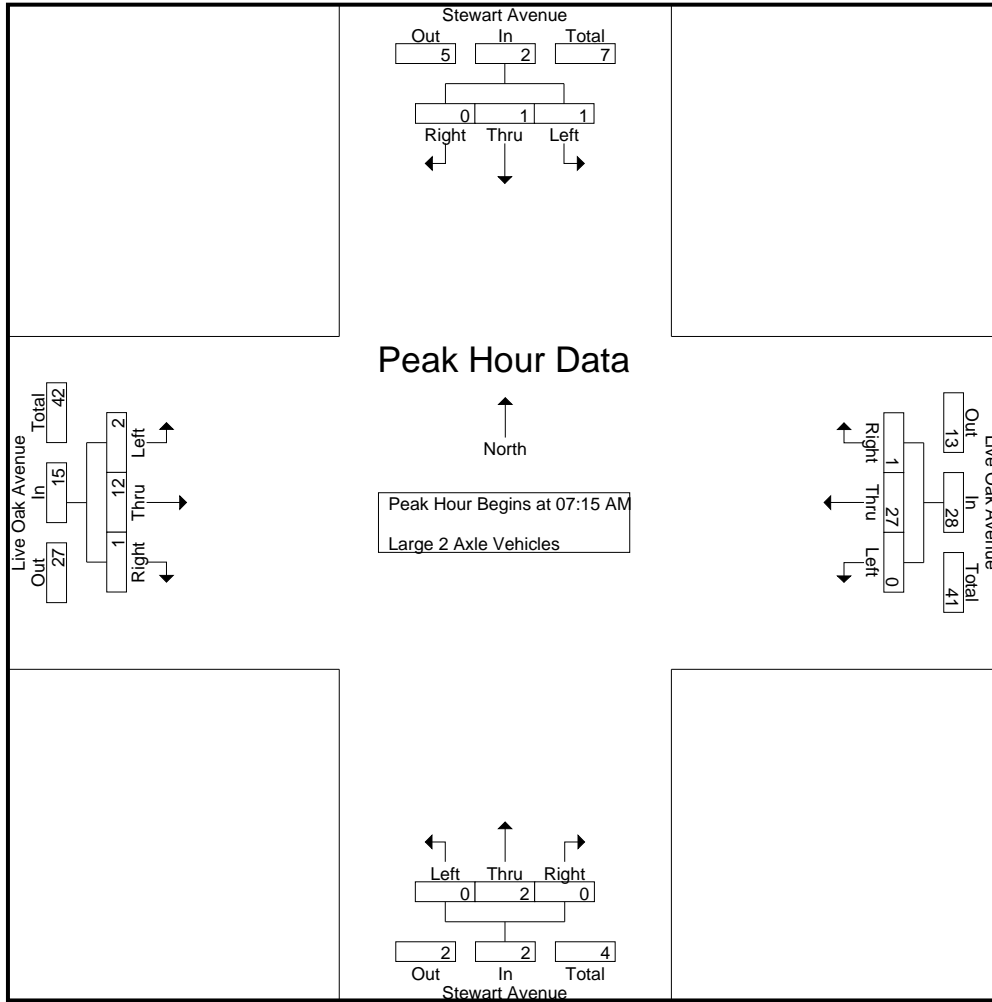
Start Time	Stewart Avenue Southbound				Live Oak Avenue Westbound				Stewart Avenue Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	1	3	4	0	7	1	8	0	0	0	0	0	8	0	8	20
07:15 AM	1	0	0	1	0	7	0	7	0	0	0	0	1	4	1	6	14
07:30 AM	0	1	0	1	0	8	0	8	0	2	0	2	0	1	0	1	12
07:45 AM	0	0	0	0	0	9	1	10	0	0	0	0	0	4	0	4	14
Total	1	2	3	6	0	31	2	33	0	2	0	2	1	17	1	19	60
08:00 AM	0	0	0	0	0	3	0	3	0	0	0	0	1	3	0	4	7
08:15 AM	0	0	0	0	0	7	0	7	1	0	0	1	0	3	1	4	12
08:30 AM	0	0	0	0	0	5	1	6	0	0	0	0	1	3	2	6	12
08:45 AM	0	0	0	0	0	7	0	7	1	1	1	3	1	7	0	8	18
Total	0	0	0	0	0	22	1	23	2	1	1	4	3	16	3	22	49
Grand Total	1	2	3	6	0	53	3	56	2	3	1	6	4	33	4	41	109
Apprch %	16.7	33.3	50		0	94.6	5.4		33.3	50	16.7		9.8	80.5	9.8		
Total %	0.9	1.8	2.8	5.5	0	48.6	2.8	51.4	1.8	2.8	0.9	5.5	3.7	30.3	3.7	37.6	

Start Time	Stewart Avenue Southbound				Live Oak Avenue Westbound				Stewart Avenue Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:15 AM	1	0	0	1	0	7	0	7	0	0	0	0	1	4	1	6	14
07:30 AM	0	1	0	1	0	8	0	8	0	2	0	2	0	1	0	1	12
07:45 AM	0	0	0	0	0	9	1	10	0	0	0	0	0	4	0	4	14
08:00 AM	0	0	0	0	0	3	0	3	0	0	0	0	1	3	0	4	7
Total Volume	1	1	0	2	0	27	1	28	0	2	0	2	2	12	1	15	47
% App. Total	50	50	0		0	96.4	3.6		0	100	0		13.3	80	6.7		
PHF	.250	.250	.000	.500	.000	.750	.250	.700	.000	.250	.000	.250	.500	.750	.250	.625	.839

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

City of Irwindale
 N/S: Stewart Avenue
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 08_IRW_Stew_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	1	0	0	1	0	7	0	7	0	0	0	0	1	4	1	6
+15 mins.	0	1	0	1	0	8	0	8	0	2	0	2	0	1	0	1
+30 mins.	0	0	0	0	0	9	1	10	0	0	0	0	0	4	0	4
+45 mins.	0	0	0	0	0	3	0	3	0	0	0	0	1	3	0	4
Total Volume	1	1	0	2	0	27	1	28	0	2	0	2	2	12	1	15
% App. Total	50	50	0		0	96.4	3.6		0	100	0		13.3	80	6.7	
PHF	.250	.250	.000	.500	.000	.750	.250	.700	.000	.250	.000	.250	.500	.750	.250	.625

City of Irwindale
 N/S: Stewart Avenue
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 08_IRW_Stew_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 3 Axle Vehicles

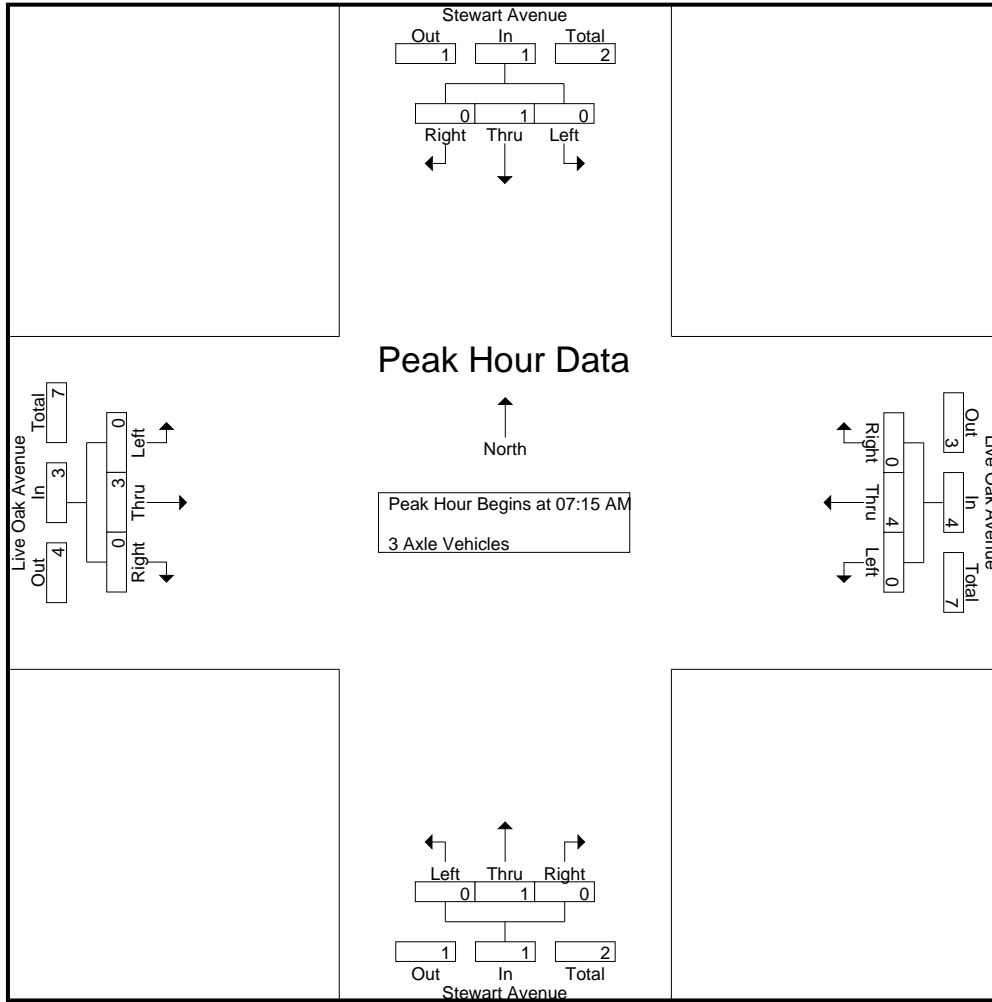
Start Time	Stewart Avenue Southbound				Live Oak Avenue Westbound				Stewart Avenue Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
07:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	2	0	2	3
Total	0	1	0	1	0	3	0	3	0	0	0	0	0	2	0	2	6
08:00 AM	0	0	0	0	0	2	0	2	0	1	0	1	0	1	0	1	4
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	3
08:30 AM	0	0	0	0	0	4	1	5	0	0	0	0	0	1	0	1	6
08:45 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	1	0	1	4
Total	0	0	0	0	0	9	1	10	0	1	0	1	0	6	0	6	17
Grand Total	0	1	0	1	0	12	1	13	0	1	0	1	0	8	0	8	23
Apprch %	0	100	0		0	92.3	7.7		0	100	0		0	100	0		
Total %	0	4.3	0	4.3	0	52.2	4.3	56.5	0	4.3	0	4.3	0	34.8	0	34.8	

Start Time	Stewart Avenue Southbound				Live Oak Avenue Westbound				Stewart Avenue Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
07:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	2	0	2	3
08:00 AM	0	0	0	0	0	2	0	2	0	1	0	1	0	1	0	1	4
Total Volume	0	1	0	1	0	4	0	4	0	1	0	1	0	3	0	3	9
% App. Total	0	100	0		0	100	0		0	100	0		0	100	0		
PHF	.000	.250	.000	.250	.000	.500	.000	.500	.000	.250	.000	.250	.000	.375	.000	.375	.563

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

City of Irwindale
 N/S: Stewart Avenue
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 08_IRW_Stew_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0
+30 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	2	0	2
+45 mins.	0	0	0	0	0	2	0	2	0	1	0	1	0	1	0	1
Total Volume	0	1	0	1	0	4	0	4	0	1	0	1	0	3	0	3
% App. Total	0	100	0	0	0	100	0	0	0	100	0	0	0	100	0	0
PHF	.000	.250	.000	.250	.000	.500	.000	.500	.000	.250	.000	.250	.000	.375	.000	.375

City of Irwindale
 N/S: Stewart Avenue
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 08_IRW_Stew_LO AM
 Site Code : 04223184
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Groups Printed- 4+ Axle Trucks

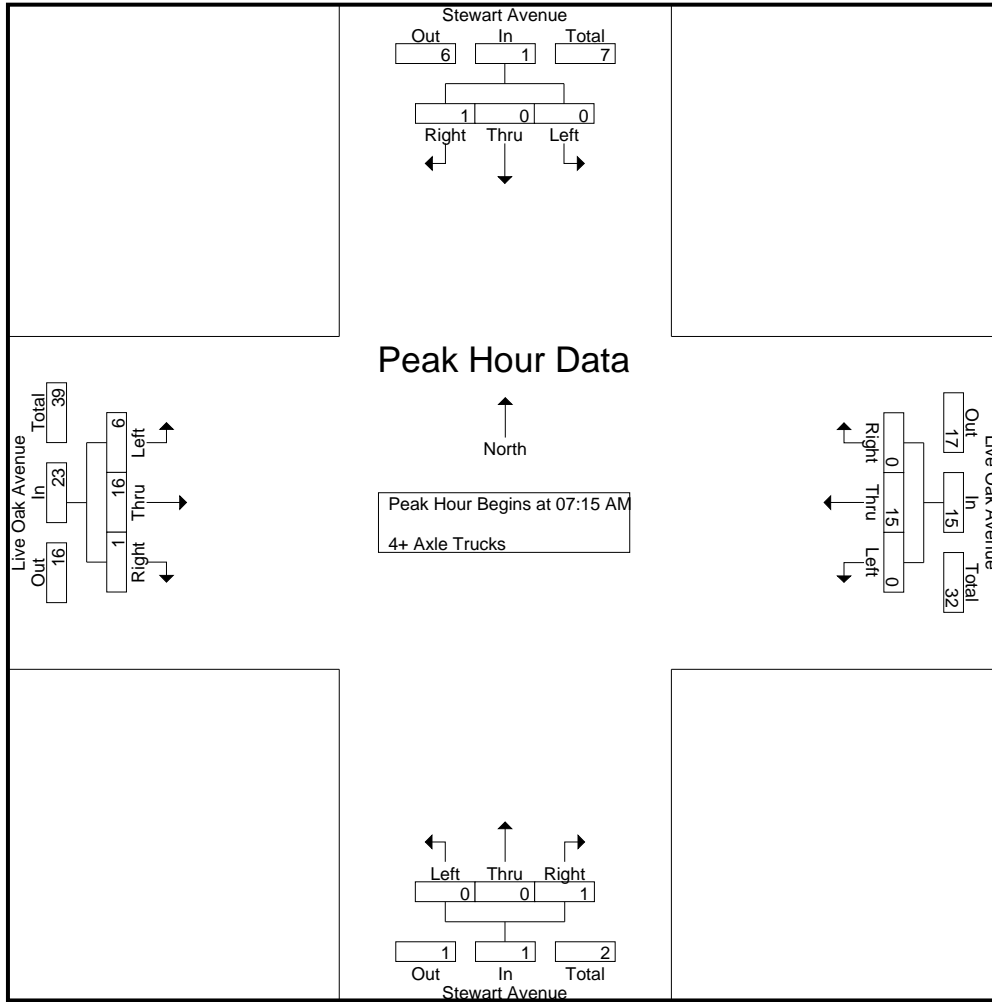
Start Time	Stewart Avenue Southbound				Live Oak Avenue Westbound				Stewart Avenue Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	1	1	0	8	0	8	0	0	0	0	0	4	0	4	13
07:15 AM	0	0	0	0	0	3	0	3	0	0	0	0	1	5	0	6	9
07:30 AM	0	0	0	0	0	2	0	2	0	0	1	1	2	2	1	5	8
07:45 AM	0	0	0	0	0	4	0	4	0	0	0	0	1	3	0	4	8
Total	0	0	1	1	0	17	0	17	0	0	1	1	4	14	1	19	38
08:00 AM	0	0	1	1	0	6	0	6	0	0	0	0	2	6	0	8	15
08:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	1	3	0	4	5
08:30 AM	0	0	1	1	0	4	0	4	0	0	0	0	2	4	0	6	11
08:45 AM	0	0	0	0	0	6	0	6	0	0	0	0	3	4	0	7	13
Total	0	0	2	2	0	17	0	17	0	0	0	0	8	17	0	25	44
Grand Total	0	0	3	3	0	34	0	34	0	0	1	1	12	31	1	44	82
Apprch %	0	0	100		0	100	0		0	0	100		27.3	70.5	2.3		
Total %	0	0	3.7	3.7	0	41.5	0	41.5	0	0	1.2	1.2	14.6	37.8	1.2	53.7	

Start Time	Stewart Avenue Southbound				Live Oak Avenue Westbound				Stewart Avenue Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:15 AM	0	0	0	0	0	3	0	3	0	0	0	0	1	5	0	6	9
07:30 AM	0	0	0	0	0	2	0	2	0	0	1	1	2	2	1	5	8
07:45 AM	0	0	0	0	0	4	0	4	0	0	0	0	1	3	0	4	8
08:00 AM	0	0	1	1	0	6	0	6	0	0	0	0	2	6	0	8	15
Total Volume	0	0	1	1	0	15	0	15	0	0	1	1	6	16	1	23	40
% App. Total	0	0	100		0	100	0		0	0	100		26.1	69.6	4.3		
PHF	.000	.000	.250	.250	.000	.625	.000	.625	.000	.000	.250	.250	.750	.667	.250	.719	.667

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

City of Irwindale
 N/S: Stewart Avenue
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 08_IRW_Stew_LO AM
 Site Code : 04223184
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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	0	0	0	0	3	0	3	0	0	0	0	1	5	0	6
+15 mins.	0	0	0	0	0	2	0	2	0	0	1	1	2	2	1	5
+30 mins.	0	0	0	0	0	4	0	4	0	0	0	0	1	3	0	4
+45 mins.	0	0	1	1	0	6	0	6	0	0	0	0	2	6	0	8
Total Volume	0	0	1	1	0	15	0	15	0	0	1	1	6	16	1	23
% App. Total	0	0	100		0	100	0		0	0	100		26.1	69.6	4.3	
PHF	.000	.000	.250	.250	.000	.625	.000	.625	.000	.000	.250	.250	.750	.667	.250	.719

City of Irwindale
 N/S: Stewart Avenue
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 08_IRW_Stew_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
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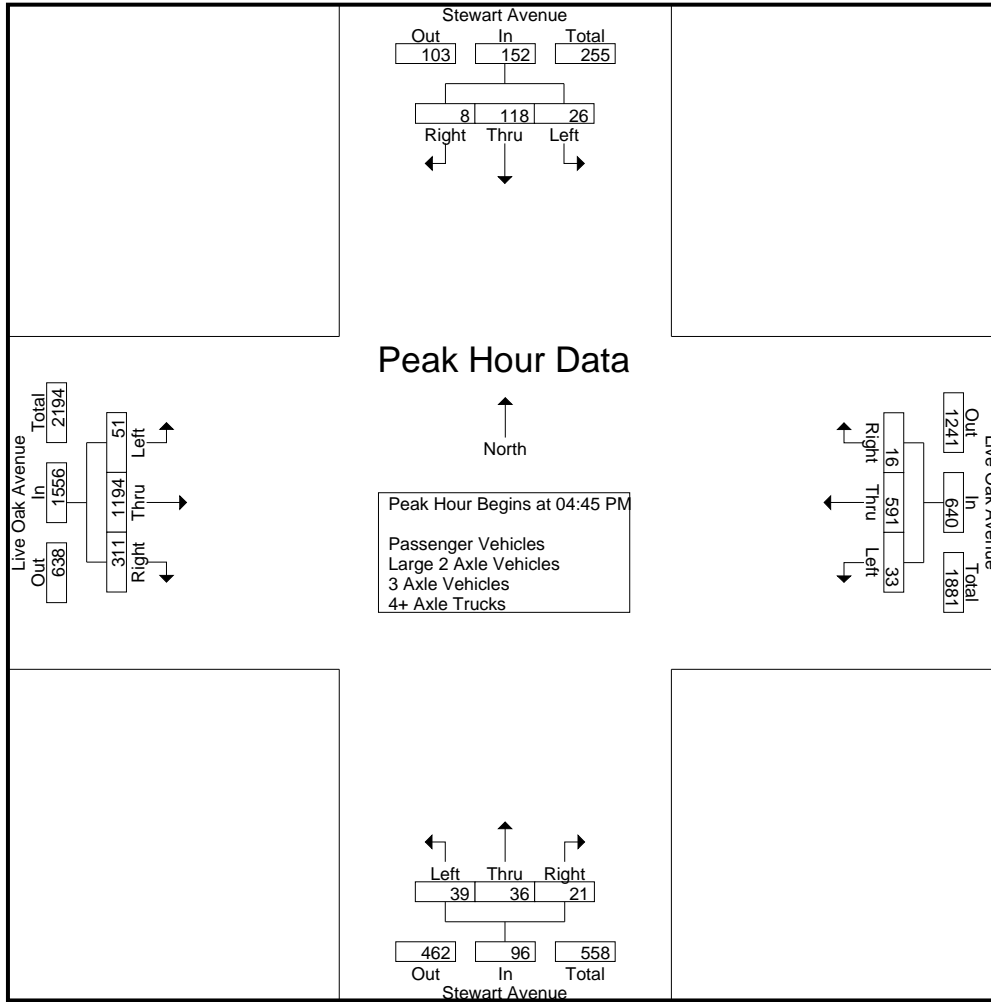
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Stewart Avenue Southbound				Live Oak Avenue Westbound				Stewart Avenue Northbound				Live Oak 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	5	28	3	36	12	141	4	157	10	10	9	29	5	290	37	332	554
04:15 PM	2	29	1	32	7	126	6	139	12	7	4	23	5	281	34	320	514
04:30 PM	2	25	1	28	5	158	3	166	12	16	3	31	8	288	56	352	577
04:45 PM	6	42	1	49	7	123	2	132	15	8	8	31	8	257	92	357	569
Total	15	124	6	145	31	548	15	594	49	41	24	114	26	1116	219	1361	2214
05:00 PM	8	33	3	44	9	178	9	196	8	8	7	23	15	334	70	419	682
05:15 PM	4	26	3	33	9	134	2	145	7	13	4	24	6	293	77	376	578
05:30 PM	8	17	1	26	8	156	3	167	9	7	2	18	22	310	72	404	615
05:45 PM	8	28	0	36	10	96	2	108	18	8	5	31	9	238	40	287	462
Total	28	104	7	139	36	564	16	616	42	36	18	96	52	1175	259	1486	2337
Grand Total	43	228	13	284	67	1112	31	1210	91	77	42	210	78	2291	478	2847	4551
Apprch %	15.1	80.3	4.6		5.5	91.9	2.6		43.3	36.7	20		2.7	80.5	16.8		
Total %	0.9	5	0.3	6.2	1.5	24.4	0.7	26.6	2	1.7	0.9	4.6	1.7	50.3	10.5	62.6	
Passenger Vehicles	38	200	11	249	64	1062	28	1154	89	77	39	205	75	2225	474	2774	4382
% Passenger Vehicles	88.4	87.7	84.6	87.7	95.5	95.5	90.3	95.4	97.8	100	92.9	97.6	96.2	97.1	99.2	97.4	96.3
Large 2 Axle Vehicles	2	5	2	9	0	20	1	21	2	0	0	2	2	40	2	44	76
% Large 2 Axle Vehicles	4.7	2.2	15.4	3.2	0	1.8	3.2	1.7	2.2	0	0	1	2.6	1.7	0.4	1.5	1.7
3 Axle Vehicles	0	0	0	0	0	11	0	11	0	0	1	1	0	8	2	10	22
% 3 Axle Vehicles	0	0	0	0	0	1	0	0.9	0	0	2.4	0.5	0	0.3	0.4	0.4	0.5
4+ Axle Trucks	3	23	0	26	3	19	2	24	0	0	2	2	1	18	0	19	71
% 4+ Axle Trucks	7	10.1	0	9.2	4.5	1.7	6.5	2	0	0	4.8	1	1.3	0.8	0	0.7	1.6

Start Time	Stewart Avenue Southbound				Live Oak Avenue Westbound				Stewart Avenue Northbound				Live Oak 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 04:45 PM																	
04:45 PM	6	42	1	49	7	123	2	132	15	8	8	31	8	257	92	357	569
05:00 PM	8	33	3	44	9	178	9	196	8	8	7	23	15	334	70	419	682
05:15 PM	4	26	3	33	9	134	2	145	7	13	4	24	6	293	77	376	578
05:30 PM	8	17	1	26	8	156	3	167	9	7	2	18	22	310	72	404	615
Total Volume	26	118	8	152	33	591	16	640	39	36	21	96	51	1194	311	1556	2444
% App. Total	17.1	77.6	5.3		5.2	92.3	2.5		40.6	37.5	21.9		3.3	76.7	20		
PHF	.813	.702	.667	.776	.917	.830	.444	.816	.650	.692	.656	.774	.580	.894	.845	.928	.896

City of Irwindale
 N/S: Stewart Avenue
 E/W: Live Oak Avenue
 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:

	04:30 PM				04:45 PM				04:00 PM				04:45 PM			
+0 mins.	2	25	1	28	7	123	2	132	10	10	9	29	8	257	92	357
+15 mins.	6	42	1	49	9	178	9	196	12	7	4	23	15	334	70	419
+30 mins.	8	33	3	44	9	134	2	145	12	16	3	31	6	293	77	376
+45 mins.	4	26	3	33	8	156	3	167	15	8	8	31	22	310	72	404
Total Volume	20	126	8	154	33	591	16	640	49	41	24	114	51	1194	311	1556
% App. Total	13	81.8	5.2		5.2	92.3	2.5		43	36	21.1		3.3	76.7	20	
PHF	.625	.750	.667	.786	.917	.830	.444	.816	.817	.641	.667	.919	.580	.894	.845	.928

City of Irwindale
 N/S: Stewart Avenue
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 08_IRW_Stew_LO PM
 Site Code : 04223184
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Groups Printed- Passenger Vehicles

Start Time	Stewart Avenue Southbound				Live Oak Avenue Westbound				Stewart Avenue Northbound				Live Oak 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	5	25	1	31	11	136	4	151	10	10	9	29	3	282	35	320	531
04:15 PM	1	23	1	25	6	122	4	132	11	7	3	21	5	267	33	305	483
04:30 PM	1	24	1	26	5	148	3	156	12	16	3	31	8	285	56	349	562
04:45 PM	5	36	1	42	7	117	2	126	14	8	6	28	8	249	91	348	544
Total	12	108	4	124	29	523	13	565	47	41	21	109	24	1083	215	1322	2120
05:00 PM	8	24	3	35	9	175	9	193	8	8	7	23	14	319	70	403	654
05:15 PM	4	25	3	32	8	124	2	134	7	13	4	24	6	280	77	363	553
05:30 PM	6	17	1	24	8	148	2	158	9	7	2	18	22	308	72	402	602
05:45 PM	8	26	0	34	10	92	2	104	18	8	5	31	9	235	40	284	453
Total	26	92	7	125	35	539	15	589	42	36	18	96	51	1142	259	1452	2262
Grand Total	38	200	11	249	64	1062	28	1154	89	77	39	205	75	2225	474	2774	4382
Apprch %	15.3	80.3	4.4		5.5	92	2.4		43.4	37.6	19		2.7	80.2	17.1		
Total %	0.9	4.6	0.3	5.7	1.5	24.2	0.6	26.3	2	1.8	0.9	4.7	1.7	50.8	10.8	63.3	

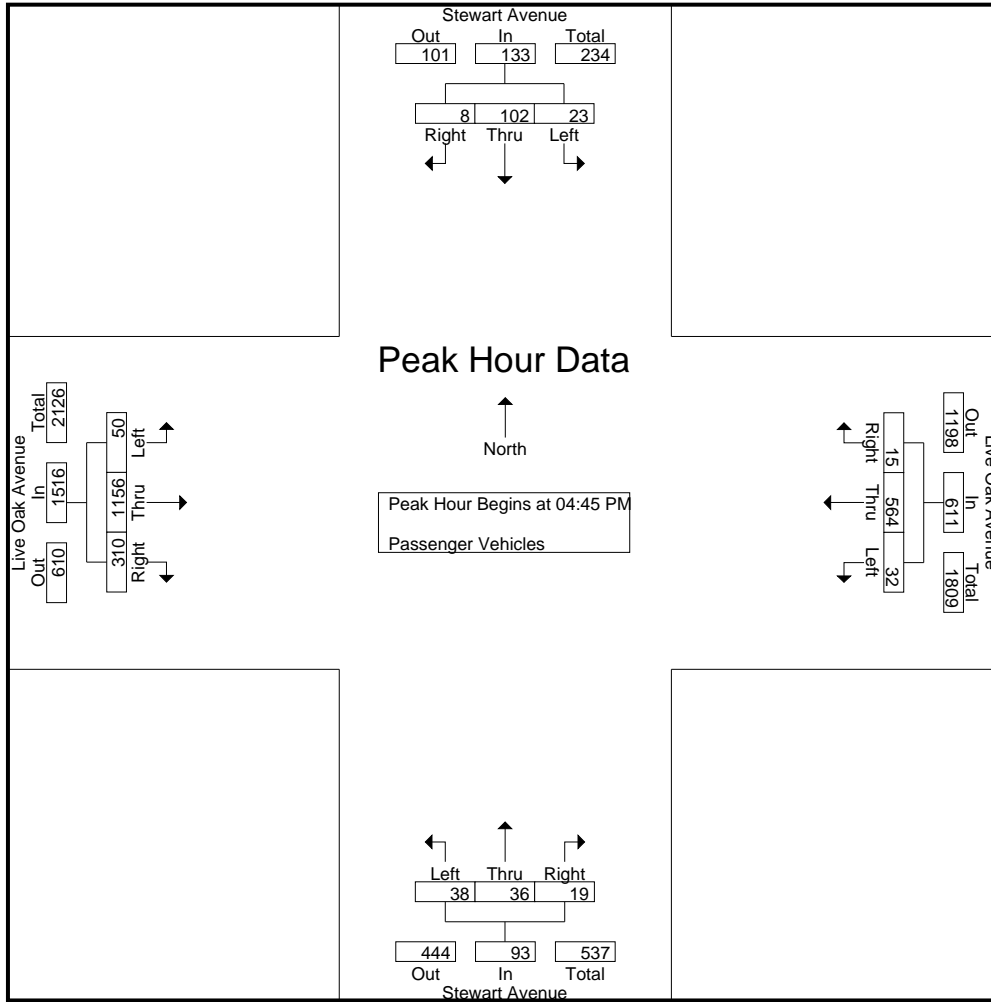
Start Time	Stewart Avenue Southbound				Live Oak Avenue Westbound				Stewart Avenue Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:45 PM	5	36	1	42	7	117	2	126	14	8	6	28	8	249	91	348	544
05:00 PM	8	24	3	35	9	175	9	193	8	8	7	23	14	319	70	403	654
05:15 PM	4	25	3	32	8	124	2	134	7	13	4	24	6	280	77	363	553
05:30 PM	6	17	1	24	8	148	2	158	9	7	2	18	22	308	72	402	602
Total Volume	23	102	8	133	32	564	15	611	38	36	19	93	50	1156	310	1516	2353
% App. Total	17.3	76.7	6		5.2	92.3	2.5		40.9	38.7	20.4		3.3	76.3	20.4		
PHF	.719	.708	.667	.792	.889	.806	.417	.791	.679	.692	.679	.830	.568	.906	.852	.940	.899

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM

City of Irwindale
 N/S: Stewart Avenue
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 08_IRW_Stew_LO PM
 Site Code : 04223184
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Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:45 PM				04:45 PM			
+0 mins.	5	36	1	42	7	117	2	126	14	8	6	28	8	249	91	348
+15 mins.	8	24	3	35	9	175	9	193	8	8	7	23	14	319	70	403
+30 mins.	4	25	3	32	8	124	2	134	7	13	4	24	6	280	77	363
+45 mins.	6	17	1	24	8	148	2	158	9	7	2	18	22	308	72	402
Total Volume	23	102	8	133	32	564	15	611	38	36	19	93	50	1156	310	1516
% App. Total	17.3	76.7	6		5.2	92.3	2.5		40.9	38.7	20.4		3.3	76.3	20.4	
PHF	.719	.708	.667	.792	.889	.806	.417	.791	.679	.692	.679	.830	.568	.906	.852	.940

City of Irwindale
 N/S: Stewart Avenue
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 08_IRW_Stew_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
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Groups Printed- Large 2 Axle Vehicles

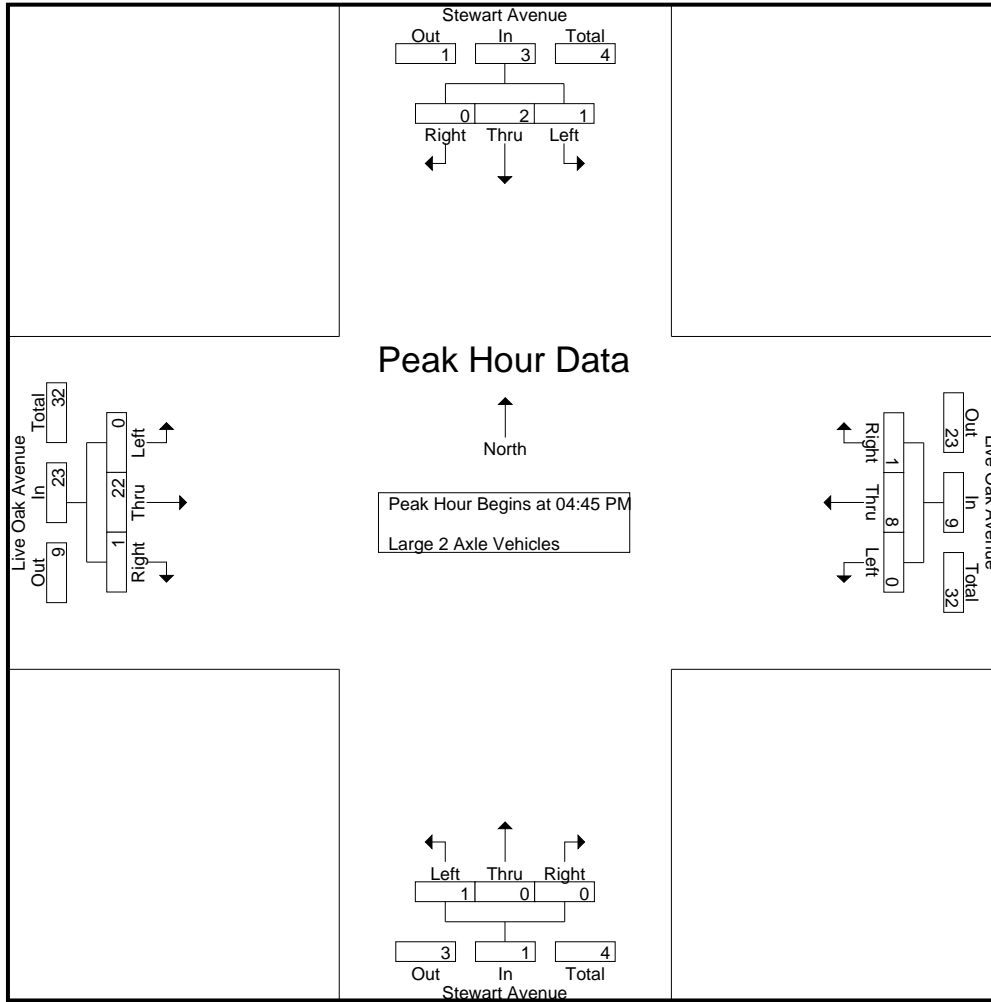
Start Time	Stewart Avenue Southbound				Live Oak Avenue Westbound				Stewart Avenue Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	1	2	3	0	2	0	2	0	0	0	0	2	7	1	10	15
04:15 PM	1	2	0	3	0	1	0	1	1	0	0	1	0	6	0	6	11
04:30 PM	0	0	0	0	0	5	0	5	0	0	0	0	0	2	0	2	7
04:45 PM	1	1	0	2	0	2	0	2	1	0	0	1	0	5	1	6	11
Total	2	4	2	8	0	10	0	10	2	0	0	2	2	20	2	24	44
05:00 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	9	0	9	11
05:15 PM	0	1	0	1	0	3	0	3	0	0	0	0	0	7	0	7	11
05:30 PM	0	0	0	0	0	1	1	2	0	0	0	0	0	1	0	1	3
05:45 PM	0	0	0	0	0	4	0	4	0	0	0	0	0	3	0	3	7
Total	0	1	0	1	0	10	1	11	0	0	0	0	0	20	0	20	32
Grand Total	2	5	2	9	0	20	1	21	2	0	0	2	2	40	2	44	76
Apprch %	22.2	55.6	22.2		0	95.2	4.8		100	0	0		4.5	90.9	4.5		
Total %	2.6	6.6	2.6	11.8	0	26.3	1.3	27.6	2.6	0	0	2.6	2.6	52.6	2.6	57.9	

Start Time	Stewart Avenue Southbound				Live Oak Avenue Westbound				Stewart Avenue Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:45 PM	1	1	0	2	0	2	0	2	1	0	0	1	0	5	1	6	11
05:00 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	9	0	9	11
05:15 PM	0	1	0	1	0	3	0	3	0	0	0	0	0	7	0	7	11
05:30 PM	0	0	0	0	0	1	1	2	0	0	0	0	0	1	0	1	3
Total Volume	1	2	0	3	0	8	1	9	1	0	0	1	0	22	1	23	36
% App. Total	33.3	66.7	0		0	88.9	11.1		100	0	0		0	95.7	4.3		
PHF	.250	.500	.000	.375	.000	.667	.250	.750	.250	.000	.000	.250	.000	.611	.250	.639	.818

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

City of Irwindale
 N/S: Stewart Avenue
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 08_IRW_Stew_LO PM
 Site Code : 04223184
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Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:45 PM				04:45 PM			
+0 mins.	1	1	0	2	0	2	0	2	1	0	0	1	0	5	1	6
+15 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	9	0	9
+30 mins.	0	1	0	1	0	3	0	3	0	0	0	0	0	7	0	7
+45 mins.	0	0	0	0	0	1	1	2	0	0	0	0	0	1	0	1
Total Volume	1	2	0	3	0	8	1	9	1	0	0	1	0	22	1	23
% App. Total	33.3	66.7	0		0	88.9	11.1		100	0	0		0	95.7	4.3	
PHF	.250	.500	.000	.375	.000	.667	.250	.750	.250	.000	.000	.250	.000	.611	.250	.639

City of Irwindale
 N/S: Stewart Avenue
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 08_IRW_Stew_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
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Groups Printed- 3 Axle Vehicles

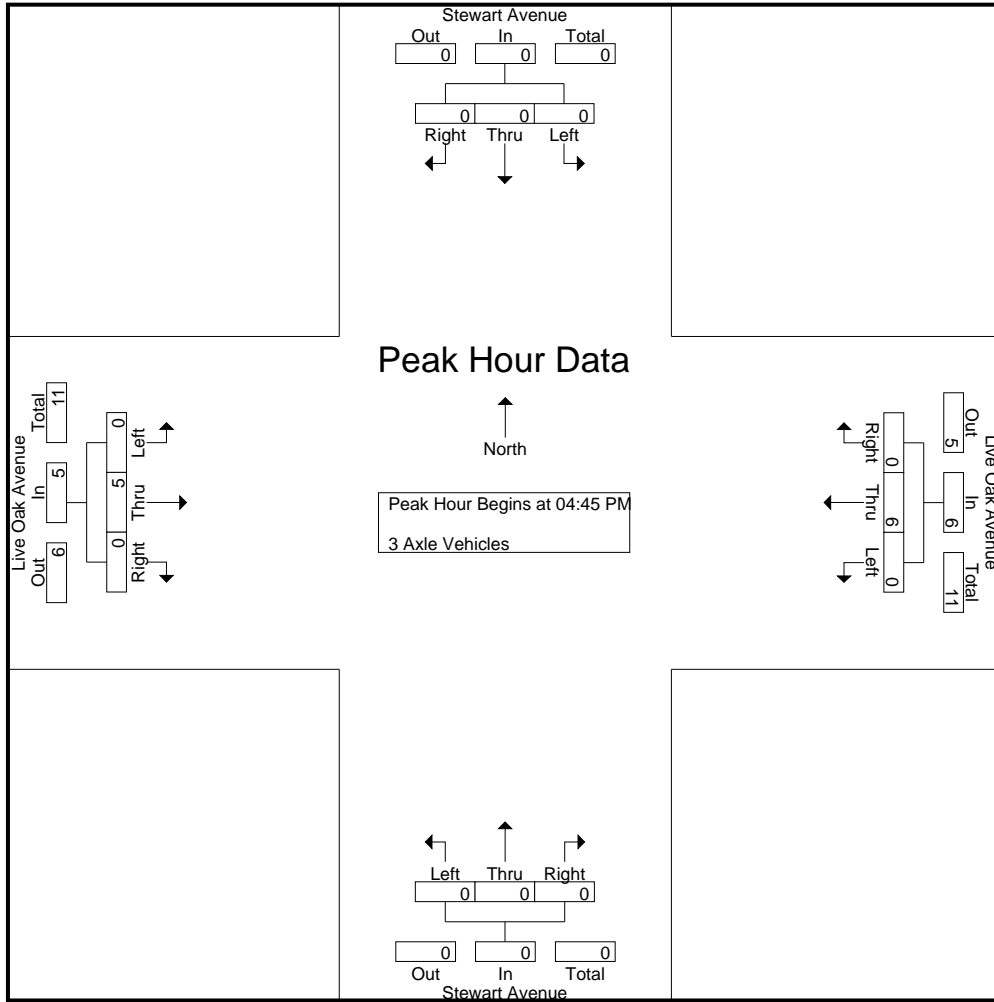
Start Time	Stewart Avenue Southbound				Live Oak Avenue Westbound				Stewart Avenue Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	1	1	3
04:15 PM	0	0	0	0	0	1	0	1	0	0	1	1	0	3	1	4	6
04:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
04:45 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	4
Total	0	0	0	0	0	7	0	7	0	0	1	1	0	5	2	7	15
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
05:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	1	0	1	4
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	4	0	4	0	0	0	0	0	3	0	3	7
Grand Total	0	0	0	0	0	11	0	11	0	0	1	1	0	8	2	10	22
Apprch %	0	0	0		0	100	0		0	0	100		0	80	20		
Total %	0	0	0	0	0	50	0	50	0	0	4.5	4.5	0	36.4	9.1	45.5	

Start Time	Stewart Avenue Southbound				Live Oak Avenue Westbound				Stewart Avenue Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:45 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	4
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
05:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	1	0	1	4
Total Volume	0	0	0	0	0	6	0	6	0	0	0	0	0	5	0	5	11
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.000	.625	.000	.625	.688

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

City of Irwindale
 N/S: Stewart Avenue
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 08_IRW_Stew_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:45 PM				04:45 PM			
+0 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
+30 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	3	0	3	0	0	0	0	0	1	0	1
Total Volume	0	0	0	0	0	6	0	6	0	0	0	0	0	5	0	5
% App. Total	0	0	0	0	0	100	0	100	0	0	0	0	0	100	0	100
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.000	.625	.000	.625

City of Irwindale
 N/S: Stewart Avenue
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 08_IRW_Stew_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 4+ Axle Trucks

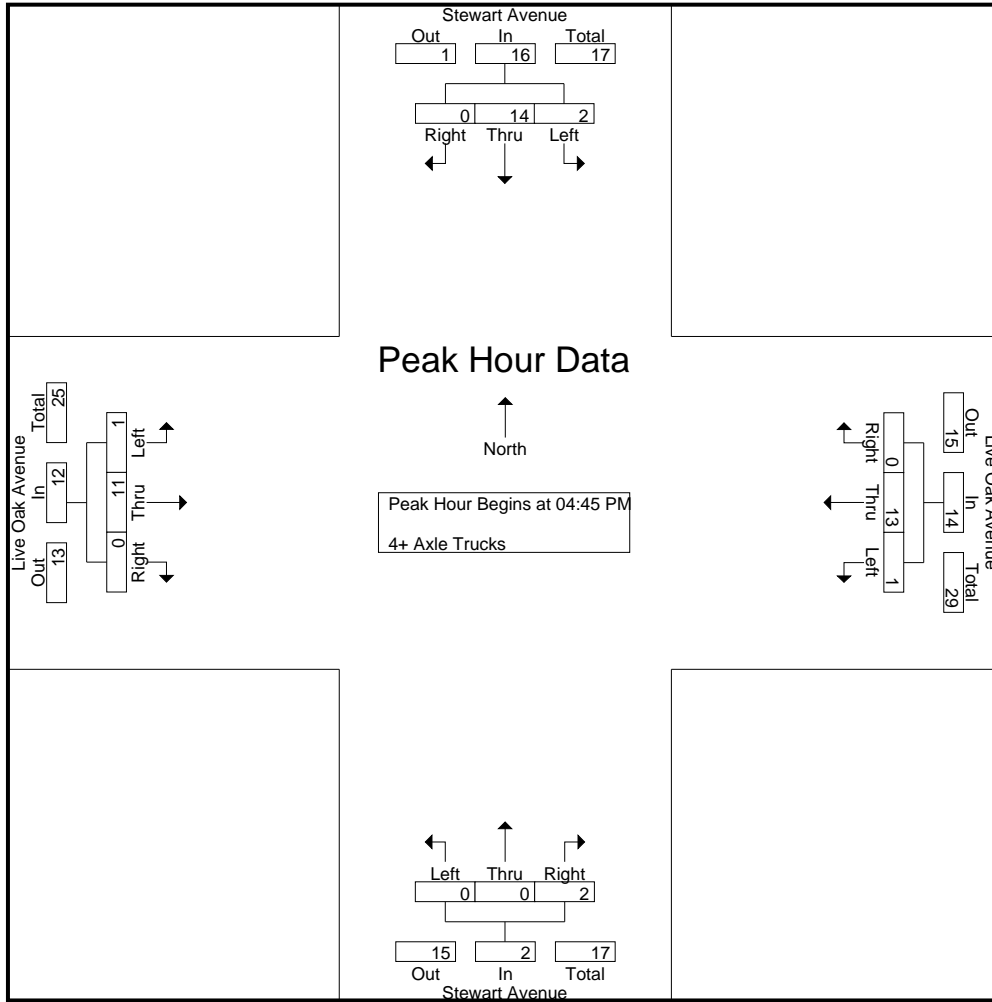
Start Time	Stewart Avenue Southbound				Live Oak Avenue Westbound				Stewart Avenue Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	2	0	2	1	1	0	2	0	0	0	0	0	1	0	1	5
04:15 PM	0	4	0	4	1	2	2	5	0	0	0	0	0	5	0	5	14
04:30 PM	1	1	0	2	0	3	0	3	0	0	0	0	0	1	0	1	6
04:45 PM	0	5	0	5	0	2	0	2	0	0	2	2	0	1	0	1	10
Total	1	12	0	13	2	8	2	12	0	0	2	2	0	8	0	8	35
05:00 PM	0	9	0	9	0	1	0	1	0	0	0	0	1	4	0	5	15
05:15 PM	0	0	0	0	1	6	0	7	0	0	0	0	0	6	0	6	13
05:30 PM	2	0	0	2	0	4	0	4	0	0	0	0	0	0	0	0	6
05:45 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	2	11	0	13	1	11	0	12	0	0	0	0	1	10	0	11	36
Grand Total	3	23	0	26	3	19	2	24	0	0	2	2	1	18	0	19	71
Apprch %	11.5	88.5	0		12.5	79.2	8.3		0	0	100		5.3	94.7	0		
Total %	4.2	32.4	0	36.6	4.2	26.8	2.8	33.8	0	0	2.8	2.8	1.4	25.4	0	26.8	

Start Time	Stewart Avenue Southbound				Live Oak Avenue Westbound				Stewart Avenue Northbound				Live Oak Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:45 PM	0	5	0	5	0	2	0	2	0	0	2	2	0	1	0	1	10
05:00 PM	0	9	0	9	0	1	0	1	0	0	0	0	1	4	0	5	15
05:15 PM	0	0	0	0	1	6	0	7	0	0	0	0	0	6	0	6	13
05:30 PM	2	0	0	2	0	4	0	4	0	0	0	0	0	0	0	0	6
Total Volume	2	14	0	16	1	13	0	14	0	0	2	2	1	11	0	12	44
% App. Total	12.5	87.5	0		7.1	92.9	0		0	0	100		8.3	91.7	0		
PHF	.250	.389	.000	.444	.250	.542	.000	.500	.000	.000	.250	.250	.250	.458	.000	.500	.733

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

City of Irwindale
 N/S: Stewart Avenue
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 08_IRW_Stew_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:45 PM				04:45 PM			
+0 mins.	0	5	0	5	0	2	0	2	0	0	2	2	0	1	0	1
+15 mins.	0	9	0	9	0	1	0	1	0	0	0	0	1	4	0	5
+30 mins.	0	0	0	0	1	6	0	7	0	0	0	0	0	6	0	6
+45 mins.	2	0	0	2	0	4	0	4	0	0	0	0	0	0	0	0
Total Volume	2	14	0	16	1	13	0	14	0	0	2	2	1	11	0	12
% App. Total	12.5	87.5	0		7.1	92.9	0		0	0	100		8.3	91.7	0	
PHF	.250	.389	.000	.444	.250	.542	.000	.500	.000	.000	.250	.250	.250	.458	.000	.500

City of Irwindale
 N/S: I-605 Southbound Off Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 09_IRW_605S Off_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

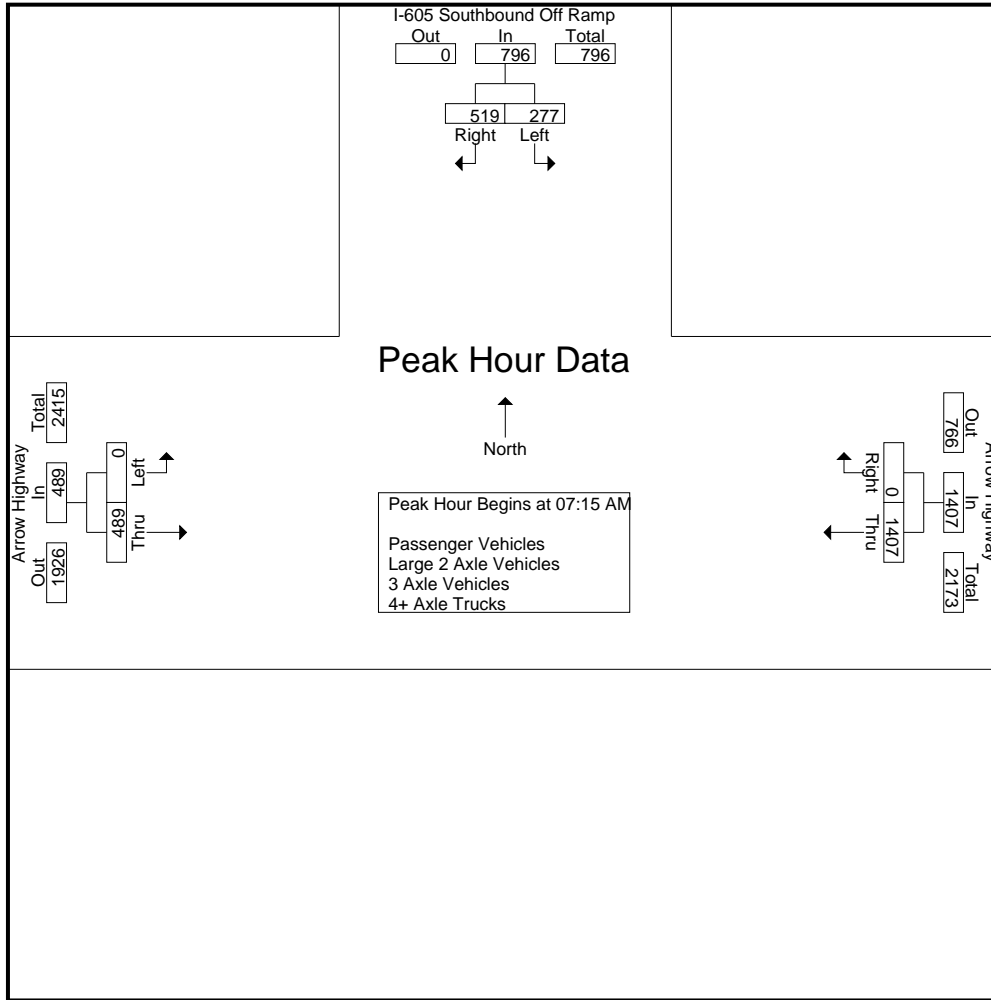
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	I-605 Southbound Off Ramp Southbound			Arrow Highway Westbound			Arrow Highway Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:00 AM	52	87	139	330	0	330	0	73	73	542
07:15 AM	65	100	165	396	0	396	0	99	99	660
07:30 AM	66	144	210	352	0	352	0	114	114	676
07:45 AM	70	155	225	367	0	367	0	143	143	735
Total	253	486	739	1445	0	1445	0	429	429	2613
08:00 AM	76	120	196	292	0	292	0	133	133	621
08:15 AM	85	114	199	292	0	292	0	140	140	631
08:30 AM	82	103	185	255	0	255	0	107	107	547
08:45 AM	73	98	171	223	0	223	0	121	121	515
Total	316	435	751	1062	0	1062	0	501	501	2314
Grand Total	569	921	1490	2507	0	2507	0	930	930	4927
Apprch %	38.2	61.8		100	0		0	100		
Total %	11.5	18.7	30.2	50.9	0	50.9	0	18.9	18.9	
Passenger Vehicles	506	855	1361	2369	0	2369	0	740	740	4470
% Passenger Vehicles	88.9	92.8	91.3	94.5	0	94.5	0	79.6	79.6	90.7
Large 2 Axle Vehicles	7	14	21	27	0	27	0	31	31	79
% Large 2 Axle Vehicles	1.2	1.5	1.4	1.1	0	1.1	0	3.3	3.3	1.6
3 Axle Vehicles	5	17	22	11	0	11	0	12	12	45
% 3 Axle Vehicles	0.9	1.8	1.5	0.4	0	0.4	0	1.3	1.3	0.9
4+ Axle Trucks	51	35	86	100	0	100	0	147	147	333
% 4+ Axle Trucks	9	3.8	5.8	4	0	4	0	15.8	15.8	6.8

Start Time	I-605 Southbound Off Ramp Southbound			Arrow Highway Westbound			Arrow Highway Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	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	65	100	165	396	0	396	0	99	99	660
07:30 AM	66	144	210	352	0	352	0	114	114	676
07:45 AM	70	155	225	367	0	367	0	143	143	735
08:00 AM	76	120	196	292	0	292	0	133	133	621
Total Volume	277	519	796	1407	0	1407	0	489	489	2692
% App. Total	34.8	65.2		100	0		0	100		
PHF	.911	.837	.884	.888	.000	.888	.000	.855	.855	.916

City of Irwindale
 N/S: I-605 Southbound Off Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 09_IRW_605S Off_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 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:

	07:30 AM			07:00 AM			07:30 AM		
+0 mins.	66	144	210	330	0	330	0	114	114
+15 mins.	70	155	225	396	0	396	0	143	143
+30 mins.	76	120	196	352	0	352	0	133	133
+45 mins.	85	114	199	367	0	367	0	140	140
Total Volume	297	533	830	1445	0	1445	0	530	530
% App. Total	35.8	64.2		100	0		0	100	
PHF	.874	.860	.922	.912	.000	.912	.000	.927	.927

City of Irwindale
 N/S: I-605 Southbound Off Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 09_IRW_605S Off_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Passenger Vehicles

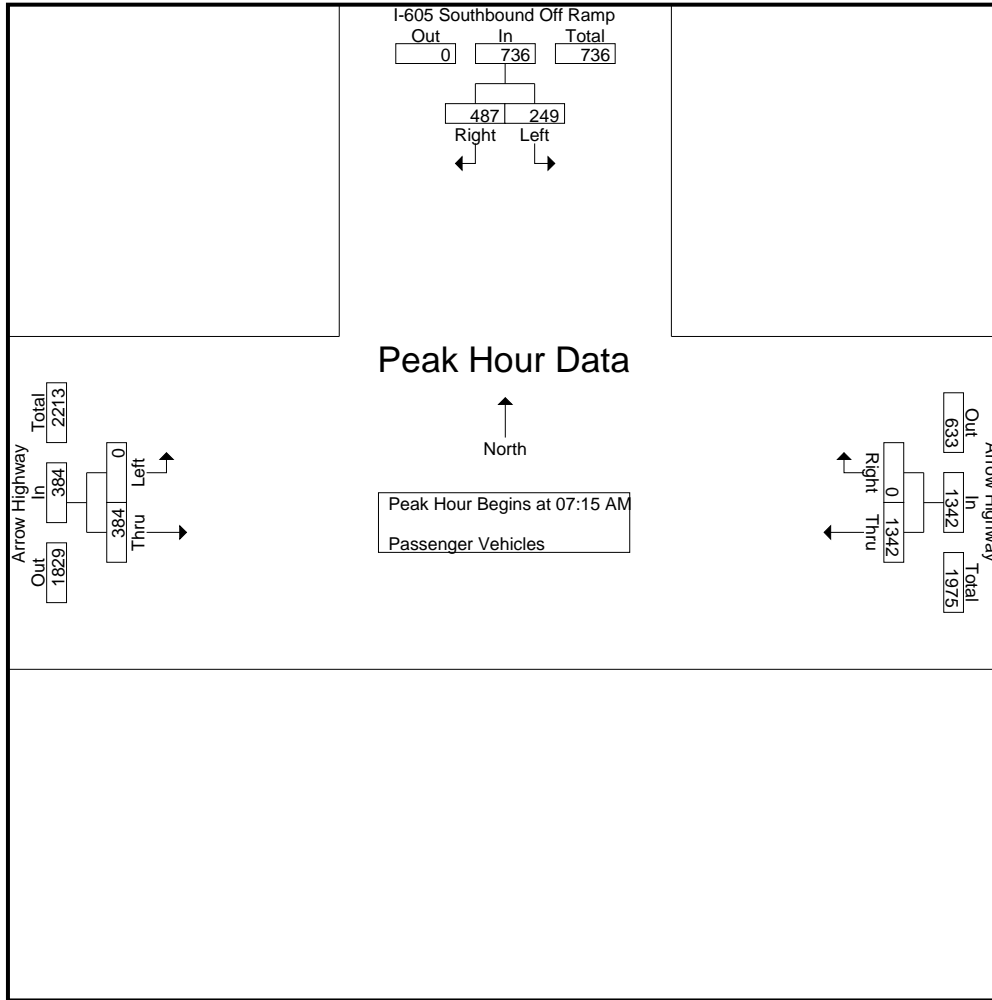
Start Time	I-605 Southbound Off Ramp Southbound			Arrow Highway Westbound			Arrow Highway Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:00 AM	45	80	125	319	0	319	0	57	57	501
07:15 AM	60	94	154	377	0	377	0	68	68	599
07:30 AM	57	133	190	333	0	333	0	91	91	614
07:45 AM	66	147	213	350	0	350	0	114	114	677
Total	228	454	682	1379	0	1379	0	330	330	2391
08:00 AM	66	113	179	282	0	282	0	111	111	572
08:15 AM	69	106	175	268	0	268	0	115	115	558
08:30 AM	74	96	170	235	0	235	0	85	85	490
08:45 AM	69	86	155	205	0	205	0	99	99	459
Total	278	401	679	990	0	990	0	410	410	2079
Grand Total	506	855	1361	2369	0	2369	0	740	740	4470
Apprch %	37.2	62.8		100	0		0	100		
Total %	11.3	19.1	30.4	53	0	53	0	16.6	16.6	

Start Time	I-605 Southbound Off Ramp Southbound			Arrow Highway Westbound			Arrow Highway Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:15 AM	60	94	154	377	0	377	0	68	68	599
07:30 AM	57	133	190	333	0	333	0	91	91	614
07:45 AM	66	147	213	350	0	350	0	114	114	677
08:00 AM	66	113	179	282	0	282	0	111	111	572
Total Volume	249	487	736	1342	0	1342	0	384	384	2462
% App. Total	33.8	66.2		100	0		0	100		
PHF	.943	.828	.864	.890	.000	.890	.000	.842	.842	.909

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

City of Irwindale
 N/S: I-605 Southbound Off Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 09_IRW_605S Off_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	60	94	154	377	0	377	0	68	68
+15 mins.	57	133	190	333	0	333	0	91	91
+30 mins.	66	147	213	350	0	350	0	114	114
+45 mins.	66	113	179	282	0	282	0	111	111
Total Volume	249	487	736	1342	0	1342	0	384	384
% App. Total	33.8	66.2		100	0		0	100	
PHF	.943	.828	.864	.890	.000	.890	.000	.842	.842

City of Irwindale
 N/S: I-605 Southbound Off Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 09_IRW_605S Off_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

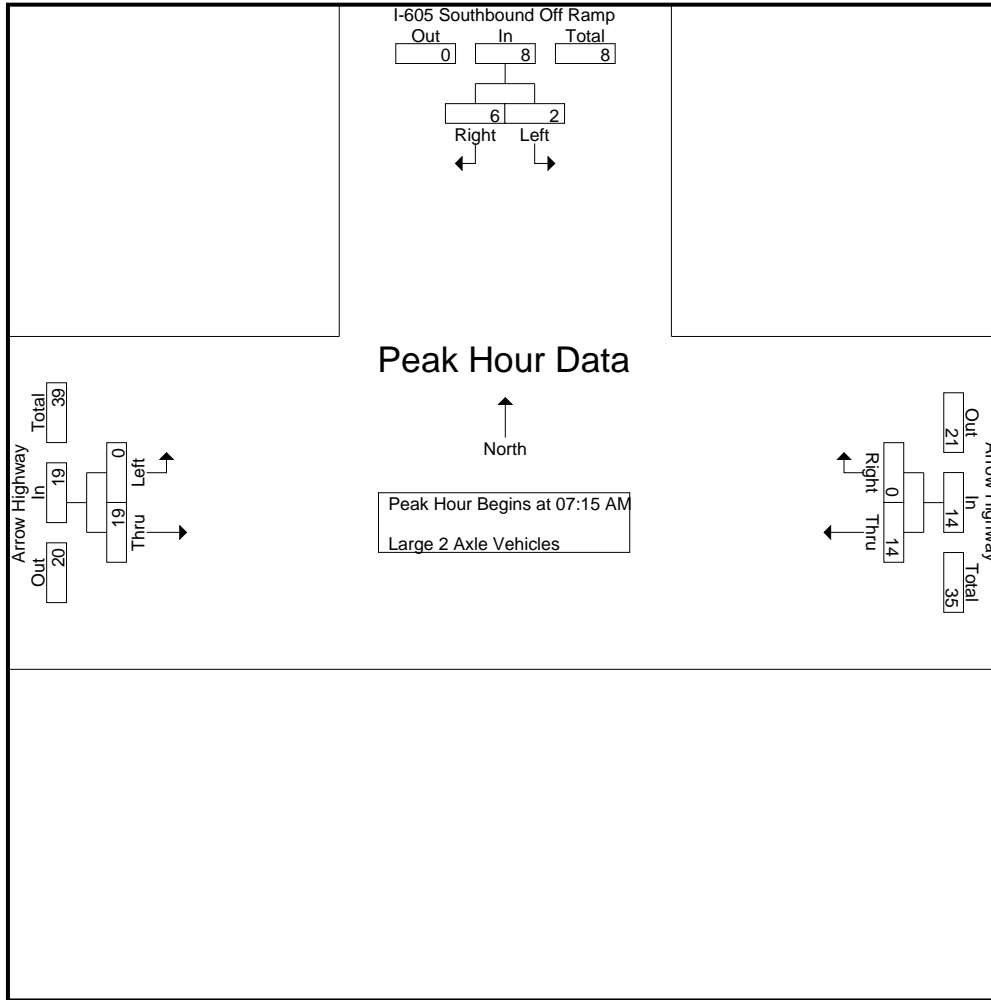
Start Time	I-605 Southbound Off Ramp Southbound			Arrow Highway Westbound			Arrow Highway Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:00 AM	1	2	3	4	0	4	0	4	4	11
07:15 AM	0	3	3	4	0	4	0	6	6	13
07:30 AM	0	1	1	5	0	5	0	3	3	9
07:45 AM	1	1	2	3	0	3	0	3	3	8
Total	2	7	9	16	0	16	0	16	16	41
08:00 AM	1	1	2	2	0	2	0	7	7	11
08:15 AM	3	1	4	5	0	5	0	3	3	12
08:30 AM	0	2	2	2	0	2	0	4	4	8
08:45 AM	1	3	4	2	0	2	0	1	1	7
Total	5	7	12	11	0	11	0	15	15	38
Grand Total	7	14	21	27	0	27	0	31	31	79
Apprch %	33.3	66.7		100	0		0	100		
Total %	8.9	17.7	26.6	34.2	0	34.2	0	39.2	39.2	

Start Time	I-605 Southbound Off Ramp Southbound			Arrow Highway Westbound			Arrow Highway Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:15 AM	0	3	3	4	0	4	0	6	6	13
07:30 AM	0	1	1	5	0	5	0	3	3	9
07:45 AM	1	1	2	3	0	3	0	3	3	8
08:00 AM	1	1	2	2	0	2	0	7	7	11
Total Volume	2	6	8	14	0	14	0	19	19	41
% App. Total	25	75		100	0		0	100		
PHF	.500	.500	.667	.700	.000	.700	.000	.679	.679	.788

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

City of Irwindale
 N/S: I-605 Southbound Off Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 09_IRW_605S Off_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	0	3	3	4	0	4	0	6	6
+15 mins.	0	1	1	5	0	5	0	3	3
+30 mins.	1	1	2	3	0	3	0	3	3
+45 mins.	1	1	2	2	0	2	0	7	7
Total Volume	2	6	8	14	0	14	0	19	19
% App. Total	25	75		100	0		0	100	
PHF	.500	.500	.667	.700	.000	.700	.000	.679	.679

City of Irwindale
 N/S: I-605 Southbound Off Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 09_IRW_605S Off_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 3 Axle Vehicles

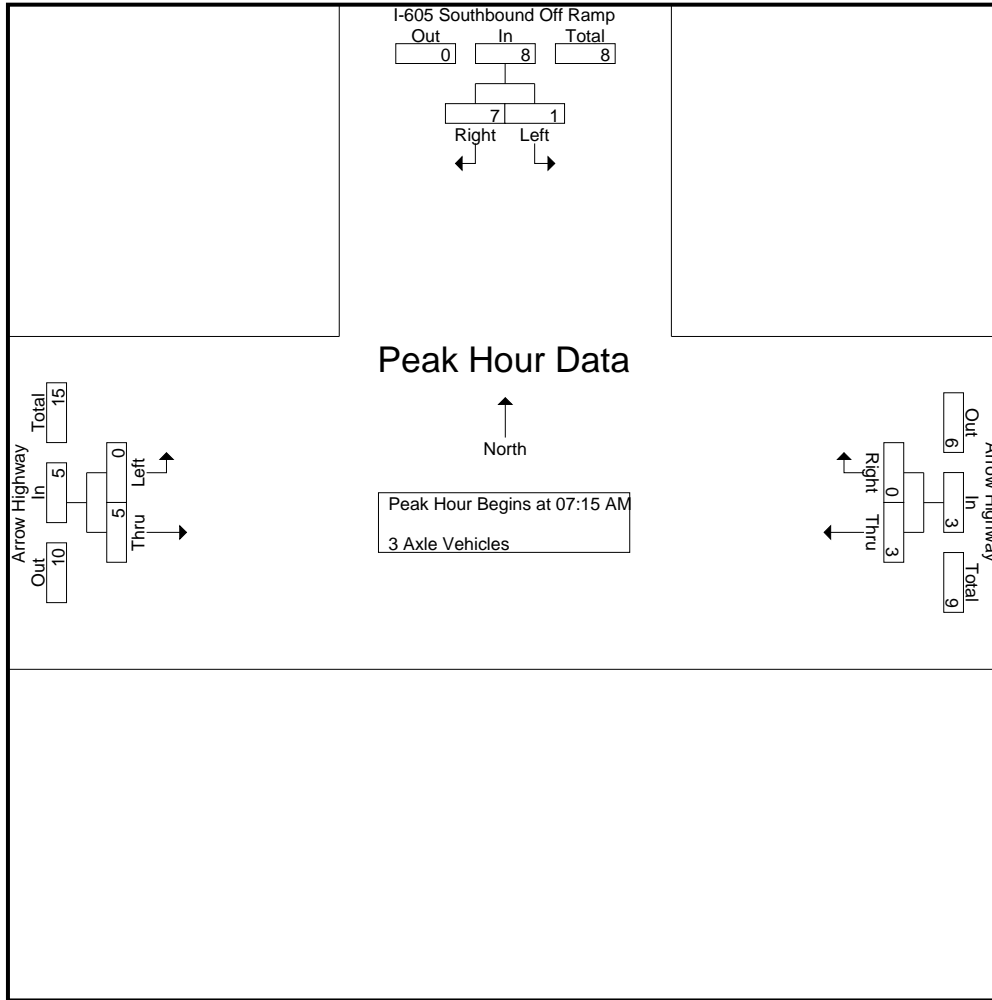
Start Time	I-605 Southbound Off Ramp Southbound			Arrow Highway Westbound			Arrow Highway Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:00 AM	2	1	3	4	0	4	0	1	1	8
07:15 AM	0	2	2	1	0	1	0	2	2	5
07:30 AM	0	3	3	2	0	2	0	1	1	6
07:45 AM	1	1	2	0	0	0	0	2	2	4
Total	3	7	10	7	0	7	0	6	6	23
08:00 AM	0	1	1	0	0	0	0	0	0	1
08:15 AM	1	3	4	2	0	2	0	2	2	8
08:30 AM	1	2	3	1	0	1	0	2	2	6
08:45 AM	0	4	4	1	0	1	0	2	2	7
Total	2	10	12	4	0	4	0	6	6	22
Grand Total	5	17	22	11	0	11	0	12	12	45
Apprch %	22.7	77.3		100	0		0	100		
Total %	11.1	37.8	48.9	24.4	0	24.4	0	26.7	26.7	

Start Time	I-605 Southbound Off Ramp Southbound			Arrow Highway Westbound			Arrow Highway Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:15 AM	0	2	2	1	0	1	0	2	2	5
07:30 AM	0	3	3	2	0	2	0	1	1	6
07:45 AM	1	1	2	0	0	0	0	2	2	4
08:00 AM	0	1	1	0	0	0	0	0	0	1
Total Volume	1	7	8	3	0	3	0	5	5	16
% App. Total	12.5	87.5		100	0		0	100		
PHF	.250	.583	.667	.375	.000	.375	.000	.625	.625	.667

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

City of Irwindale
 N/S: I-605 Southbound Off Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 09_IRW_605S Off_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	0	2	2	1	0	1	0	2	2
+15 mins.	0	3	3	2	0	2	0	1	1
+30 mins.	1	1	2	0	0	0	0	2	2
+45 mins.	0	1	1	0	0	0	0	0	0
Total Volume	1	7	8	3	0	3	0	5	5
% App. Total	12.5	87.5		100	0		0	100	
PHF	.250	.583	.667	.375	.000	.375	.000	.625	.625

City of Irwindale
 N/S: I-605 Southbound Off Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 09_IRW_605S Off_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 4+ Axle Trucks

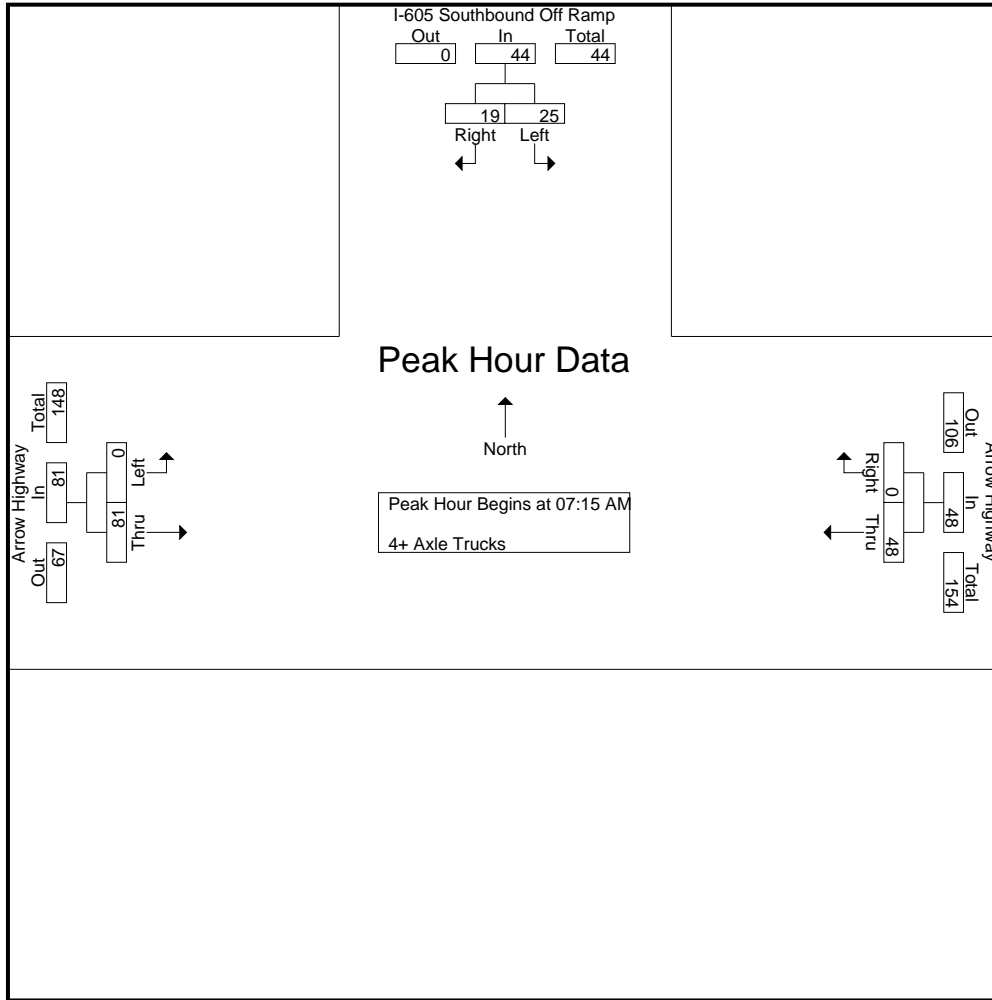
Start Time	I-605 Southbound Off Ramp Southbound			Arrow Highway Westbound			Arrow Highway Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:00 AM	4	4	8	3	0	3	0	11	11	22
07:15 AM	5	1	6	14	0	14	0	23	23	43
07:30 AM	9	7	16	12	0	12	0	19	19	47
07:45 AM	2	6	8	14	0	14	0	24	24	46
Total	20	18	38	43	0	43	0	77	77	158
08:00 AM	9	5	14	8	0	8	0	15	15	37
08:15 AM	12	4	16	17	0	17	0	20	20	53
08:30 AM	7	3	10	17	0	17	0	16	16	43
08:45 AM	3	5	8	15	0	15	0	19	19	42
Total	31	17	48	57	0	57	0	70	70	175
Grand Total	51	35	86	100	0	100	0	147	147	333
Apprch %	59.3	40.7		100	0		0	100		
Total %	15.3	10.5	25.8	30	0	30	0	44.1	44.1	

Start Time	I-605 Southbound Off Ramp Southbound			Arrow Highway Westbound			Arrow Highway Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:15 AM	5	1	6	14	0	14	0	23	23	43
07:30 AM	9	7	16	12	0	12	0	19	19	47
07:45 AM	2	6	8	14	0	14	0	24	24	46
08:00 AM	9	5	14	8	0	8	0	15	15	37
Total Volume	25	19	44	48	0	48	0	81	81	173
% App. Total	56.8	43.2		100	0		0	100		
PHF	.694	.679	.688	.857	.000	.857	.000	.844	.844	.920

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

City of Irwindale
 N/S: I-605 Southbound Off Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 09_IRW_605S Off_Arr AM
 Site Code : 04223184
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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	5	1	6	14	0	14	0	23	23
+15 mins.	9	7	16	12	0	12	0	19	19
+30 mins.	2	6	8	14	0	14	0	24	24
+45 mins.	9	5	14	8	0	8	0	15	15
Total Volume	25	19	44	48	0	48	0	81	81
% App. Total	56.8	43.2		100	0		0	100	
PHF	.694	.679	.688	.857	.000	.857	.000	.844	.844

City of Irwindale
 N/S: I-605 Southbound Off Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 09_IRW_605S Off_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
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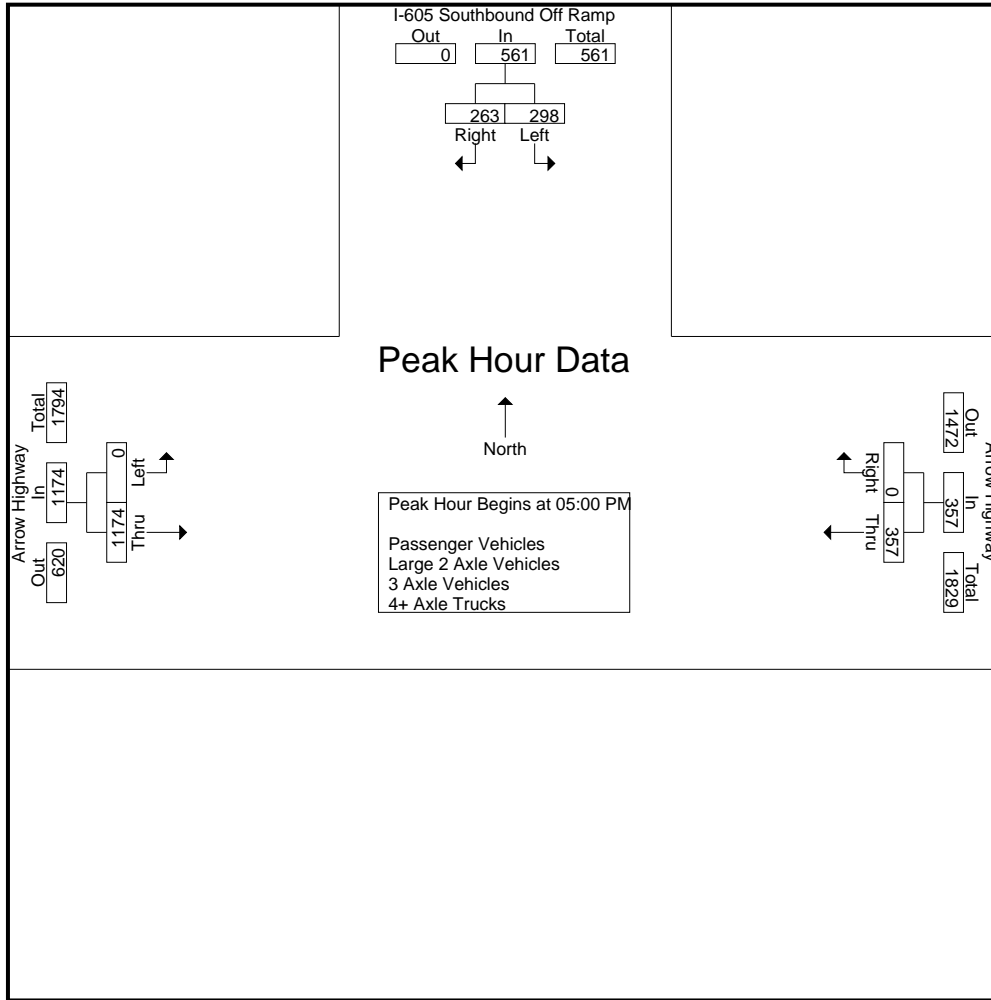
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	I-605 Southbound Off Ramp Southbound			Arrow Highway Westbound			Arrow Highway Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
04:00 PM	75	58	133	79	0	79	0	251	251	463
04:15 PM	52	50	102	77	0	77	0	254	254	433
04:30 PM	60	78	138	95	0	95	0	269	269	502
04:45 PM	61	69	130	97	0	97	0	293	293	520
Total	248	255	503	348	0	348	0	1067	1067	1918
05:00 PM	58	55	113	99	0	99	0	298	298	510
05:15 PM	70	72	142	87	0	87	0	299	299	528
05:30 PM	82	66	148	75	0	75	0	266	266	489
05:45 PM	88	70	158	96	0	96	0	311	311	565
Total	298	263	561	357	0	357	0	1174	1174	2092
Grand Total	546	518	1064	705	0	705	0	2241	2241	4010
Apprch %	51.3	48.7		100	0		0	100		
Total %	13.6	12.9	26.5	17.6	0	17.6	0	55.9	55.9	
Passenger Vehicles	514	473	987	681	0	681	0	2201	2201	3869
% Passenger Vehicles	94.1	91.3	92.8	96.6	0	96.6	0	98.2	98.2	96.5
Large 2 Axle Vehicles	12	14	26	16	0	16	0	25	25	67
% Large 2 Axle Vehicles	2.2	2.7	2.4	2.3	0	2.3	0	1.1	1.1	1.7
3 Axle Vehicles	3	3	6	2	0	2	0	4	4	12
% 3 Axle Vehicles	0.5	0.6	0.6	0.3	0	0.3	0	0.2	0.2	0.3
4+ Axle Trucks	17	28	45	6	0	6	0	11	11	62
% 4+ Axle Trucks	3.1	5.4	4.2	0.9	0	0.9	0	0.5	0.5	1.5

Start Time	I-605 Southbound Off Ramp Southbound			Arrow Highway Westbound			Arrow Highway Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
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										
05:00 PM	58	55	113	99	0	99	0	298	298	510
05:15 PM	70	72	142	87	0	87	0	299	299	528
05:30 PM	82	66	148	75	0	75	0	266	266	489
05:45 PM	88	70	158	96	0	96	0	311	311	565
Total Volume	298	263	561	357	0	357	0	1174	1174	2092
% App. Total	53.1	46.9		100	0		0	100		
PHF	.847	.913	.888	.902	.000	.902	.000	.944	.944	.926

City of Irwindale
 N/S: I-605 Southbound Off Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 09_IRW_605S Off_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
 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			05:00 PM		
+0 mins.	58	55	113	95	0	95	0	298	298
+15 mins.	70	72	142	97	0	97	0	299	299
+30 mins.	82	66	148	99	0	99	0	266	266
+45 mins.	88	70	158	87	0	87	0	311	311
Total Volume	298	263	561	378	0	378	0	1174	1174
% App. Total	53.1	46.9		100	0		0	100	
PHF	.847	.913	.888	.955	.000	.955	.000	.944	.944

City of Irwindale
 N/S: I-605 Southbound Off Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 09_IRW_605S Off_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

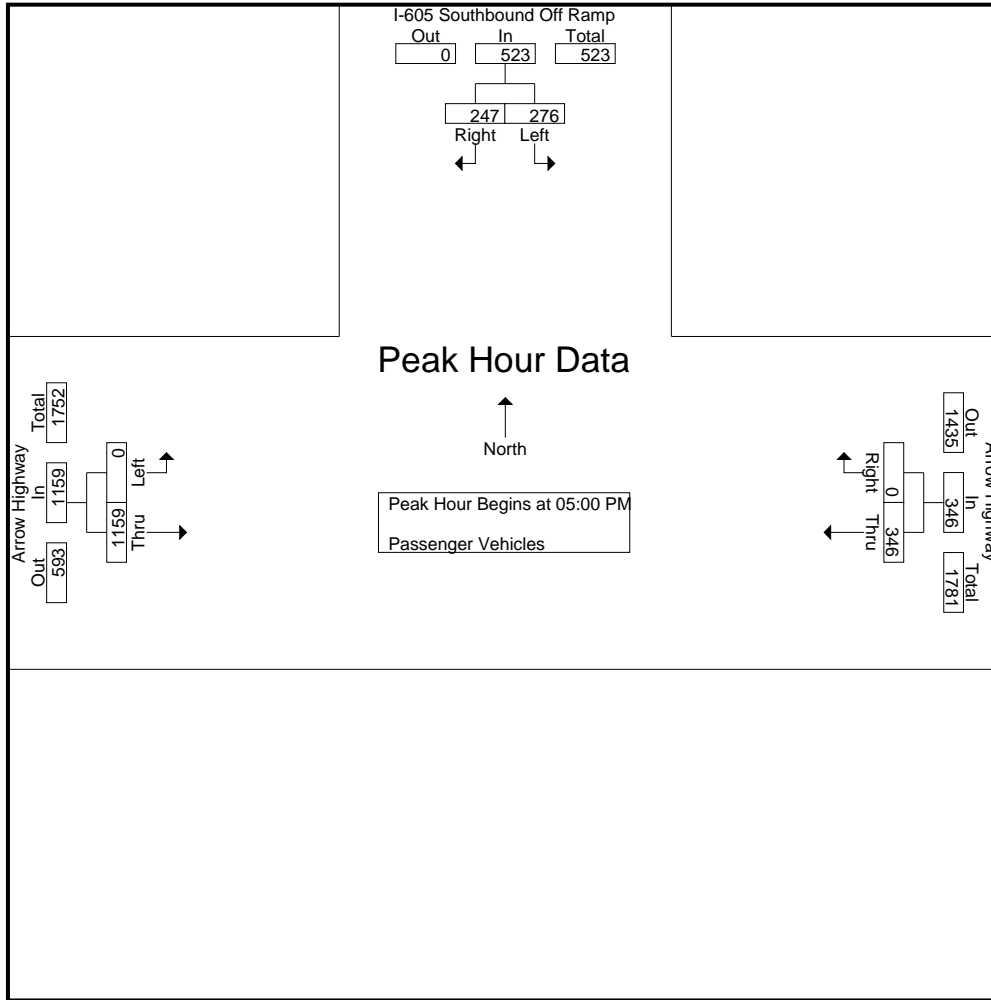
Groups Printed- Passenger Vehicles

Start Time	I-605 Southbound Off Ramp Southbound			Arrow Highway Westbound			Arrow Highway Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
04:00 PM	74	46	120	75	0	75	0	244	244	439
04:15 PM	50	44	94	76	0	76	0	247	247	417
04:30 PM	59	72	131	92	0	92	0	264	264	487
04:45 PM	55	64	119	92	0	92	0	287	287	498
Total	238	226	464	335	0	335	0	1042	1042	1841
05:00 PM	53	53	106	96	0	96	0	295	295	497
05:15 PM	64	67	131	84	0	84	0	298	298	513
05:30 PM	75	58	133	72	0	72	0	262	262	467
05:45 PM	84	69	153	94	0	94	0	304	304	551
Total	276	247	523	346	0	346	0	1159	1159	2028
Grand Total	514	473	987	681	0	681	0	2201	2201	3869
Apprch %	52.1	47.9		100	0		0	100		
Total %	13.3	12.2	25.5	17.6	0	17.6	0	56.9	56.9	

Start Time	I-605 Southbound Off Ramp Southbound			Arrow Highway Westbound			Arrow Highway Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	53	53	106	96	0	96	0	295	295	497
05:15 PM	64	67	131	84	0	84	0	298	298	513
05:30 PM	75	58	133	72	0	72	0	262	262	467
05:45 PM	84	69	153	94	0	94	0	304	304	551
Total Volume	276	247	523	346	0	346	0	1159	1159	2028
% App. Total	52.8	47.2		100	0		0	100		
PHF	.821	.895	.855	.901	.000	.901	.000	.953	.953	.920

City of Irwindale
 N/S: I-605 Southbound Off Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 09_IRW_605S Off_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
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Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	53	53	106	96	0	96	0	295	295
+15 mins.	64	67	131	84	0	84	0	298	298
+30 mins.	75	58	133	72	0	72	0	262	262
+45 mins.	84	69	153	94	0	94	0	304	304
Total Volume	276	247	523	346	0	346	0	1159	1159
% App. Total	52.8	47.2		100	0		0	100	
PHF	.821	.895	.855	.901	.000	.901	.000	.953	.953

City of Irwindale
 N/S: I-605 Southbound Off Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 09_IRW_605S Off_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	I-605 Southbound Off Ramp Southbound			Arrow Highway Westbound			Arrow Highway Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
04:00 PM	1	4	5	3	0	3	0	3	3	11
04:15 PM	0	4	4	0	0	0	0	5	5	9
04:30 PM	0	1	1	1	0	1	0	3	3	5
04:45 PM	1	0	1	3	0	3	0	4	4	8
Total	2	9	11	7	0	7	0	15	15	33
05:00 PM	3	0	3	1	0	1	0	3	3	7
05:15 PM	3	3	6	3	0	3	0	0	0	9
05:30 PM	1	2	3	3	0	3	0	2	2	8
05:45 PM	3	0	3	2	0	2	0	5	5	10
Total	10	5	15	9	0	9	0	10	10	34
Grand Total	12	14	26	16	0	16	0	25	25	67
Apprch %	46.2	53.8		100	0		0	100		
Total %	17.9	20.9	38.8	23.9	0	23.9	0	37.3	37.3	

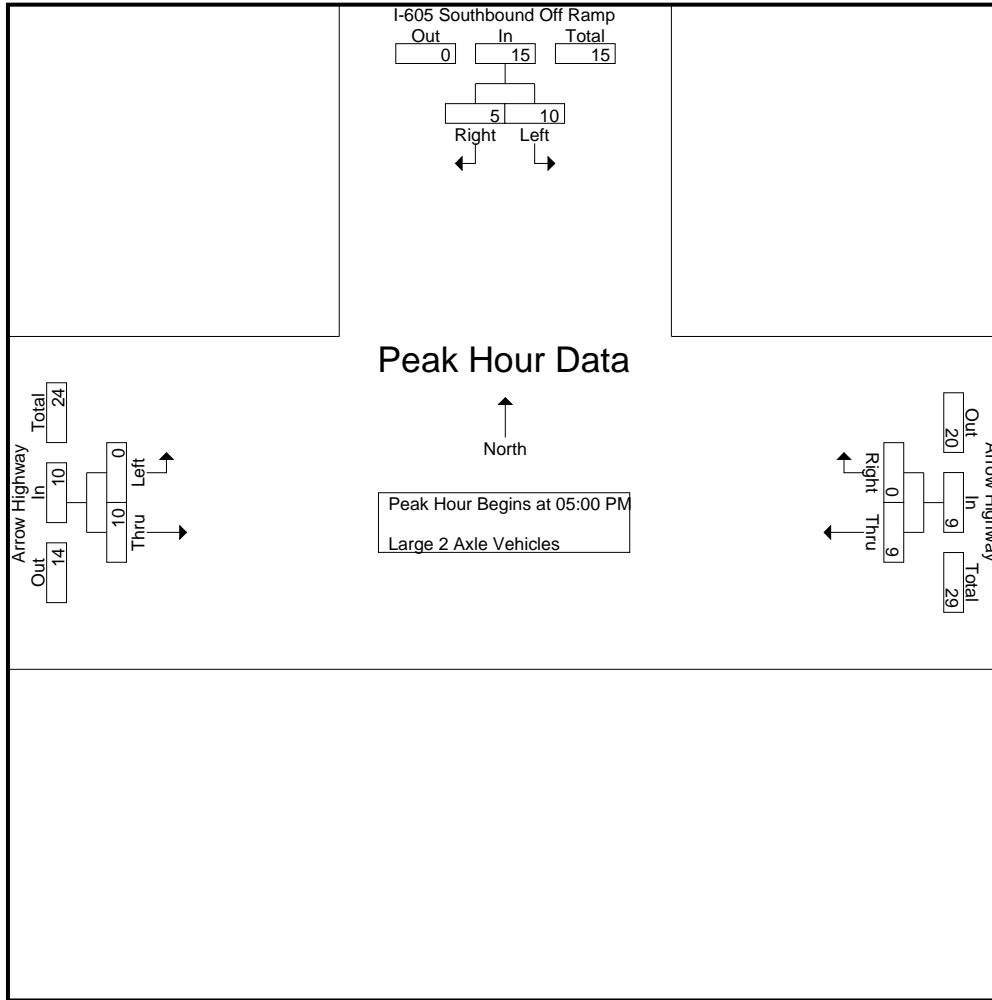
Start Time	I-605 Southbound Off Ramp Southbound			Arrow Highway Westbound			Arrow Highway Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
05:00 PM	3	0	3	1	0	1	0	3	3	7
05:15 PM	3	3	6	3	0	3	0	0	0	9
05:30 PM	1	2	3	3	0	3	0	2	2	8
05:45 PM	3	0	3	2	0	2	0	5	5	10
Total Volume	10	5	15	9	0	9	0	10	10	34
% App. Total	66.7	33.3		100	0		0	100		
PHF	.833	.417	.625	.750	.000	.750	.000	.500	.500	.850

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

Peak Hour for Entire Intersection Begins at 05:00 PM

City of Irwindale
 N/S: I-605 Southbound Off Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 09_IRW_605S Off_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
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Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	3	0	3	1	0	1	0	3	3
+15 mins.	3	3	6	3	0	3	0	0	0
+30 mins.	1	2	3	3	0	3	0	2	2
+45 mins.	3	0	3	2	0	2	0	5	5
Total Volume	10	5	15	9	0	9	0	10	10
% App. Total	66.7	33.3		100	0		0	100	
PHF	.833	.417	.625	.750	.000	.750	.000	.500	.500

City of Irwindale
 N/S: I-605 Southbound Off Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 09_IRW_605S Off_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
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Groups Printed- 3 Axle Vehicles

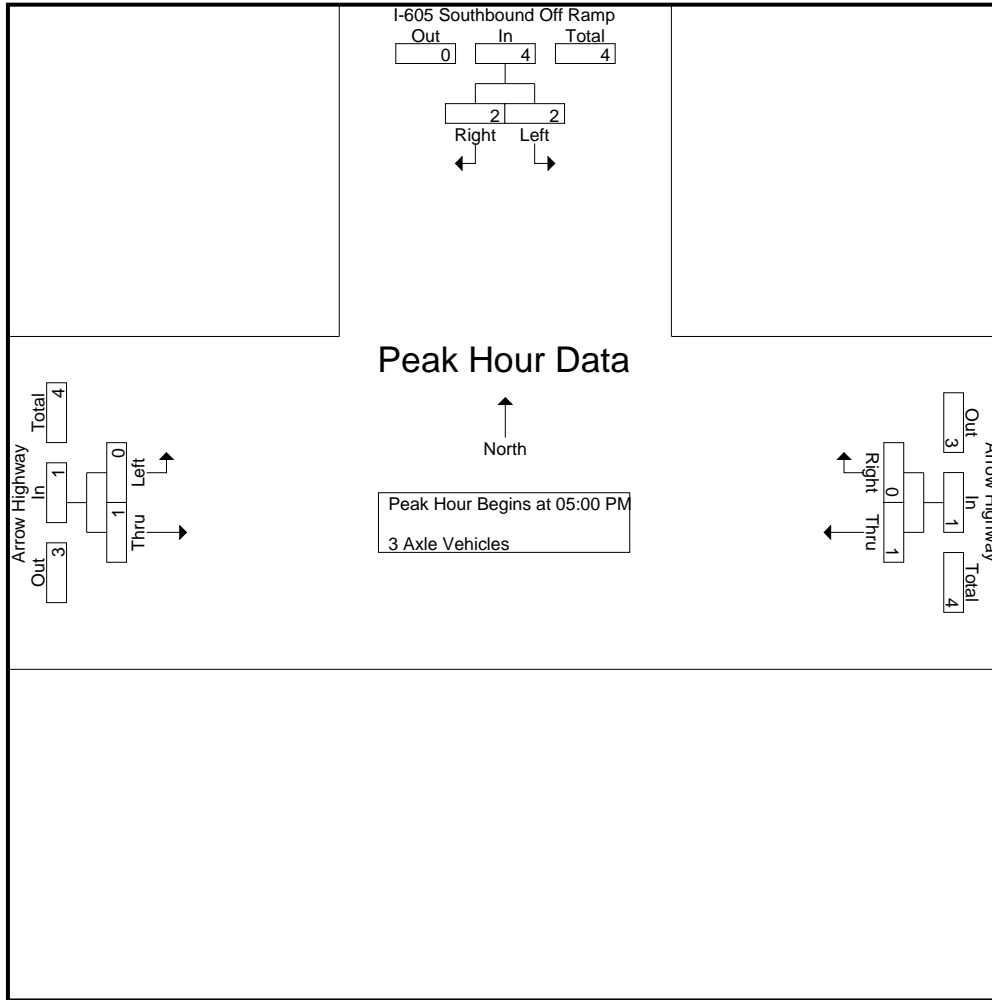
Start Time	I-605 Southbound Off Ramp Southbound			Arrow Highway Westbound			Arrow Highway Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
04:00 PM	0	0	0	0	0	0	0	2	2	2
04:15 PM	0	0	0	0	0	0	0	1	1	1
04:30 PM	0	1	1	0	0	0	0	0	0	1
04:45 PM	1	0	1	1	0	1	0	0	0	2
Total	1	1	2	1	0	1	0	3	3	6
05:00 PM	0	0	0	1	0	1	0	0	0	1
05:15 PM	1	0	1	0	0	0	0	0	0	1
05:30 PM	1	2	3	0	0	0	0	0	0	3
05:45 PM	0	0	0	0	0	0	0	1	1	1
Total	2	2	4	1	0	1	0	1	1	6
Grand Total	3	3	6	2	0	2	0	4	4	12
Apprch %	50	50		100	0		0	100		
Total %	25	25	50	16.7	0	16.7	0	33.3	33.3	

Start Time	I-605 Southbound Off Ramp Southbound			Arrow Highway Westbound			Arrow Highway Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
05:00 PM	0	0	0	1	0	1	0	0	0	1
05:15 PM	1	0	1	0	0	0	0	0	0	1
05:30 PM	1	2	3	0	0	0	0	0	0	3
05:45 PM	0	0	0	0	0	0	0	1	1	1
Total Volume	2	2	4	1	0	1	0	1	1	6
% App. Total	50	50		100	0		0	100		
PHF	.500	.250	.333	.250	.000	.250	.000	.250	.250	.500

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

City of Irwindale
 N/S: I-605 Southbound Off Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 09_IRW_605S Off_Arr PM
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Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	0	0	0	1	0	1	0	0	0
+15 mins.	1	0	1	0	0	0	0	0	0
+30 mins.	1	2	3	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	1	1
Total Volume	2	2	4	1	0	1	0	1	1
% App. Total	50	50		100	0		0	100	
PHF	.500	.250	.333	.250	.000	.250	.000	.250	.250

City of Irwindale
 N/S: I-605 Southbound Off Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 09_IRW_605S Off_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
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Groups Printed- 4+ Axle Trucks

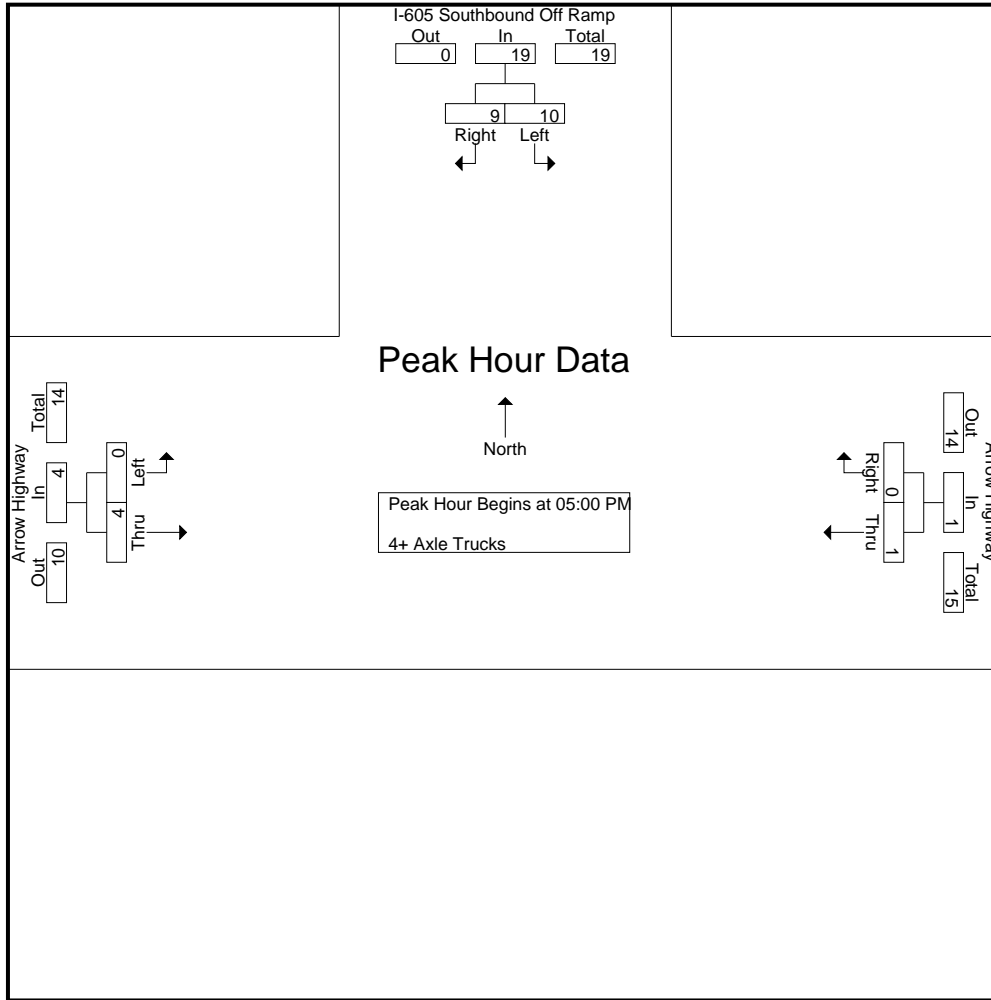
Start Time	I-605 Southbound Off Ramp Southbound			Arrow Highway Westbound			Arrow Highway Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
04:00 PM	0	8	8	1	0	1	0	2	2	11
04:15 PM	2	2	4	1	0	1	0	1	1	6
04:30 PM	1	4	5	2	0	2	0	2	2	9
04:45 PM	4	5	9	1	0	1	0	2	2	12
Total	7	19	26	5	0	5	0	7	7	38
05:00 PM	2	2	4	1	0	1	0	0	0	5
05:15 PM	2	2	4	0	0	0	0	1	1	5
05:30 PM	5	4	9	0	0	0	0	2	2	11
05:45 PM	1	1	2	0	0	0	0	1	1	3
Total	10	9	19	1	0	1	0	4	4	24
Grand Total	17	28	45	6	0	6	0	11	11	62
Apprch %	37.8	62.2		100	0		0	100		
Total %	27.4	45.2	72.6	9.7	0	9.7	0	17.7	17.7	

Start Time	I-605 Southbound Off Ramp Southbound			Arrow Highway Westbound			Arrow Highway Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
05:00 PM	2	2	4	1	0	1	0	0	0	5
05:15 PM	2	2	4	0	0	0	0	1	1	5
05:30 PM	5	4	9	0	0	0	0	2	2	11
05:45 PM	1	1	2	0	0	0	0	1	1	3
Total Volume	10	9	19	1	0	1	0	4	4	24
% App. Total	52.6	47.4		100	0		0	100		
PHF	.500	.563	.528	.250	.000	.250	.000	.500	.500	.545

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

City of Irwindale
 N/S: I-605 Southbound Off Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 09_IRW_605S Off_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
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Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	2	2	4	1	0	1	0	0	0
+15 mins.	2	2	4	0	0	0	0	1	1
+30 mins.	5	4	9	0	0	0	0	2	2
+45 mins.	1	1	2	0	0	0	0	1	1
Total Volume	10	9	19	1	0	1	0	4	4
% App. Total	52.6	47.4		100	0		0	100	
PHF	.500	.563	.528	.250	.000	.250	.000	.500	.500

City of Irwindale
 N/S: I-605 Northbound On Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 10_IRW_605N On_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

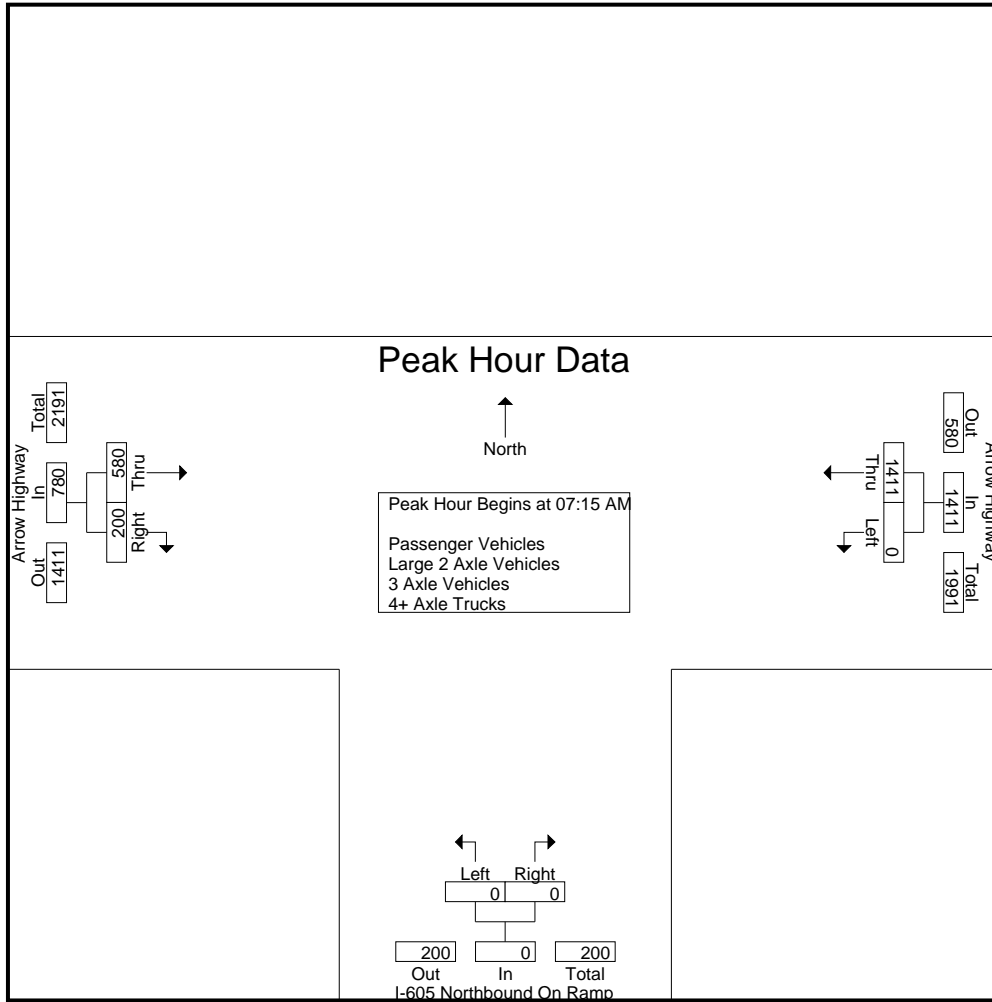
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Arrow Highway Westbound			I-605 Northbound On Ramp Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	0	320	320	0	0	0	98	28	126	446
07:15 AM	0	387	387	0	0	0	124	45	169	556
07:30 AM	0	371	371	0	0	0	146	40	186	557
07:45 AM	0	359	359	0	0	0	153	64	217	576
Total	0	1437	1437	0	0	0	521	177	698	2135
08:00 AM	0	294	294	0	0	0	157	51	208	502
08:15 AM	0	301	301	0	0	0	156	64	220	521
08:30 AM	0	252	252	0	0	0	147	46	193	445
08:45 AM	0	225	225	0	0	0	141	51	192	417
Total	0	1072	1072	0	0	0	601	212	813	1885
Grand Total	0	2509	2509	0	0	0	1122	389	1511	4020
Apprch %	0	100		0	0		74.3	25.7		
Total %	0	62.4	62.4	0	0	0	27.9	9.7	37.6	
Passenger Vehicles	0	2370	2370	0	0	0	922	320	1242	3612
% Passenger Vehicles	0	94.5	94.5	0	0	0	82.2	82.3	82.2	89.9
Large 2 Axle Vehicles	0	29	29	0	0	0	30	19	49	78
% Large 2 Axle Vehicles	0	1.2	1.2	0	0	0	2.7	4.9	3.2	1.9
3 Axle Vehicles	0	12	12	0	0	0	9	12	21	33
% 3 Axle Vehicles	0	0.5	0.5	0	0	0	0.8	3.1	1.4	0.8
4+ Axle Trucks	0	98	98	0	0	0	161	38	199	297
% 4+ Axle Trucks	0	3.9	3.9	0	0	0	14.3	9.8	13.2	7.4

Start Time	Arrow Highway Westbound			I-605 Northbound On Ramp Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	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	387	387	0	0	0	124	45	169	556
07:30 AM	0	371	371	0	0	0	146	40	186	557
07:45 AM	0	359	359	0	0	0	153	64	217	576
08:00 AM	0	294	294	0	0	0	157	51	208	502
Total Volume	0	1411	1411	0	0	0	580	200	780	2191
% App. Total	0	100		0	0		74.4	25.6		
PHF	.000	.911	.911	.000	.000	.000	.924	.781	.899	.951

City of Irwindale
 N/S: I-605 Northbound On Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 10_IRW_605N On_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 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		07:00 AM			07:45 AM			
+0 mins.	0	320	320	0	0	0	153	64	217
+15 mins.	0	387	387	0	0	0	157	51	208
+30 mins.	0	371	371	0	0	0	156	64	220
+45 mins.	0	359	359	0	0	0	147	46	193
Total Volume	0	1437	1437	0	0	0	613	225	838
% App. Total	0	100		0	0		73.2	26.8	
PHF	.000	.928	.928	.000	.000	.000	.976	.879	.952

City of Irwindale
 N/S: I-605 Northbound On Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 10_IRW_605N On_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Passenger Vehicles

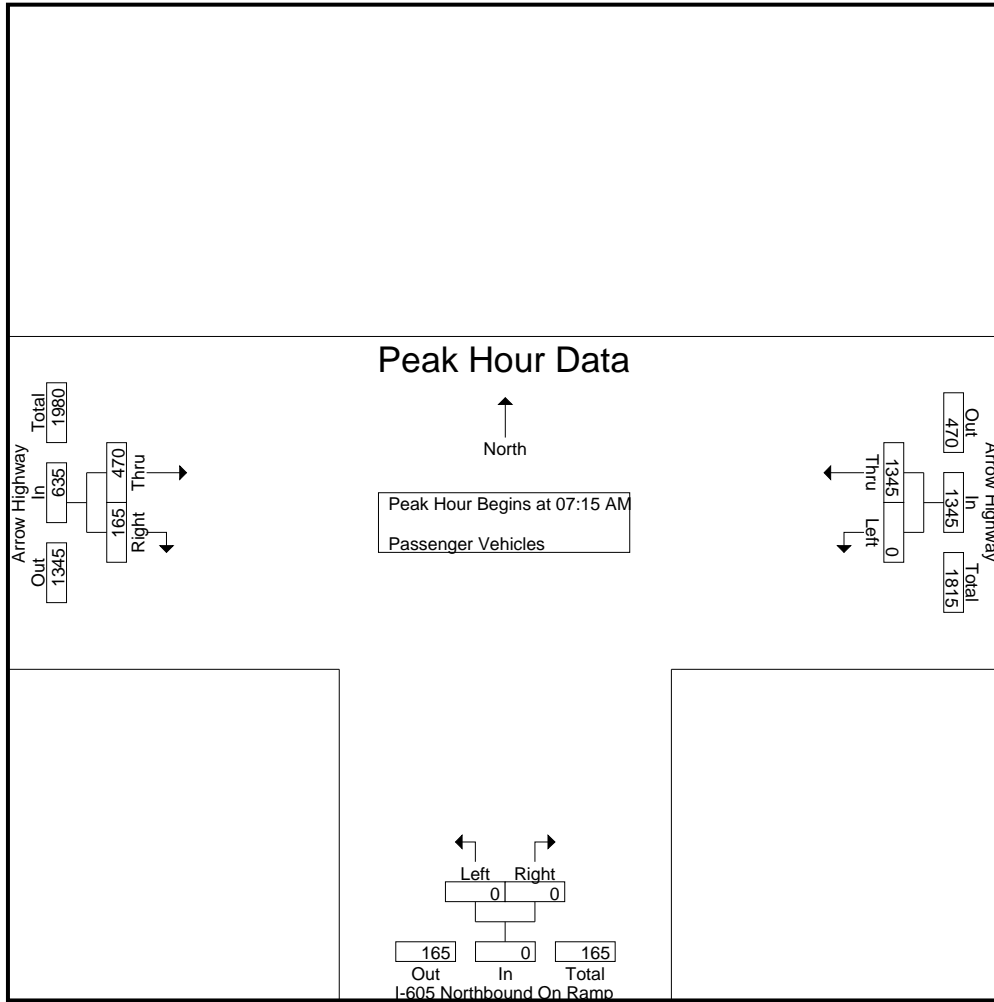
Start Time	Arrow Highway Westbound			I-605 Northbound On Ramp Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	0	310	310	0	0	0	83	20	103	413
07:15 AM	0	367	367	0	0	0	98	32	130	497
07:30 AM	0	349	349	0	0	0	117	33	150	499
07:45 AM	0	345	345	0	0	0	129	54	183	528
Total	0	1371	1371	0	0	0	427	139	566	1937
08:00 AM	0	284	284	0	0	0	126	46	172	456
08:15 AM	0	277	277	0	0	0	125	53	178	455
08:30 AM	0	232	232	0	0	0	123	38	161	393
08:45 AM	0	206	206	0	0	0	121	44	165	371
Total	0	999	999	0	0	0	495	181	676	1675
Grand Total	0	2370	2370	0	0	0	922	320	1242	3612
Apprch %	0	100		0	0		74.2	25.8		
Total %	0	65.6	65.6	0	0	0	25.5	8.9	34.4	

Start Time	Arrow Highway Westbound			I-605 Northbound On Ramp Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:15 AM	0	367	367	0	0	0	98	32	130	497
07:30 AM	0	349	349	0	0	0	117	33	150	499
07:45 AM	0	345	345	0	0	0	129	54	183	528
08:00 AM	0	284	284	0	0	0	126	46	172	456
Total Volume	0	1345	1345	0	0	0	470	165	635	1980
% App. Total	0	100		0	0		74	26		
PHF	.000	.916	.916	.000	.000	.000	.911	.764	.867	.938

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

City of Irwindale
 N/S: I-605 Northbound On Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 10_IRW_605N On_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	0	367	367	0	0	0	98	32	130
+15 mins.	0	349	349	0	0	0	117	33	150
+30 mins.	0	345	345	0	0	0	129	54	183
+45 mins.	0	284	284	0	0	0	126	46	172
Total Volume	0	1345	1345	0	0	0	470	165	635
% App. Total	0	100		0	0		74	26	
PHF	.000	.916	.916	.000	.000	.000	.911	.764	.867

City of Irwindale
 N/S: I-605 Northbound On Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 10_IRW_605N On_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

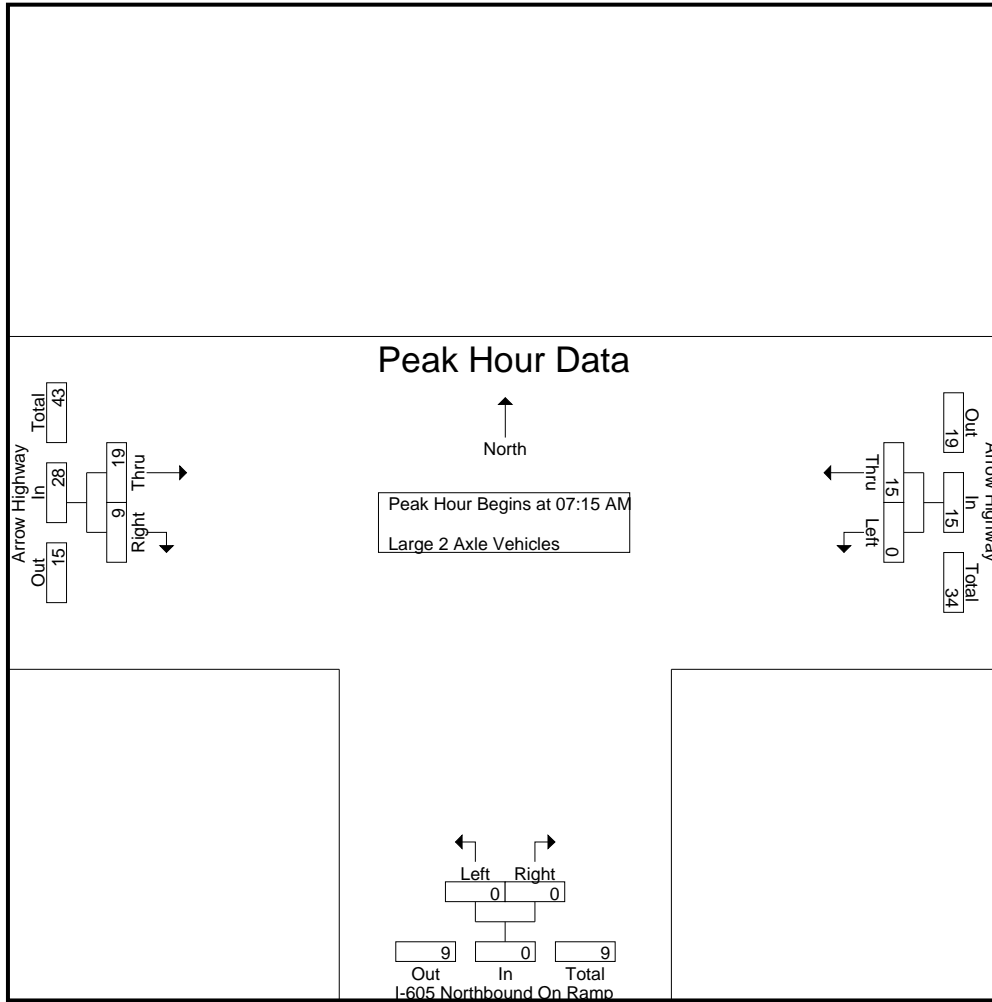
Start Time	Arrow Highway Westbound			I-605 Northbound On Ramp Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	0	4	4	0	0	0	4	1	5	9
07:15 AM	0	5	5	0	0	0	3	3	6	11
07:30 AM	0	6	6	0	0	0	6	2	8	14
07:45 AM	0	2	2	0	0	0	2	2	4	6
Total	0	17	17	0	0	0	15	8	23	40
08:00 AM	0	2	2	0	0	0	8	2	10	12
08:15 AM	0	5	5	0	0	0	4	3	7	12
08:30 AM	0	2	2	0	0	0	3	4	7	9
08:45 AM	0	3	3	0	0	0	0	2	2	5
Total	0	12	12	0	0	0	15	11	26	38
Grand Total	0	29	29	0	0	0	30	19	49	78
Apprch %	0	100		0	0		61.2	38.8		
Total %	0	37.2	37.2	0	0	0	38.5	24.4	62.8	

Start Time	Arrow Highway Westbound			I-605 Northbound On Ramp Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:15 AM	0	5	5	0	0	0	3	3	6	11
07:30 AM	0	6	6	0	0	0	6	2	8	14
07:45 AM	0	2	2	0	0	0	2	2	4	6
08:00 AM	0	2	2	0	0	0	8	2	10	12
Total Volume	0	15	15	0	0	0	19	9	28	43
% App. Total	0	100		0	0		67.9	32.1		
PHF	.000	.625	.625	.000	.000	.000	.594	.750	.700	.768

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

City of Irwindale
 N/S: I-605 Northbound On Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 10_IRW_605N On_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	0	5	5	0	0	0	3	3	6
+15 mins.	0	6	6	0	0	0	6	2	8
+30 mins.	0	2	2	0	0	0	2	2	4
+45 mins.	0	2	2	0	0	0	8	2	10
Total Volume	0	15	15	0	0	0	19	9	28
% App. Total	0	100		0	0		67.9	32.1	
PHF	.000	.625	.625	.000	.000	.000	.594	.750	.700

City of Irwindale
 N/S: I-605 Northbound On Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 10_IRW_605N On_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 3 Axle Vehicles

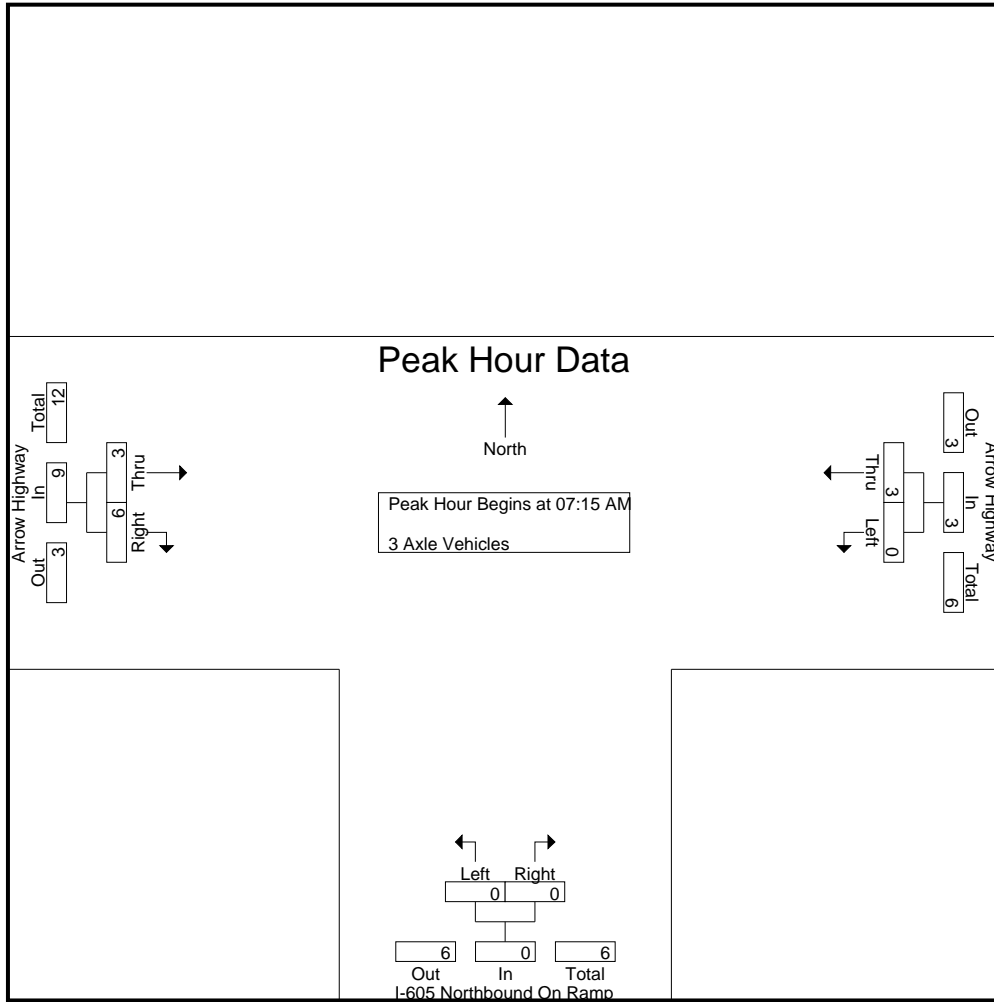
Start Time	Arrow Highway Westbound			I-605 Northbound On Ramp Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	0	4	4	0	0	0	1	2	3	7
07:15 AM	0	2	2	0	0	0	0	4	4	6
07:30 AM	0	1	1	0	0	0	1	0	1	2
07:45 AM	0	0	0	0	0	0	2	2	4	4
Total	0	7	7	0	0	0	4	8	12	19
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	3	3	0	0	0	1	2	3	6
08:30 AM	0	1	1	0	0	0	1	2	3	4
08:45 AM	0	1	1	0	0	0	3	0	3	4
Total	0	5	5	0	0	0	5	4	9	14
Grand Total	0	12	12	0	0	0	9	12	21	33
Apprch %	0	100		0	0		42.9	57.1		
Total %	0	36.4	36.4	0	0	0	27.3	36.4	63.6	

Start Time	Arrow Highway Westbound			I-605 Northbound On Ramp Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:15 AM	0	2	2	0	0	0	0	4	4	6
07:30 AM	0	1	1	0	0	0	1	0	1	2
07:45 AM	0	0	0	0	0	0	2	2	4	4
08:00 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	3	3	0	0	0	3	6	9	12
% App. Total	0	100		0	0		33.3	66.7		
PHF	.000	.375	.375	.000	.000	.000	.375	.375	.563	.500

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

City of Irwindale
 N/S: I-605 Northbound On Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 10_IRW_605N On_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	0	2	2	0	0	0	0	4	4
+15 mins.	0	1	1	0	0	0	1	0	1
+30 mins.	0	0	0	0	0	0	2	2	4
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	3	3	0	0	0	3	6	9
% App. Total	0	100		0	0		33.3	66.7	
PHF	.000	.375	.375	.000	.000	.000	.375	.375	.563

City of Irwindale
 N/S: I-605 Northbound On Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 10_IRW_605N On_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
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Groups Printed- 4+ Axle Trucks

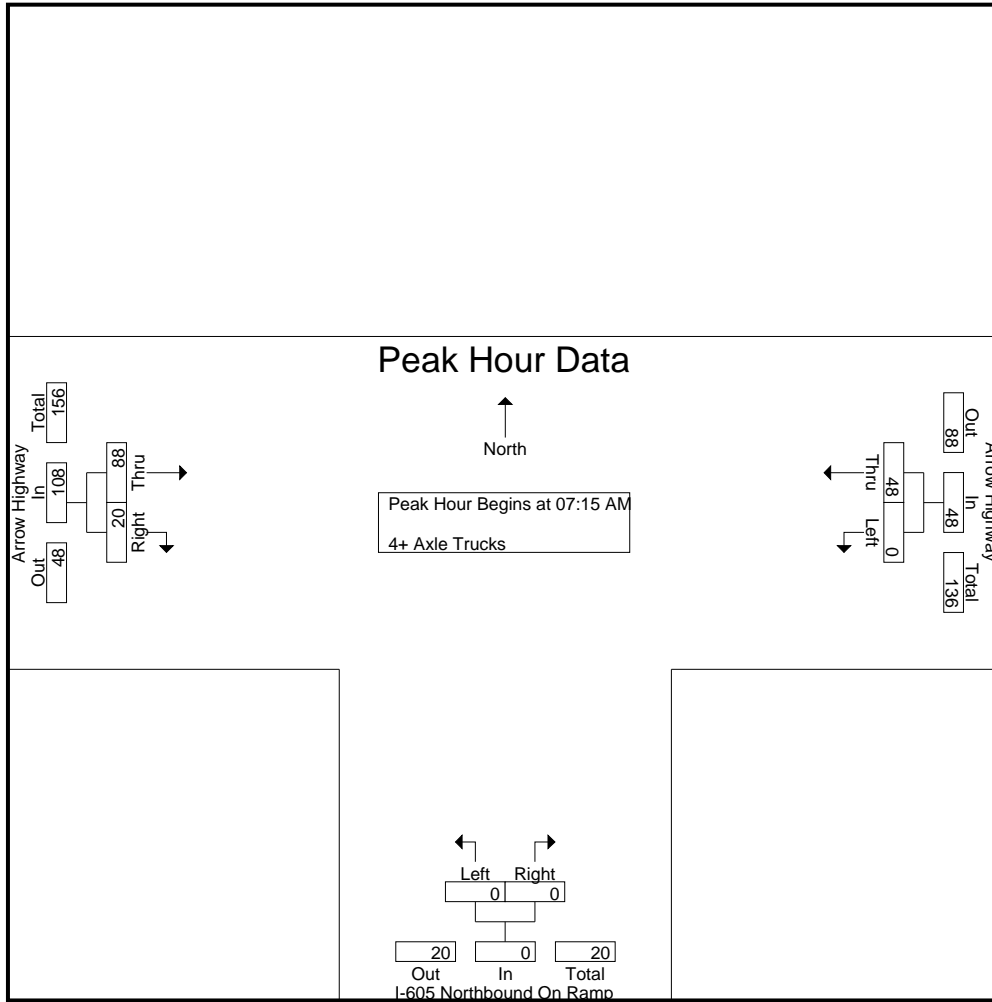
Start Time	Arrow Highway Westbound			I-605 Northbound On Ramp Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	0	2	2	0	0	0	10	5	15	17
07:15 AM	0	13	13	0	0	0	23	6	29	42
07:30 AM	0	15	15	0	0	0	22	5	27	42
07:45 AM	0	12	12	0	0	0	20	6	26	38
Total	0	42	42	0	0	0	75	22	97	139
08:00 AM	0	8	8	0	0	0	23	3	26	34
08:15 AM	0	16	16	0	0	0	26	6	32	48
08:30 AM	0	17	17	0	0	0	20	2	22	39
08:45 AM	0	15	15	0	0	0	17	5	22	37
Total	0	56	56	0	0	0	86	16	102	158
Grand Total	0	98	98	0	0	0	161	38	199	297
Apprch %	0	100		0	0		80.9	19.1		
Total %	0	33	33	0	0	0	54.2	12.8	67	

Start Time	Arrow Highway Westbound			I-605 Northbound On Ramp Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:15 AM	0	13	13	0	0	0	23	6	29	42
07:30 AM	0	15	15	0	0	0	22	5	27	42
07:45 AM	0	12	12	0	0	0	20	6	26	38
08:00 AM	0	8	8	0	0	0	23	3	26	34
Total Volume	0	48	48	0	0	0	88	20	108	156
% App. Total	0	100		0	0		81.5	18.5		
PHF	.000	.800	.800	.000	.000	.000	.957	.833	.931	.929

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

City of Irwindale
 N/S: I-605 Northbound On Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 10_IRW_605N On_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	0	13	13	0	0	0	23	6	29
+15 mins.	0	15	15	0	0	0	22	5	27
+30 mins.	0	12	12	0	0	0	20	6	26
+45 mins.	0	8	8	0	0	0	23	3	26
Total Volume	0	48	48	0	0	0	88	20	108
% App. Total	0	100		0	0		81.5	18.5	
PHF	.000	.800	.800	.000	.000	.000	.957	.833	.931

City of Irwindale
 N/S: I-605 Northbound On Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 10_IRW_605N On_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

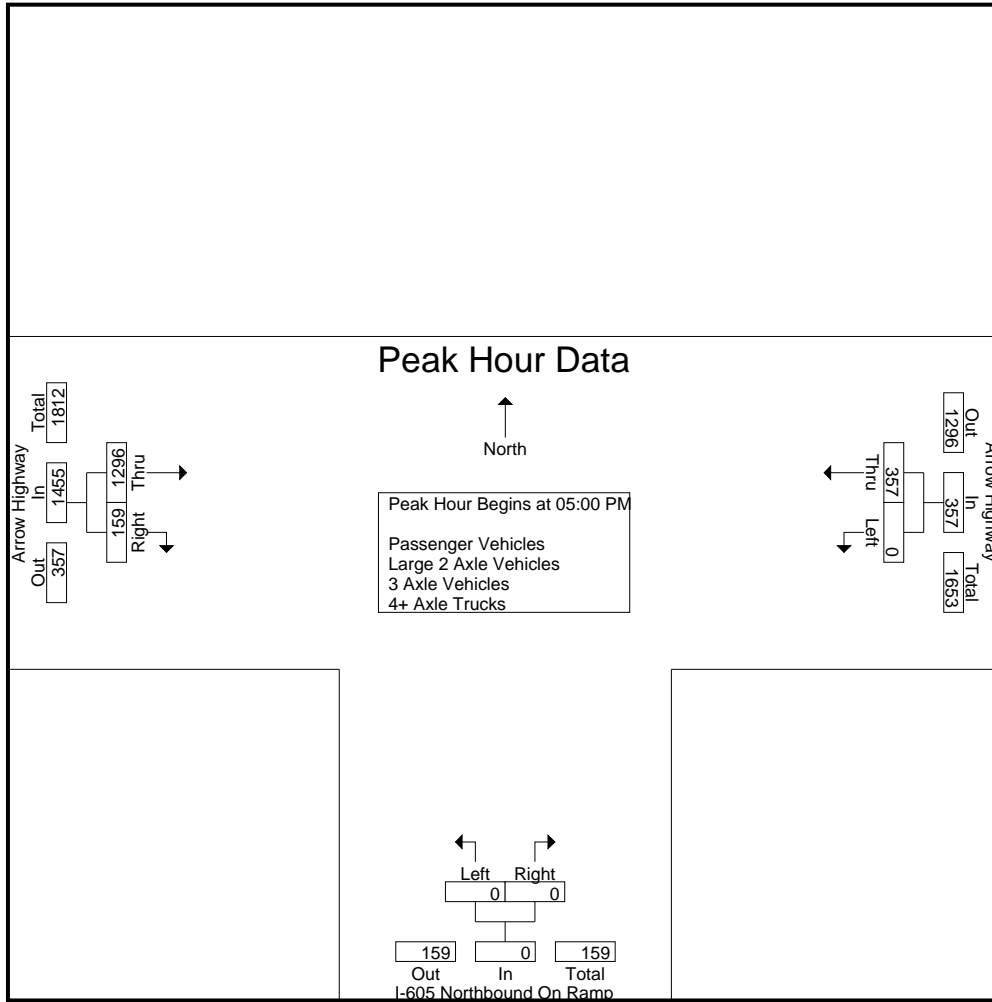
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Arrow Highway Westbound			I-605 Northbound On Ramp Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	0	79	79	0	0	0	265	53	318	397
04:15 PM	0	78	78	0	0	0	232	68	300	378
04:30 PM	0	96	96	0	0	0	249	74	323	419
04:45 PM	0	96	96	0	0	0	292	71	363	459
Total	0	349	349	0	0	0	1038	266	1304	1653
05:00 PM	0	99	99	0	0	0	296	54	350	449
05:15 PM	0	87	87	0	0	0	319	44	363	450
05:30 PM	0	78	78	0	0	0	310	30	340	418
05:45 PM	0	93	93	0	0	0	371	31	402	495
Total	0	357	357	0	0	0	1296	159	1455	1812
Grand Total	0	706	706	0	0	0	2334	425	2759	3465
Apprch %	0	100		0	0		84.6	15.4		
Total %	0	20.4	20.4	0	0	0	67.4	12.3	79.6	
Passenger Vehicles	0	682	682	0	0	0	2279	409	2688	3370
% Passenger Vehicles	0	96.6	96.6	0	0	0	97.6	96.2	97.4	97.3
Large 2 Axle Vehicles	0	16	16	0	0	0	26	8	34	50
% Large 2 Axle Vehicles	0	2.3	2.3	0	0	0	1.1	1.9	1.2	1.4
3 Axle Vehicles	0	2	2	0	0	0	6	0	6	8
% 3 Axle Vehicles	0	0.3	0.3	0	0	0	0.3	0	0.2	0.2
4+ Axle Trucks	0	6	6	0	0	0	23	8	31	37
% 4+ Axle Trucks	0	0.8	0.8	0	0	0	1	1.9	1.1	1.1

Start Time	Arrow Highway Westbound			I-605 Northbound On Ramp Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	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 05:00 PM										
05:00 PM	0	99	99	0	0	0	296	54	350	449
05:15 PM	0	87	87	0	0	0	319	44	363	450
05:30 PM	0	78	78	0	0	0	310	30	340	418
05:45 PM	0	93	93	0	0	0	371	31	402	495
Total Volume	0	357	357	0	0	0	1296	159	1455	1812
% App. Total	0	100		0	0		89.1	10.9		
PHF	.000	.902	.902	.000	.000	.000	.873	.736	.905	.915

City of Irwindale
 N/S: I-605 Northbound On Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 10_IRW_605N On_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
 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			04:00 PM			05:00 PM		
+0 mins.	0	96	96	0	0	0	296	54	350
+15 mins.	0	96	96	0	0	0	319	44	363
+30 mins.	0	99	99	0	0	0	310	30	340
+45 mins.	0	87	87	0	0	0	371	31	402
Total Volume	0	378	378	0	0	0	1296	159	1455
% App. Total	0	100		0	0		89.1	10.9	
PHF	.000	.955	.955	.000	.000	.000	.873	.736	.905

City of Irwindale
 N/S: I-605 Northbound On Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 10_IRW_605N On_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

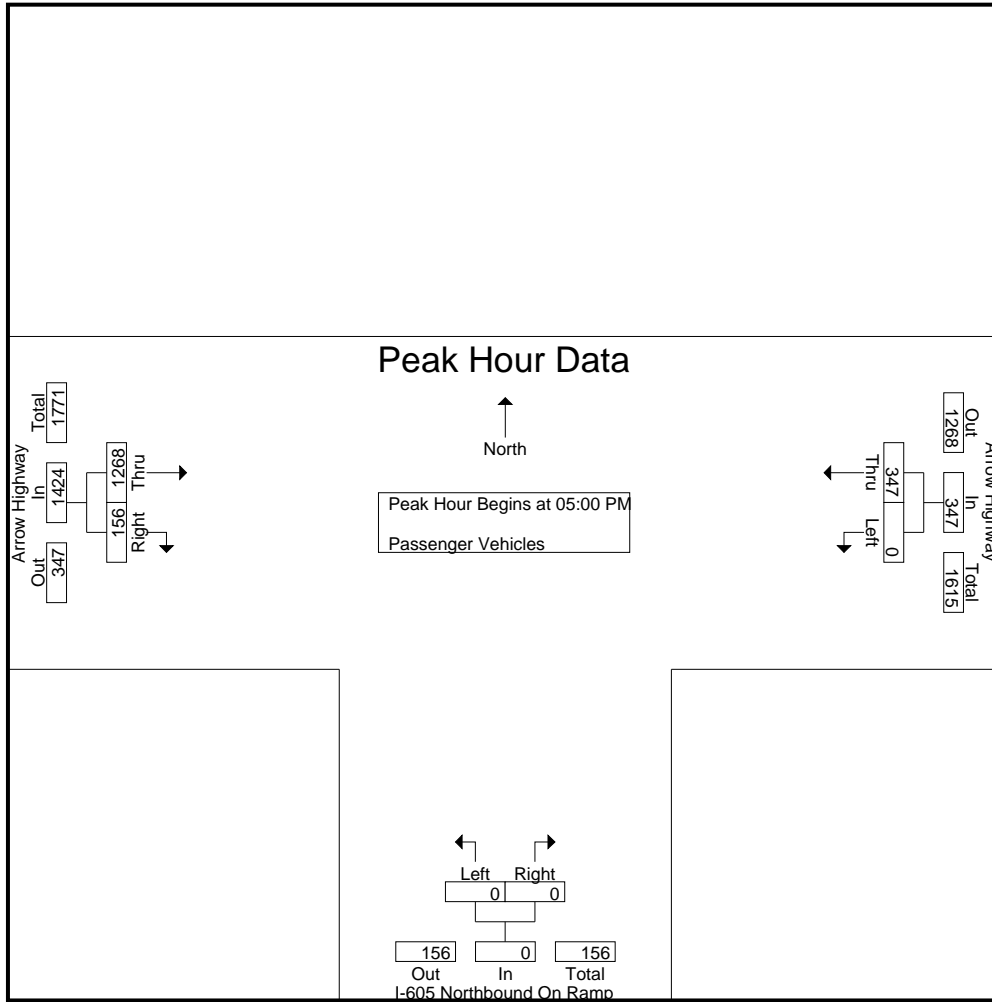
Groups Printed- Passenger Vehicles

Start Time	Arrow Highway Westbound			I-605 Northbound On Ramp Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	0	75	75	0	0	0	260	48	308	383
04:15 PM	0	77	77	0	0	0	224	66	290	367
04:30 PM	0	92	92	0	0	0	245	72	317	409
04:45 PM	0	91	91	0	0	0	282	67	349	440
Total	0	335	335	0	0	0	1011	253	1264	1599
05:00 PM	0	96	96	0	0	0	292	54	346	442
05:15 PM	0	85	85	0	0	0	314	43	357	442
05:30 PM	0	75	75	0	0	0	300	29	329	404
05:45 PM	0	91	91	0	0	0	362	30	392	483
Total	0	347	347	0	0	0	1268	156	1424	1771
Grand Total	0	682	682	0	0	0	2279	409	2688	3370
Apprch %	0	100		0	0		84.8	15.2		
Total %	0	20.2	20.2	0	0	0	67.6	12.1	79.8	

Start Time	Arrow Highway Westbound			I-605 Northbound On Ramp Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
05:00 PM	0	96	96	0	0	0	292	54	346	442
05:15 PM	0	85	85	0	0	0	314	43	357	442
05:30 PM	0	75	75	0	0	0	300	29	329	404
05:45 PM	0	91	91	0	0	0	362	30	392	483
Total Volume	0	347	347	0	0	0	1268	156	1424	1771
% App. Total	0	100		0	0		89	11		
PHF	.000	.904	.904	.000	.000	.000	.876	.722	.908	.917

City of Irwindale
 N/S: I-605 Northbound On Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 10_IRW_605N On_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



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

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	0	96	96	0	0	0	292	54	346
+15 mins.	0	85	85	0	0	0	314	43	357
+30 mins.	0	75	75	0	0	0	300	29	329
+45 mins.	0	91	91	0	0	0	362	30	392
Total Volume	0	347	347	0	0	0	1268	156	1424
% App. Total	0	100		0	0		89	11	
PHF	.000	.904	.904	.000	.000	.000	.876	.722	.908

City of Irwindale
 N/S: I-605 Northbound On Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 10_IRW_605N On_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

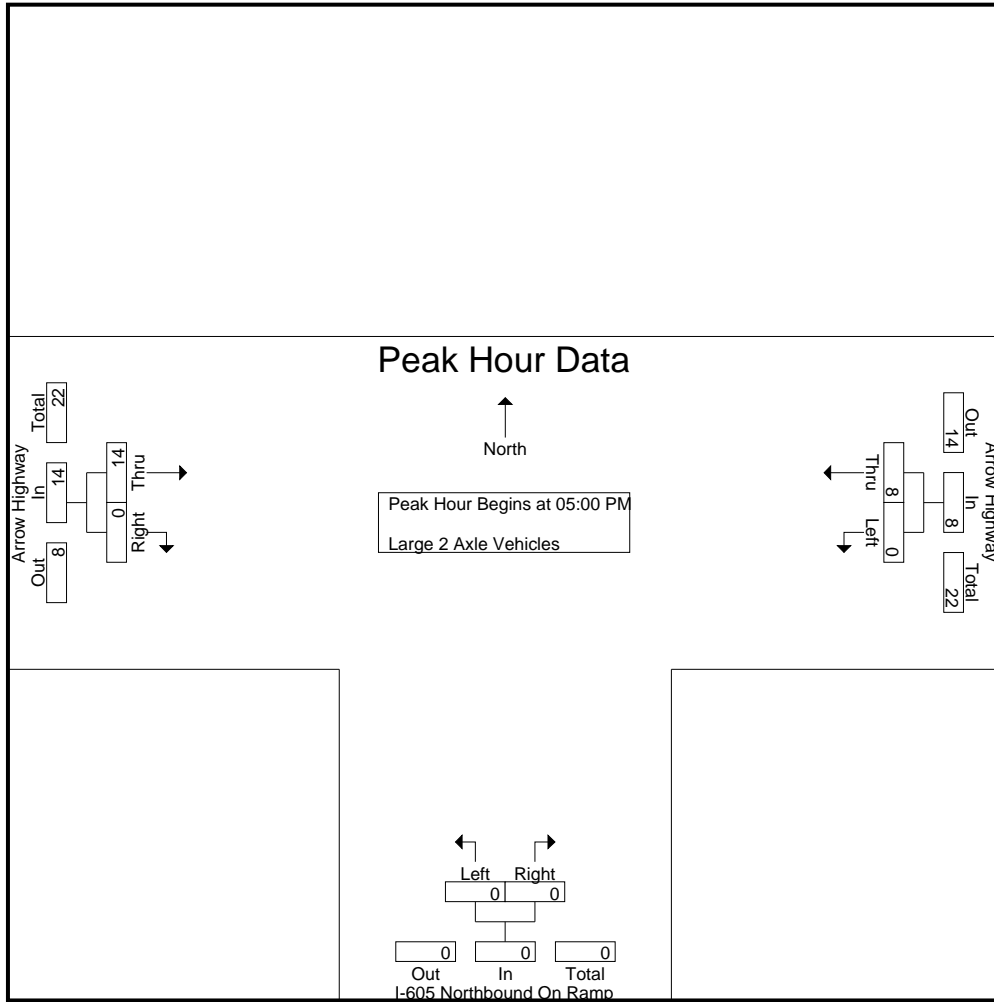
Start Time	Arrow Highway Westbound			I-605 Northbound On Ramp Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	0	3	3	0	0	0	3	3	6	9
04:15 PM	0	0	0	0	0	0	4	1	5	5
04:30 PM	0	2	2	0	0	0	2	1	3	5
04:45 PM	0	3	3	0	0	0	3	3	6	9
Total	0	8	8	0	0	0	12	8	20	28
05:00 PM	0	1	1	0	0	0	2	0	2	3
05:15 PM	0	2	2	0	0	0	2	0	2	4
05:30 PM	0	3	3	0	0	0	3	0	3	6
05:45 PM	0	2	2	0	0	0	7	0	7	9
Total	0	8	8	0	0	0	14	0	14	22
Grand Total	0	16	16	0	0	0	26	8	34	50
Apprch %	0	100		0	0		76.5	23.5		
Total %	0	32	32	0	0	0	52	16	68	

Start Time	Arrow Highway Westbound			I-605 Northbound On Ramp Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
05:00 PM	0	1	1	0	0	0	2	0	2	3
05:15 PM	0	2	2	0	0	0	2	0	2	4
05:30 PM	0	3	3	0	0	0	3	0	3	6
05:45 PM	0	2	2	0	0	0	7	0	7	9
Total Volume	0	8	8	0	0	0	14	0	14	22
% App. Total	0	100		0	0		100	0		
PHF	.000	.667	.667	.000	.000	.000	.500	.000	.500	.611

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

City of Irwindale
 N/S: I-605 Northbound On Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 10_IRW_605N On_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



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

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	0	1	1	0	0	0	2	0	2
+15 mins.	0	2	2	0	0	0	2	0	2
+30 mins.	0	3	3	0	0	0	3	0	3
+45 mins.	0	2	2	0	0	0	7	0	7
Total Volume	0	8	8	0	0	0	14	0	14
% App. Total	0	100		0	0		100	0	
PHF	.000	.667	.667	.000	.000	.000	.500	.000	.500

City of Irwindale
 N/S: I-605 Northbound On Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 10_IRW_605N On_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 3 Axle Vehicles

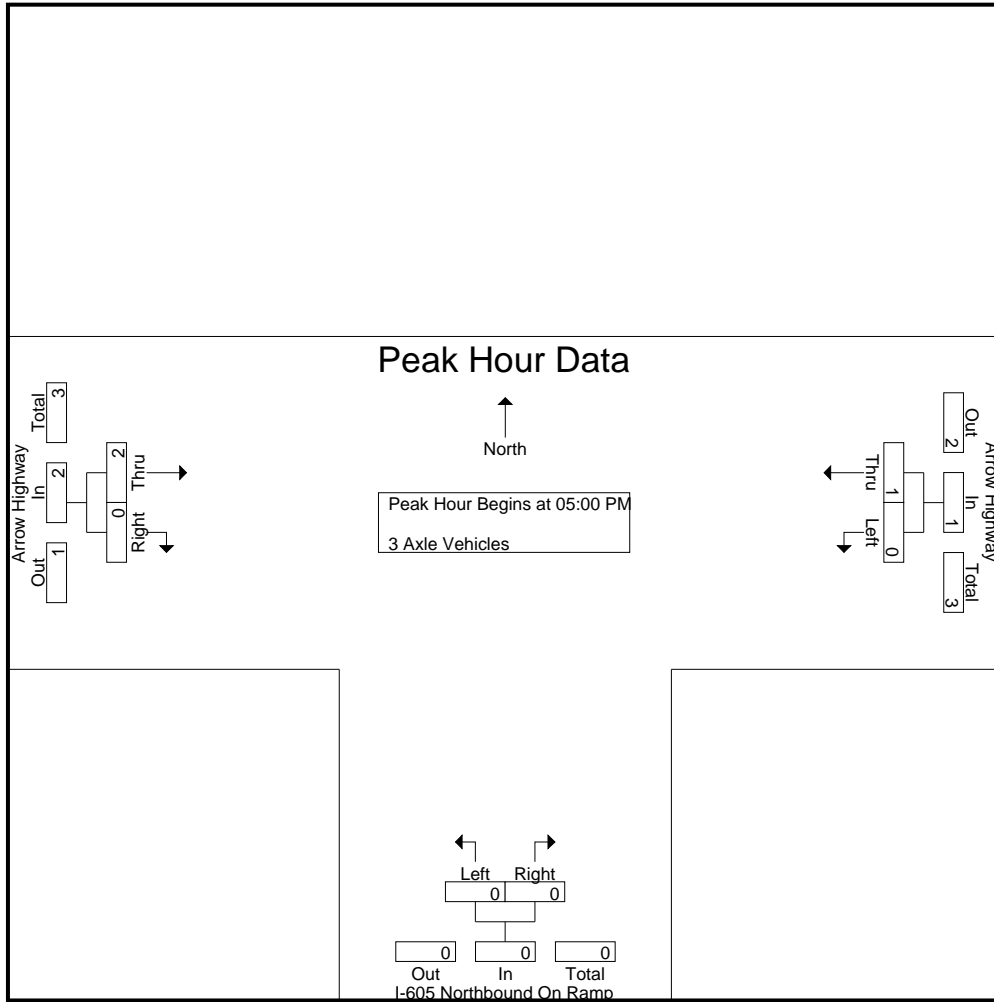
Start Time	Arrow Highway Westbound			I-605 Northbound On Ramp Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	2	0	2	2
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	1	1	0	0	0	2	0	2	3
Total	0	1	1	0	0	0	4	0	4	5
05:00 PM	0	1	1	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	1	0	1	1
05:30 PM	0	0	0	0	0	0	1	0	1	1
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	1	1	0	0	0	2	0	2	3
Grand Total	0	2	2	0	0	0	6	0	6	8
Apprch %	0	100		0	0		100	0		
Total %	0	25	25	0	0	0	75	0	75	

Start Time	Arrow Highway Westbound			I-605 Northbound On Ramp Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
05:00 PM	0	1	1	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	1	0	1	1
05:30 PM	0	0	0	0	0	0	1	0	1	1
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	0	0	0	2	0	2	3
% App. Total	0	100		0	0		100	0		
PHF	.000	.250	.250	.000	.000	.000	.500	.000	.500	.750

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

City of Irwindale
 N/S: I-605 Northbound On Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 10_IRW_605N On_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



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

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	0	1	1	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	1	0	1
+30 mins.	0	0	0	0	0	0	1	0	1
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	0	0	0	2	0	2
% App. Total	0	100		0	0		100	0	
PHF	.000	.250	.250	.000	.000	.000	.500	.000	.500

City of Irwindale
 N/S: I-605 Northbound On Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 10_IRW_605N On_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 4+ Axle Trucks

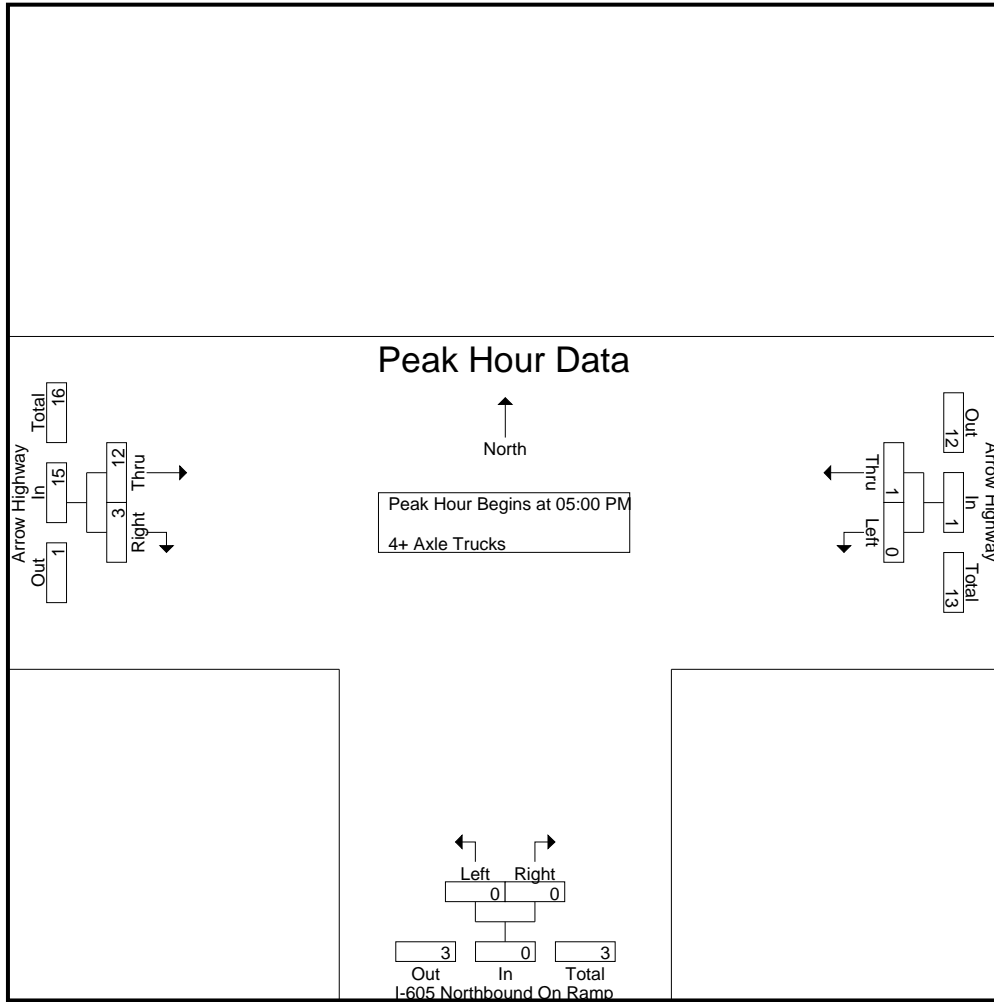
Start Time	Arrow Highway Westbound			I-605 Northbound On Ramp Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	0	1	1	0	0	0	2	2	4	5
04:15 PM	0	1	1	0	0	0	2	1	3	4
04:30 PM	0	2	2	0	0	0	2	1	3	5
04:45 PM	0	1	1	0	0	0	5	1	6	7
Total	0	5	5	0	0	0	11	5	16	21
05:00 PM	0	1	1	0	0	0	2	0	2	3
05:15 PM	0	0	0	0	0	0	2	1	3	3
05:30 PM	0	0	0	0	0	0	6	1	7	7
05:45 PM	0	0	0	0	0	0	2	1	3	3
Total	0	1	1	0	0	0	12	3	15	16
Grand Total	0	6	6	0	0	0	23	8	31	37
Apprch %	0	100		0	0		74.2	25.8		
Total %	0	16.2	16.2	0	0	0	62.2	21.6	83.8	

Start Time	Arrow Highway Westbound			I-605 Northbound On Ramp Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
05:00 PM	0	1	1	0	0	0	2	0	2	3
05:15 PM	0	0	0	0	0	0	2	1	3	3
05:30 PM	0	0	0	0	0	0	6	1	7	7
05:45 PM	0	0	0	0	0	0	2	1	3	3
Total Volume	0	1	1	0	0	0	12	3	15	16
% App. Total	0	100		0	0		80	20		
PHF	.000	.250	.250	.000	.000	.000	.500	.750	.536	.571

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

City of Irwindale
 N/S: I-605 Northbound On Ramp
 E/W: Arrow Highway
 Weather: Clear

File Name : 10_IRW_605N On_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



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

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	0	1	1	0	0	0	2	0	2
+15 mins.	0	0	0	0	0	0	2	1	3
+30 mins.	0	0	0	0	0	0	6	1	7
+45 mins.	0	0	0	0	0	0	2	1	3
Total Volume	0	1	1	0	0	0	12	3	15
% App. Total	0	100		0	0		80	20	
PHF	.000	.250	.250	.000	.000	.000	.500	.750	.536

City of Irwindale
 N/S: I-605 NB On Ramp/Live Oak Lane
 E/W: Arrow Highway
 Weather: Clear

File Name : 12_IRW_LO Ln_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

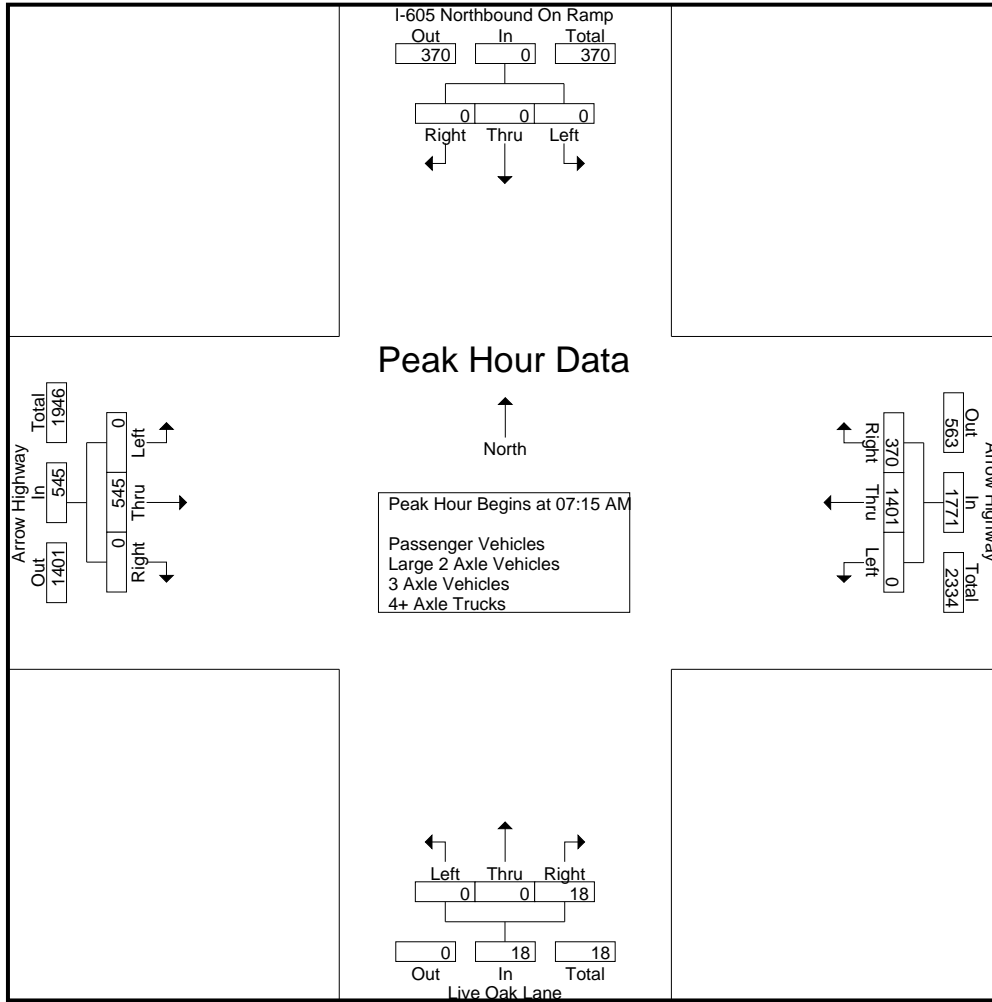
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	I-605 Northbound On Ramp Southbound				Arrow Highway Westbound				Live Oak Lane Northbound				Arrow Highway 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	0	0	0	0	323	81	404	0	0	4	4	0	95	0	95	503
07:15 AM	0	0	0	0	0	385	87	472	0	0	5	5	0	119	0	119	596
07:30 AM	0	0	0	0	0	367	87	454	0	0	4	4	0	126	0	126	584
07:45 AM	0	0	0	0	0	353	104	457	0	0	6	6	0	148	0	148	611
Total	0	0	0	0	0	1428	359	1787	0	0	19	19	0	488	0	488	2294
08:00 AM	0	0	0	0	0	296	92	388	0	0	3	3	0	152	0	152	543
08:15 AM	0	0	0	0	0	298	73	371	0	0	9	9	0	153	0	153	533
08:30 AM	0	0	0	0	0	251	60	311	0	0	6	6	0	138	0	138	455
08:45 AM	0	0	0	0	0	228	63	291	0	0	5	5	0	135	0	135	431
Total	0	0	0	0	0	1073	288	1361	0	0	23	23	0	578	0	578	1962
Grand Total	0	0	0	0	0	2501	647	3148	0	0	42	42	0	1066	0	1066	4256
Apprch %	0	0	0		0	79.4	20.6		0	0	100		0	100	0		
Total %	0	0	0	0	0	58.8	15.2	74	0	0	1	1	0	25	0	25	
Passenger Vehicles	0	0	0	0	0	2363	586	2949	0	0	17	17	0	931	0	931	3897
% Passenger Vehicles	0	0	0	0	0	94.5	90.6	93.7	0	0	40.5	40.5	0	87.3	0	87.3	91.6
Large 2 Axle Vehicles	0	0	0	0	0	29	14	43	0	0	2	2	0	19	0	19	64
% Large 2 Axle Vehicles	0	0	0	0	0	1.2	2.2	1.4	0	0	4.8	4.8	0	1.8	0	1.8	1.5
3 Axle Vehicles	0	0	0	0	0	12	3	15	0	0	1	1	0	5	0	5	21
% 3 Axle Vehicles	0	0	0	0	0	0.5	0.5	0.5	0	0	2.4	2.4	0	0.5	0	0.5	0.5
4+ Axle Trucks	0	0	0	0	0	97	44	141	0	0	22	22	0	111	0	111	274
% 4+ Axle Trucks	0	0	0	0	0	3.9	6.8	4.5	0	0	52.4	52.4	0	10.4	0	10.4	6.4

Start Time	I-605 Northbound On Ramp Southbound				Arrow Highway Westbound				Live Oak Lane Northbound				Arrow Highway 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	0	385	87	472	0	0	5	5	0	119	0	119	596
07:30 AM	0	0	0	0	0	367	87	454	0	0	4	4	0	126	0	126	584
07:45 AM	0	0	0	0	0	353	104	457	0	0	6	6	0	148	0	148	611
08:00 AM	0	0	0	0	0	296	92	388	0	0	3	3	0	152	0	152	543
Total Volume	0	0	0	0	0	1401	370	1771	0	0	18	18	0	545	0	545	2334
% App. Total	0	0	0		0	79.1	20.9		0	0	100		0	100	0		
PHF	.000	.000	.000	.000	.000	.910	.889	.938	.000	.000	.750	.750	.000	.896	.000	.896	.955

City of Irwindale
 N/S: I-605 NB On Ramp/Live Oak Lane
 E/W: Arrow Highway
 Weather: Clear

File Name : 12_IRW_LO Ln_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 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				07:00 AM				07:45 AM				07:45 AM			
+0 mins.	0	0	0	0	0	323	81	404	0	0	6	6	0	148	0	148
+15 mins.	0	0	0	0	0	385	87	472	0	0	3	3	0	152	0	152
+30 mins.	0	0	0	0	0	367	87	454	0	0	9	9	0	153	0	153
+45 mins.	0	0	0	0	0	353	104	457	0	0	6	6	0	138	0	138
Total Volume	0	0	0	0	0	1428	359	1787	0	0	24	24	0	591	0	591
% App. Total	0	0	0	0	0	79.9	20.1		0	0	100		0	100	0	
PHF	.000	.000	.000	.000	.000	.927	.863	.947	.000	.000	.667	.667	.000	.966	.000	.966

City of Irwindale
 N/S: I-605 NB On Ramp/Live Oak Lane
 E/W: Arrow Highway
 Weather: Clear

File Name : 12_IRW_LO Ln_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Passenger Vehicles

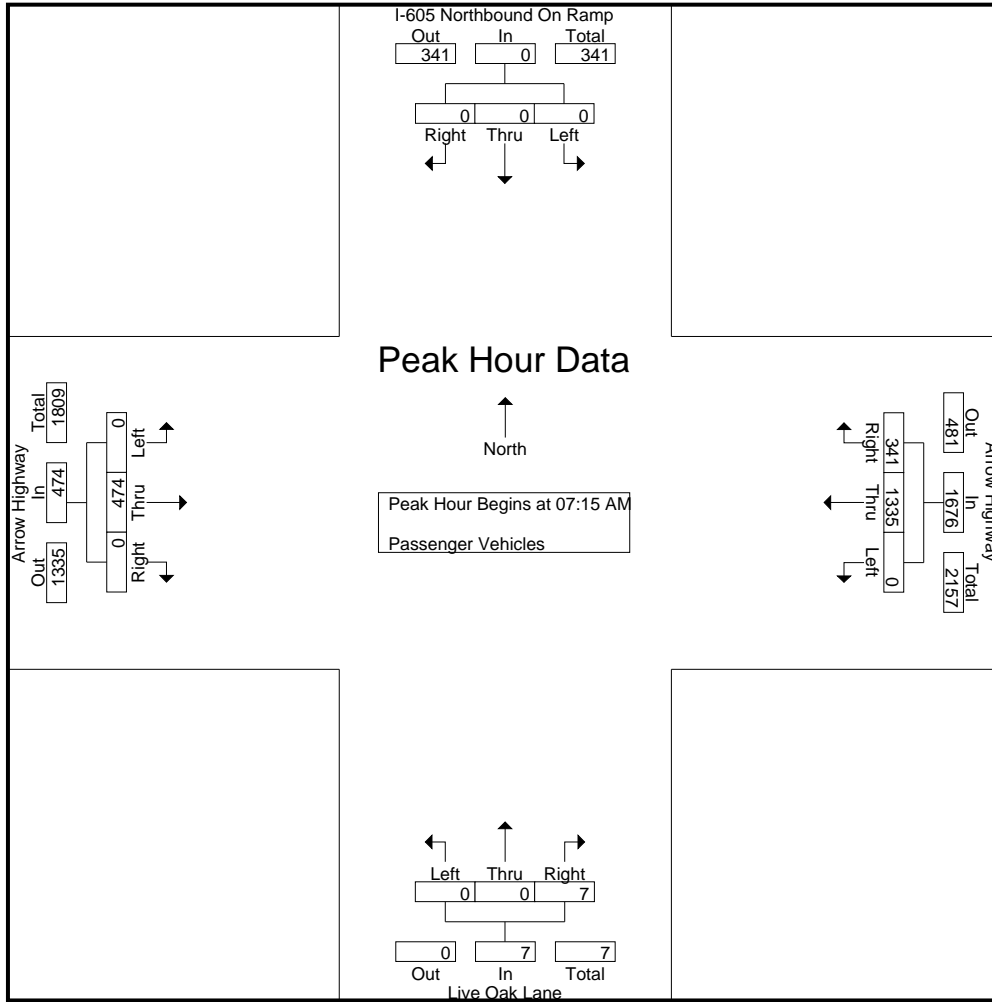
Start Time	I-605 Northbound On Ramp Southbound				Arrow Highway Westbound				Live Oak Lane Northbound				Arrow Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	314	76	390	0	0	3	3	0	86	0	86	479
07:15 AM	0	0	0	0	0	365	81	446	0	0	2	2	0	100	0	100	548
07:30 AM	0	0	0	0	0	346	82	428	0	0	2	2	0	110	0	110	540
07:45 AM	0	0	0	0	0	339	93	432	0	0	2	2	0	130	0	130	564
Total	0	0	0	0	0	1364	332	1696	0	0	9	9	0	426	0	426	2131
08:00 AM	0	0	0	0	0	285	85	370	0	0	1	1	0	134	0	134	505
08:15 AM	0	0	0	0	0	275	65	340	0	0	4	4	0	131	0	131	475
08:30 AM	0	0	0	0	0	230	52	282	0	0	0	0	0	122	0	122	404
08:45 AM	0	0	0	0	0	209	52	261	0	0	3	3	0	118	0	118	382
Total	0	0	0	0	0	999	254	1253	0	0	8	8	0	505	0	505	1766
Grand Total	0	0	0	0	0	2363	586	2949	0	0	17	17	0	931	0	931	3897
Apprch %	0	0	0	0	0	80.1	19.9		0	0	100		0	100	0		
Total %	0	0	0	0	0	60.6	15	75.7	0	0	0.4	0.4	0	23.9	0	23.9	

Start Time	I-605 Northbound On Ramp Southbound				Arrow Highway Westbound				Live Oak Lane Northbound				Arrow Highway 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	0	0	0	0	365	81	446	0	0	2	2	0	100	0	100	548
07:30 AM	0	0	0	0	0	346	82	428	0	0	2	2	0	110	0	110	540
07:45 AM	0	0	0	0	0	339	93	432	0	0	2	2	0	130	0	130	564
08:00 AM	0	0	0	0	0	285	85	370	0	0	1	1	0	134	0	134	505
Total Volume	0	0	0	0	0	1335	341	1676	0	0	7	7	0	474	0	474	2157
% App. Total	0	0	0	0	0	79.7	20.3		0	0	100		0	100	0		
PHF	.000	.000	.000	.000	.000	.914	.917	.939	.000	.000	.875	.875	.000	.884	.000	.884	.956

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

City of Irwindale
 N/S: I-605 NB On Ramp/Live Oak Lane
 E/W: Arrow Highway
 Weather: Clear

File Name : 12_IRW_LO Ln_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	0	0	0	0	365	81	446	0	0	2	2	0	100	0	100
+15 mins.	0	0	0	0	0	346	82	428	0	0	2	2	0	110	0	110
+30 mins.	0	0	0	0	0	339	93	432	0	0	2	2	0	130	0	130
+45 mins.	0	0	0	0	0	285	85	370	0	0	1	1	0	134	0	134
Total Volume	0	0	0	0	0	1335	341	1676	0	0	7	7	0	474	0	474
% App. Total	0	0	0	0	0	79.7	20.3		0	0	100		0	100	0	
PHF	.000	.000	.000	.000	.000	.914	.917	.939	.000	.000	.875	.875	.000	.884	.000	.884

City of Irwindale
 N/S: I-605 NB On Ramp/Live Oak Lane
 E/W: Arrow Highway
 Weather: Clear

File Name : 12_IRW_LO Ln_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

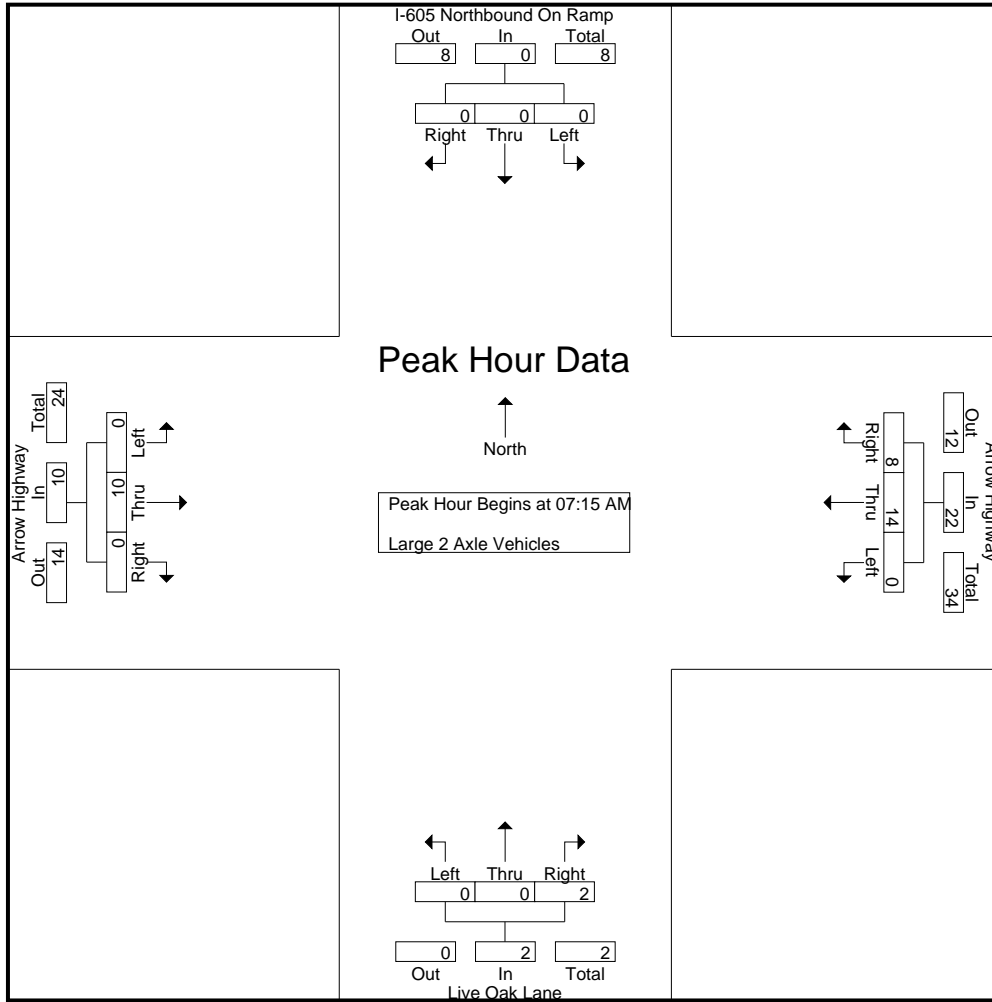
Start Time	I-605 Northbound On Ramp Southbound				Arrow Highway Westbound				Live Oak Lane Northbound				Arrow Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	4	1	5	0	0	0	0	0	4	0	4	9
07:15 AM	0	0	0	0	0	5	2	7	0	0	0	0	0	2	0	2	9
07:30 AM	0	0	0	0	0	5	1	6	0	0	1	1	0	3	0	3	10
07:45 AM	0	0	0	0	0	2	2	4	0	0	0	0	0	1	0	1	5
Total	0	0	0	0	0	16	6	22	0	0	1	1	0	10	0	10	33
08:00 AM	0	0	0	0	0	2	3	5	0	0	1	1	0	4	0	4	10
08:15 AM	0	0	0	0	0	5	1	6	0	0	0	0	0	3	0	3	9
08:30 AM	0	0	0	0	0	3	1	4	0	0	0	0	0	2	0	2	6
08:45 AM	0	0	0	0	0	3	3	6	0	0	0	0	0	0	0	0	6
Total	0	0	0	0	0	13	8	21	0	0	1	1	0	9	0	9	31
Grand Total	0	0	0	0	0	29	14	43	0	0	2	2	0	19	0	19	64
Apprch %	0	0	0		0	67.4	32.6		0	0	100		0	100	0		
Total %	0	0	0		0	45.3	21.9	67.2	0	0	3.1	3.1	0	29.7	0	29.7	

Start Time	I-605 Northbound On Ramp Southbound				Arrow Highway Westbound				Live Oak Lane Northbound				Arrow Highway 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	0	0	0	0	5	2	7	0	0	0	0	0	2	0	2	9
07:30 AM	0	0	0	0	0	5	1	6	0	0	1	1	0	3	0	3	10
07:45 AM	0	0	0	0	0	2	2	4	0	0	0	0	0	1	0	1	5
08:00 AM	0	0	0	0	0	2	3	5	0	0	1	1	0	4	0	4	10
Total Volume	0	0	0	0	0	14	8	22	0	0	2	2	0	10	0	10	34
% App. Total	0	0	0		0	63.6	36.4		0	0	100		0	100	0		
PHF	.000	.000	.000	.000	.000	.700	.667	.786	.000	.000	.500	.500	.000	.625	.000	.625	.850

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

City of Irwindale
 N/S: I-605 NB On Ramp/Live Oak Lane
 E/W: Arrow Highway
 Weather: Clear

File Name : 12_IRW_LO Ln_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	0	0	0	0	5	2	7	0	0	0	0	0	2	0	2
+15 mins.	0	0	0	0	0	5	1	6	0	0	1	1	0	3	0	3
+30 mins.	0	0	0	0	0	2	2	4	0	0	0	0	0	1	0	1
+45 mins.	0	0	0	0	0	2	3	5	0	0	1	1	0	4	0	4
Total Volume	0	0	0	0	0	14	8	22	0	0	2	2	0	10	0	10
% App. Total	0	0	0	0	0	63.6	36.4		0	0	100		0	100	0	
PHF	.000	.000	.000	.000	.000	.700	.667	.786	.000	.000	.500	.500	.000	.625	.000	.625

City of Irwindale
 N/S: I-605 NB On Ramp/Live Oak Lane
 E/W: Arrow Highway
 Weather: Clear

File Name : 12_IRW_LO Ln_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 3 Axle Vehicles

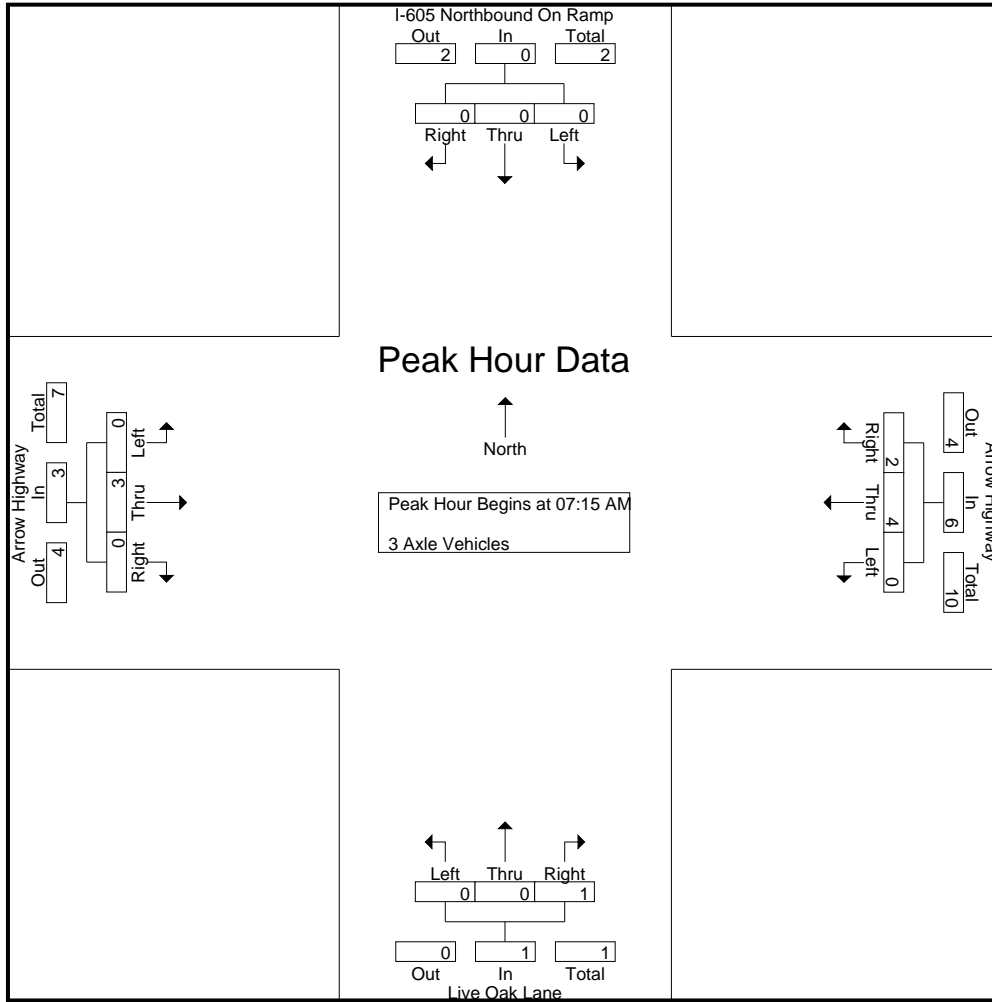
Start Time	I-605 Northbound On Ramp Southbound				Arrow Highway Westbound				Live Oak Lane Northbound				Arrow Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	3	1	4	0	0	0	0	0	0	0	0	4
07:15 AM	0	0	0	0	0	2	0	2	0	0	1	1	0	0	0	0	3
07:30 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
07:45 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	1	2
Total	0	0	0	0	0	7	2	9	0	0	1	1	0	2	0	2	12
08:00 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	1	2
08:15 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	3
08:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	3
Total	0	0	0	0	0	5	1	6	0	0	0	0	0	3	0	3	9
Grand Total	0	0	0	0	0	12	3	15	0	0	1	1	0	5	0	5	21
Apprch %	0	0	0	0	0	80	20		0	0	100		0	100	0		
Total %	0	0	0	0	0	57.1	14.3	71.4	0	0	4.8	4.8	0	23.8	0	23.8	

Start Time	I-605 Northbound On Ramp Southbound				Arrow Highway Westbound				Live Oak Lane Northbound				Arrow Highway 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	0	0	0	0	2	0	2	0	0	1	1	0	0	0	0	3
07:30 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
07:45 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	1	2
08:00 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	1	2
Total Volume	0	0	0	0	0	4	2	6	0	0	1	1	0	3	0	3	10
% App. Total	0	0	0	0	0	66.7	33.3		0	0	100		0	100	0		
PHF	.000	.000	.000	.000	.000	.500	.500	.750	.000	.000	.250	.250	.000	.750	.000	.750	.833

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

City of Irwindale
 N/S: I-605 NB On Ramp/Live Oak Lane
 E/W: Arrow Highway
 Weather: Clear

File Name : 12_IRW_LO Ln_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	0	0	0	0	2	0	2	0	0	1	1	0	0	0	0
+15 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1
+30 mins.	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	1
+45 mins.	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	1
Total Volume	0	0	0	0	0	4	2	6	0	0	1	1	0	3	0	3
% App. Total	0	0	0	0	0	66.7	33.3		0	0	100		0	100	0	
PHF	.000	.000	.000	.000	.000	.500	.500	.750	.000	.000	.250	.250	.000	.750	.000	.750

City of Irwindale
 N/S: I-605 NB On Ramp/Live Oak Lane
 E/W: Arrow Highway
 Weather: Clear

File Name : 12_IRW_LO Ln_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 4+ Axle Trucks

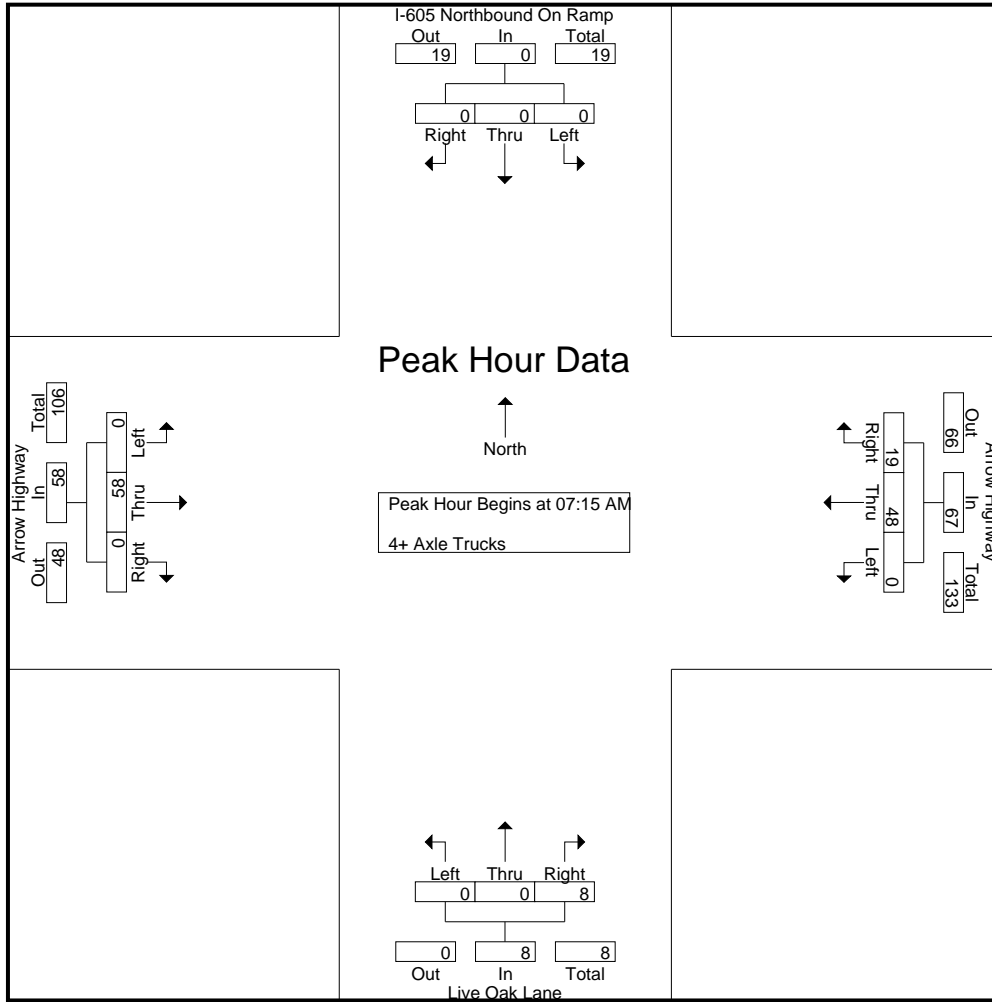
Start Time	I-605 Northbound On Ramp Southbound				Arrow Highway Westbound				Live Oak Lane Northbound				Arrow Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	2	3	5	0	0	1	1	0	5	0	5	11
07:15 AM	0	0	0	0	0	13	4	17	0	0	2	2	0	17	0	17	36
07:30 AM	0	0	0	0	0	14	4	18	0	0	1	1	0	12	0	12	31
07:45 AM	0	0	0	0	0	12	8	20	0	0	4	4	0	16	0	16	40
Total	0	0	0	0	0	41	19	60	0	0	8	8	0	50	0	50	118
08:00 AM	0	0	0	0	0	9	3	12	0	0	1	1	0	13	0	13	26
08:15 AM	0	0	0	0	0	15	7	22	0	0	5	5	0	19	0	19	46
08:30 AM	0	0	0	0	0	17	7	24	0	0	6	6	0	14	0	14	44
08:45 AM	0	0	0	0	0	15	8	23	0	0	2	2	0	15	0	15	40
Total	0	0	0	0	0	56	25	81	0	0	14	14	0	61	0	61	156
Grand Total	0	0	0	0	0	97	44	141	0	0	22	22	0	111	0	111	274
Apprch %	0	0	0		0	68.8	31.2		0	0	100		0	100	0		
Total %	0	0	0		0	35.4	16.1	51.5	0	0	8	8	0	40.5	0	40.5	

Start Time	I-605 Northbound On Ramp Southbound				Arrow Highway Westbound				Live Oak Lane Northbound				Arrow Highway 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	0	0	0	0	13	4	17	0	0	2	2	0	17	0	17	36
07:30 AM	0	0	0	0	0	14	4	18	0	0	1	1	0	12	0	12	31
07:45 AM	0	0	0	0	0	12	8	20	0	0	4	4	0	16	0	16	40
08:00 AM	0	0	0	0	0	9	3	12	0	0	1	1	0	13	0	13	26
Total Volume	0	0	0	0	0	48	19	67	0	0	8	8	0	58	0	58	133
% App. Total	0	0	0		0	71.6	28.4		0	0	100		0	100	0		
PHF	.000	.000	.000	.000	.000	.857	.594	.838	.000	.000	.500	.500	.000	.853	.000	.853	.831

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

City of Irwindale
 N/S: I-605 NB On Ramp/Live Oak Lane
 E/W: Arrow Highway
 Weather: Clear

File Name : 12_IRW_LO Ln_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	0	0	0	0	13	4	17	0	0	2	2	0	17	0	17
+15 mins.	0	0	0	0	0	14	4	18	0	0	1	1	0	12	0	12
+30 mins.	0	0	0	0	0	12	8	20	0	0	4	4	0	16	0	16
+45 mins.	0	0	0	0	0	9	3	12	0	0	1	1	0	13	0	13
Total Volume	0	0	0	0	0	48	19	67	0	0	8	8	0	58	0	58
% App. Total	0	0	0	0	0	71.6	28.4		0	0	100		0	100	0	
PHF	.000	.000	.000	.000	.000	.857	.594	.838	.000	.000	.500	.500	.000	.853	.000	.853

City of Irwindale
 N/S: I-605 NB On Ramp/Live Oak Lane
 E/W: Arrow Highway
 Weather: Clear

File Name : 12_IRW_LO Ln_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

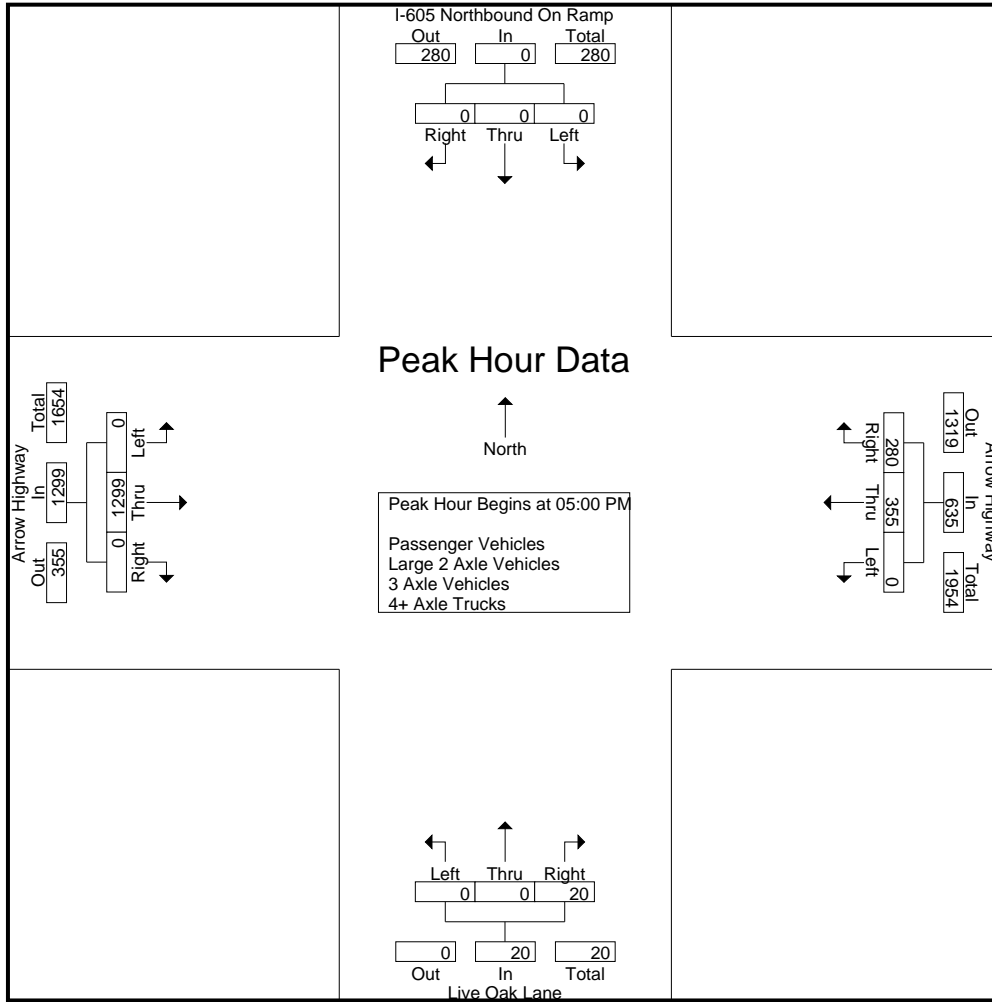
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	I-605 Northbound On Ramp Southbound				Arrow Highway Westbound				Live Oak Lane Northbound				Arrow Highway 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	0	0	0	0	78	52	130	0	0	3	3	0	269	0	269	402
04:15 PM	0	0	0	0	0	78	66	144	0	0	1	1	0	235	0	235	380
04:30 PM	0	0	0	0	0	96	65	161	0	0	8	8	0	248	0	248	417
04:45 PM	0	0	0	0	0	95	73	168	0	0	6	6	0	291	0	291	465
Total	0	0	0	0	0	347	256	603	0	0	18	18	0	1043	0	1043	1664
05:00 PM	0	0	0	0	0	97	82	179	0	0	11	11	0	301	0	301	491
05:15 PM	0	0	0	0	0	87	66	153	0	0	3	3	0	319	0	319	475
05:30 PM	0	0	0	0	0	78	59	137	0	0	5	5	0	306	0	306	448
05:45 PM	0	0	0	0	0	93	73	166	0	0	1	1	0	373	0	373	540
Total	0	0	0	0	0	355	280	635	0	0	20	20	0	1299	0	1299	1954
Grand Total	0	0	0	0	0	702	536	1238	0	0	38	38	0	2342	0	2342	3618
Apprch %	0	0	0		0	56.7	43.3		0	0	100		0	100	0		
Total %	0	0	0	0	0	19.4	14.8	34.2	0	0	1.1	1.1	0	64.7	0	64.7	
Passenger Vehicles	0	0	0	0	0	677	523	1200	0	0	31	31	0	2295	0	2295	3526
% Passenger Vehicles	0	0	0	0	0	96.4	97.6	96.9	0	0	81.6	81.6	0	98	0	98	97.5
Large 2 Axle Vehicles	0	0	0	0	0	17	6	23	0	0	1	1	0	26	0	26	50
% Large 2 Axle Vehicles	0	0	0	0	0	2.4	1.1	1.9	0	0	2.6	2.6	0	1.1	0	1.1	1.4
3 Axle Vehicles	0	0	0	0	0	2	0	2	0	0	3	3	0	4	0	4	9
% 3 Axle Vehicles	0	0	0	0	0	0.3	0	0.2	0	0	7.9	7.9	0	0.2	0	0.2	0.2
4+ Axle Trucks	0	0	0	0	0	6	7	13	0	0	3	3	0	17	0	17	33
% 4+ Axle Trucks	0	0	0	0	0	0.9	1.3	1.1	0	0	7.9	7.9	0	0.7	0	0.7	0.9

Start Time	I-605 Northbound On Ramp Southbound				Arrow Highway Westbound				Live Oak Lane Northbound				Arrow Highway 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 05:00 PM																	
05:00 PM	0	0	0	0	0	97	82	179	0	0	11	11	0	301	0	301	491
05:15 PM	0	0	0	0	0	87	66	153	0	0	3	3	0	319	0	319	475
05:30 PM	0	0	0	0	0	78	59	137	0	0	5	5	0	306	0	306	448
05:45 PM	0	0	0	0	0	93	73	166	0	0	1	1	0	373	0	373	540
Total Volume	0	0	0	0	0	355	280	635	0	0	20	20	0	1299	0	1299	1954
% App. Total	0	0	0	0	0	55.9	44.1		0	0	100		0	100	0		
PHF	.000	.000	.000	.000	.000	.915	.854	.887	.000	.000	.455	.455	.000	.871	.000	.871	.905

City of Irwindale
 N/S: I-605 NB On Ramp/Live Oak Lane
 E/W: Arrow Highway
 Weather: Clear

File Name : 12_IRW_LO Ln_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
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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:

	04:00 PM				04:30 PM				04:30 PM				05:00 PM			
+0 mins.	0	0	0	0	0	96	65	161	0	0	8	8	0	301	0	301
+15 mins.	0	0	0	0	0	95	73	168	0	0	6	6	0	319	0	319
+30 mins.	0	0	0	0	0	97	82	179	0	0	11	11	0	306	0	306
+45 mins.	0	0	0	0	0	87	66	153	0	0	3	3	0	373	0	373
Total Volume	0	0	0	0	0	375	286	661	0	0	28	28	0	1299	0	1299
% App. Total	0	0	0	0	0	56.7	43.3		0	0	100		0	100	0	
PHF	.000	.000	.000	.000	.000	.966	.872	.923	.000	.000	.636	.636	.000	.871	.000	.871

City of Irwindale
 N/S: I-605 NB On Ramp/Live Oak Lane
 E/W: Arrow Highway
 Weather: Clear

File Name : 12_IRW_LO Ln_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Passenger Vehicles

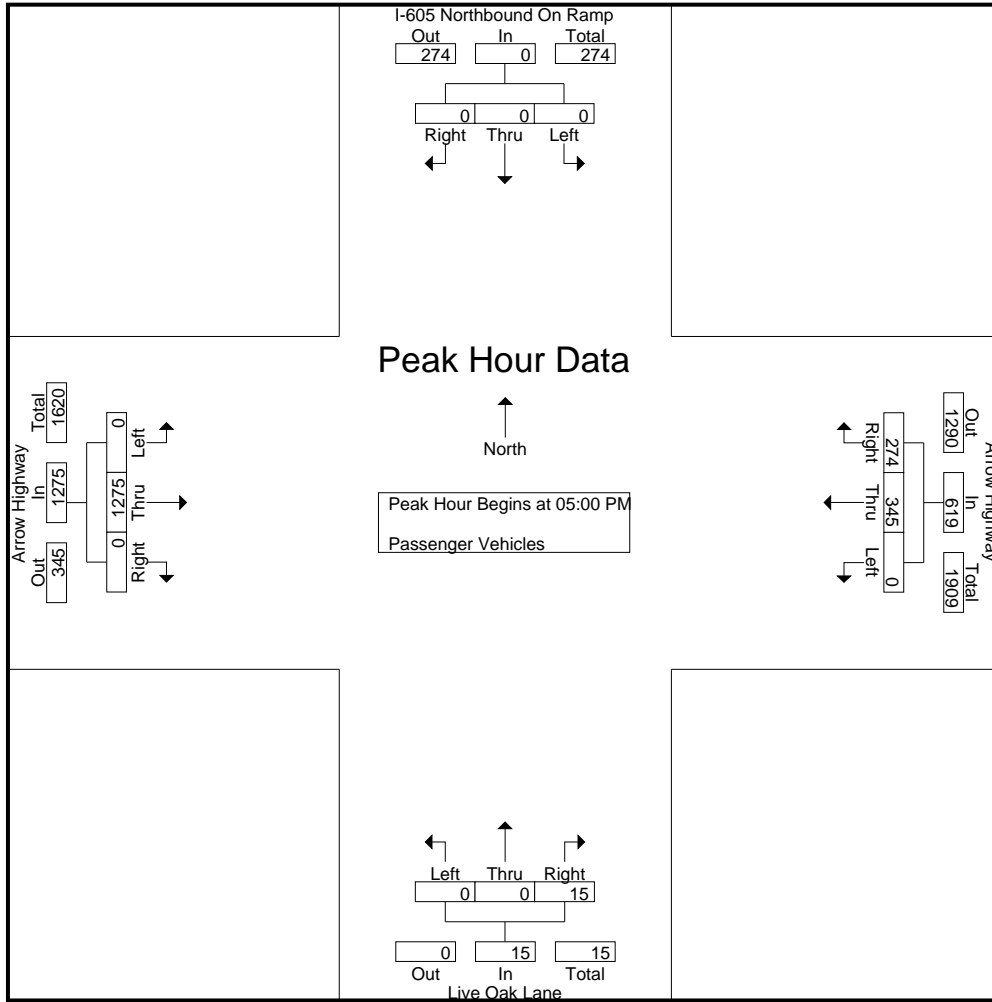
Start Time	I-605 Northbound On Ramp Southbound				Arrow Highway Westbound				Live Oak Lane Northbound				Arrow Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	74	50	124	0	0	3	3	0	266	0	266	393
04:15 PM	0	0	0	0	0	77	62	139	0	0	1	1	0	228	0	228	368
04:30 PM	0	0	0	0	0	91	65	156	0	0	7	7	0	244	0	244	407
04:45 PM	0	0	0	0	0	90	72	162	0	0	5	5	0	282	0	282	449
Total	0	0	0	0	0	332	249	581	0	0	16	16	0	1020	0	1020	1617
05:00 PM	0	0	0	0	0	94	81	175	0	0	11	11	0	296	0	296	482
05:15 PM	0	0	0	0	0	85	64	149	0	0	1	1	0	315	0	315	465
05:30 PM	0	0	0	0	0	75	57	132	0	0	3	3	0	299	0	299	434
05:45 PM	0	0	0	0	0	91	72	163	0	0	0	0	0	365	0	365	528
Total	0	0	0	0	0	345	274	619	0	0	15	15	0	1275	0	1275	1909
Grand Total	0	0	0	0	0	677	523	1200	0	0	31	31	0	2295	0	2295	3526
Apprch %	0	0	0	0	0	56.4	43.6		0	0	100		0	100	0		
Total %	0	0	0	0	0	19.2	14.8	34	0	0	0.9	0.9	0	65.1	0	65.1	

Start Time	I-605 Northbound On Ramp Southbound				Arrow Highway Westbound				Live Oak Lane Northbound				Arrow Highway 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	0	0	0	0	94	81	175	0	0	11	11	0	296	0	296	482
05:15 PM	0	0	0	0	0	85	64	149	0	0	1	1	0	315	0	315	465
05:30 PM	0	0	0	0	0	75	57	132	0	0	3	3	0	299	0	299	434
05:45 PM	0	0	0	0	0	91	72	163	0	0	0	0	0	365	0	365	528
Total Volume	0	0	0	0	0	345	274	619	0	0	15	15	0	1275	0	1275	1909
% App. Total	0	0	0	0	0	55.7	44.3		0	0	100		0	100	0		
PHF	.000	.000	.000	.000	.000	.918	.846	.884	.000	.000	.341	.341	.000	.873	.000	.873	.904

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

City of Irwindale
 N/S: I-605 NB On Ramp/Live Oak Lane
 E/W: Arrow Highway
 Weather: Clear

File Name : 12_IRW_LO Ln_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



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

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	0	0	0	94	81	175	0	0	11	11	0	296	0	296
+15 mins.	0	0	0	0	0	85	64	149	0	0	1	1	0	315	0	315
+30 mins.	0	0	0	0	0	75	57	132	0	0	3	3	0	299	0	299
+45 mins.	0	0	0	0	0	91	72	163	0	0	0	0	0	365	0	365
Total Volume	0	0	0	0	0	345	274	619	0	0	15	15	0	1275	0	1275
% App. Total	0	0	0	0	0	55.7	44.3		0	0	100		0	100	0	
PHF	.000	.000	.000	.000	.000	.918	.846	.884	.000	.000	.341	.341	.000	.873	.000	.873

City of Irwindale
 N/S: I-605 NB On Ramp/Live Oak Lane
 E/W: Arrow Highway
 Weather: Clear

File Name : 12_IRW_LO Ln_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

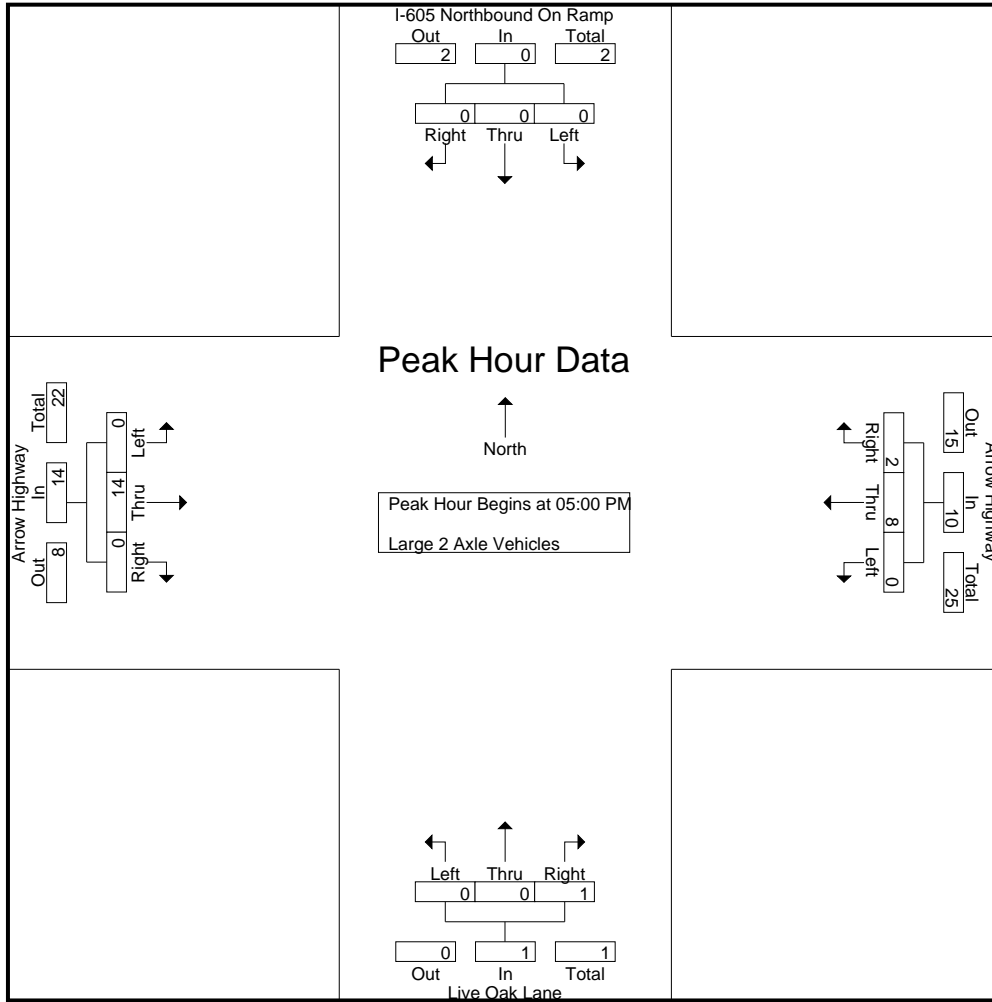
Start Time	I-605 Northbound On Ramp Southbound				Arrow Highway Westbound				Live Oak Lane Northbound				Arrow Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	3	1	4	0	0	0	0	0	3	0	3	7
04:15 PM	0	0	0	0	0	0	3	3	0	0	0	0	0	4	0	4	7
04:30 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	2	0	2	5
04:45 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	3	0	3	6
Total	0	0	0	0	0	9	4	13	0	0	0	0	0	12	0	12	25
05:00 PM	0	0	0	0	0	1	1	2	0	0	0	0	0	4	0	4	6
05:15 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	4
05:30 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	3	0	3	6
05:45 PM	0	0	0	0	0	2	1	3	0	0	1	1	0	5	0	5	9
Total	0	0	0	0	0	8	2	10	0	0	1	1	0	14	0	14	25
Grand Total	0	0	0	0	0	17	6	23	0	0	1	1	0	26	0	26	50
Apprch %	0	0	0		0	73.9	26.1		0	0	100		0	100	0		
Total %	0	0	0		0	34	12	46	0	0	2	2	0	52	0	52	

Start Time	I-605 Northbound On Ramp Southbound				Arrow Highway Westbound				Live Oak Lane Northbound				Arrow Highway 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	0	0	0	0	1	1	2	0	0	0	0	0	4	0	4	6
05:15 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	4
05:30 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	3	0	3	6
05:45 PM	0	0	0	0	0	2	1	3	0	0	1	1	0	5	0	5	9
Total Volume	0	0	0	0	0	8	2	10	0	0	1	1	0	14	0	14	25
% App. Total	0	0	0		0	80	20		0	0	100		0	100	0		
PHF	.000	.000	.000	.000	.000	.667	.500	.833	.000	.000	.250	.250	.000	.700	.000	.700	.694

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

City of Irwindale
 N/S: I-605 NB On Ramp/Live Oak Lane
 E/W: Arrow Highway
 Weather: Clear

File Name : 12_IRW_LO Ln_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
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Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	0	0	0	1	1	2	0	0	0	0	0	4	0	4
+15 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2
+30 mins.	0	0	0	0	0	3	0	3	0	0	0	0	0	3	0	3
+45 mins.	0	0	0	0	0	2	1	3	0	0	1	1	0	5	0	5
Total Volume	0	0	0	0	0	8	2	10	0	0	1	1	0	14	0	14
% App. Total	0	0	0	0	0	80	20		0	0	100		0	100	0	
PHF	.000	.000	.000	.000	.000	.667	.500	.833	.000	.000	.250	.250	.000	.700	.000	.700

City of Irwindale
 N/S: I-605 NB On Ramp/Live Oak Lane
 E/W: Arrow Highway
 Weather: Clear

File Name : 12_IRW_LO Ln_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 3 Axle Vehicles

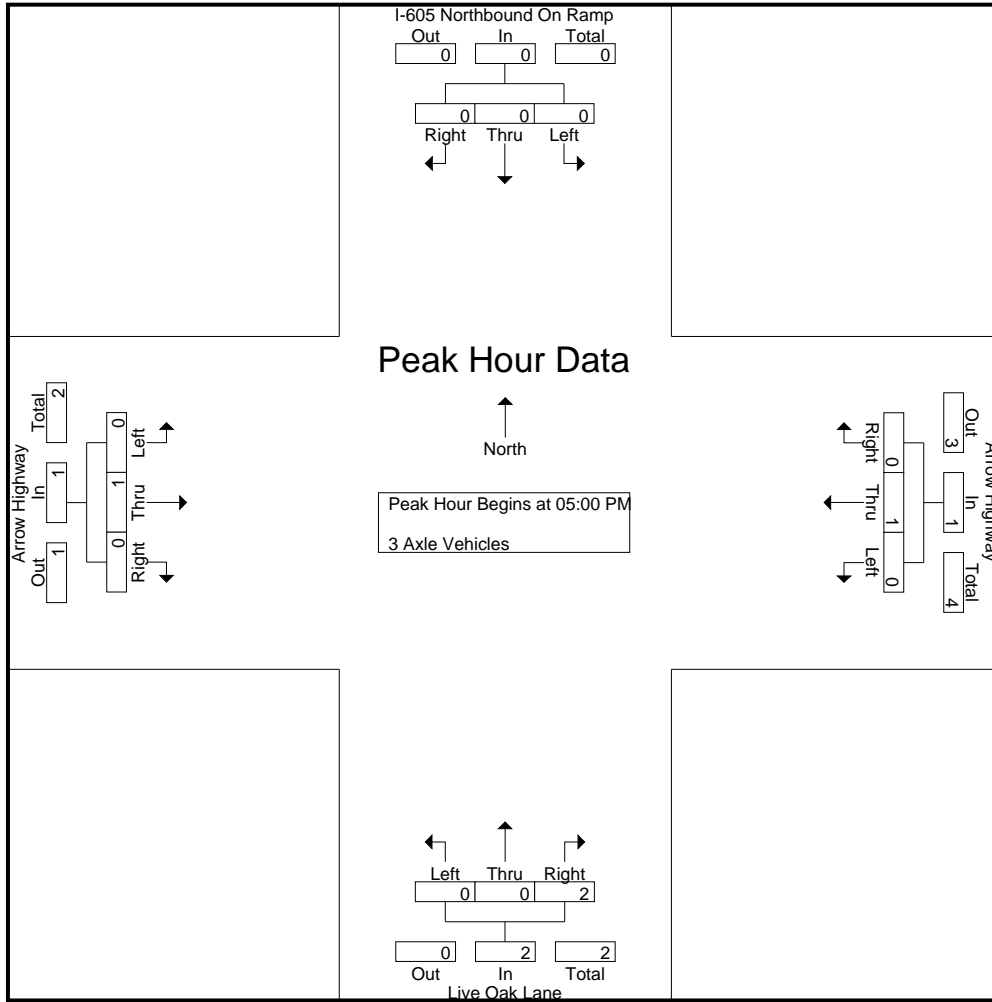
Start Time	I-605 Northbound On Ramp Southbound				Arrow Highway Westbound				Live Oak Lane Northbound				Arrow Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	3
Total	0	0	0	0	0	1	0	1	0	0	1	1	0	3	0	3	5
05:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	1	0	1	0	0	2	2	0	1	0	1	4
Grand Total	0	0	0	0	0	2	0	2	0	0	3	3	0	4	0	4	9
Apprch %	0	0	0	0	0	100	0	0	0	0	100	0	0	100	0	0	0
Total %	0	0	0	0	0	22.2	0	22.2	0	0	33.3	33.3	0	44.4	0	44.4	0

Start Time	I-605 Northbound On Ramp Southbound				Arrow Highway Westbound				Live Oak Lane Northbound				Arrow Highway 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	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total Volume	0	0	0	0	0	1	0	1	0	0	2	2	0	1	0	1	4
% App. Total	0	0	0	0	0	100	0	0	0	0	100	0	0	100	0	0	0
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.250	.250	.000	.250	.000	.250	.500

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

City of Irwindale
 N/S: I-605 NB On Ramp/Live Oak Lane
 E/W: Arrow Highway
 Weather: Clear

File Name : 12_IRW_LO Ln_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



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

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Total Volume	0	0	0	0	0	1	0	1	0	0	2	2	0	1	0	1
% App. Total	0	0	0	0	0	100	0	0	0	0	100	0	0	100	0	0
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.250	.250	.000	.250	.000	.250

City of Irwindale
 N/S: I-605 NB On Ramp/Live Oak Lane
 E/W: Arrow Highway
 Weather: Clear

File Name : 12_IRW_LO Ln_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 4+ Axle Trucks

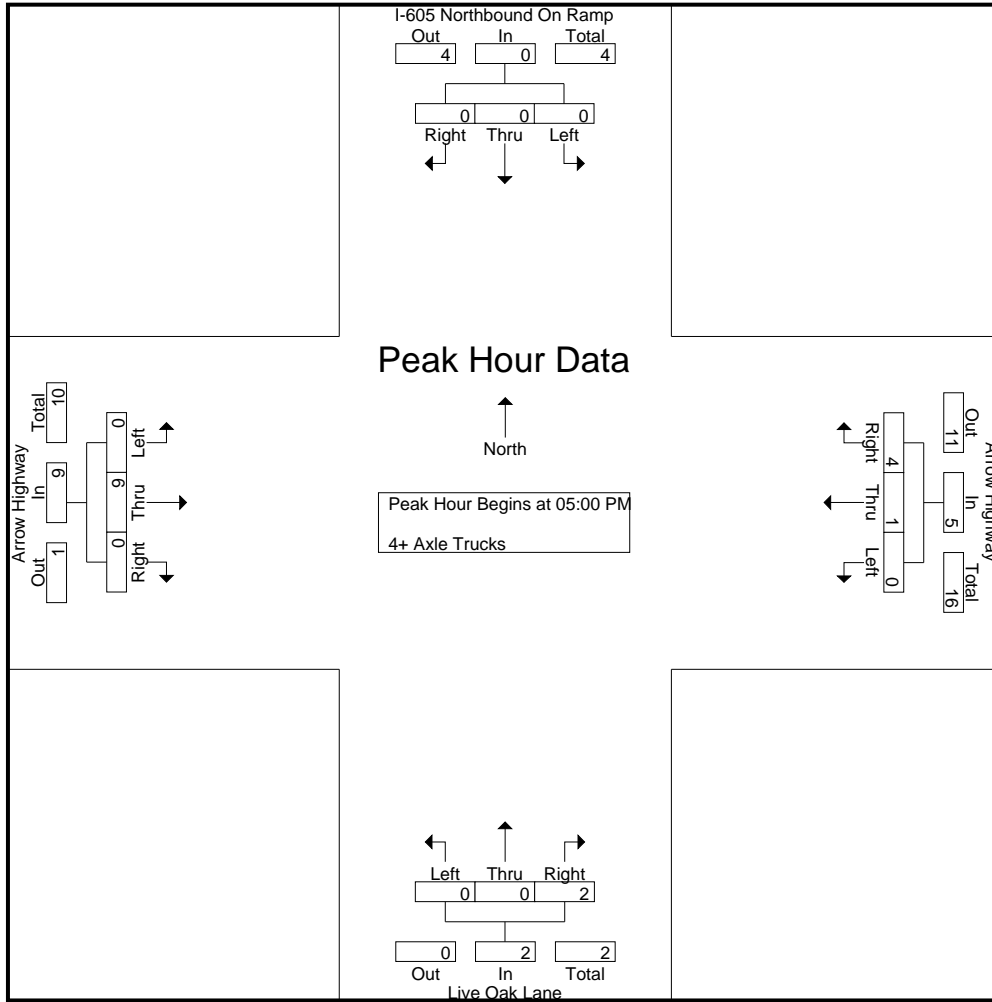
Start Time	I-605 Northbound On Ramp Southbound				Arrow Highway Westbound				Live Oak Lane Northbound				Arrow Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	2
04:15 PM	0	0	0	0	0	1	1	2	0	0	0	0	0	2	0	2	4
04:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	4
04:45 PM	0	0	0	0	0	1	1	2	0	0	1	1	0	4	0	4	7
Total	0	0	0	0	0	5	3	8	0	0	1	1	0	8	0	8	17
05:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
05:15 PM	0	0	0	0	0	0	2	2	0	0	2	2	0	2	0	2	6
05:30 PM	0	0	0	0	0	0	2	2	0	0	0	0	0	4	0	4	6
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
Total	0	0	0	0	0	1	4	5	0	0	2	2	0	9	0	9	16
Grand Total	0	0	0	0	0	6	7	13	0	0	3	3	0	17	0	17	33
Apprch %	0	0	0	0	0	46.2	53.8		0	0	100		0	100	0		
Total %	0	0	0	0	0	18.2	21.2	39.4	0	0	9.1	9.1	0	51.5	0	51.5	

Start Time	I-605 Northbound On Ramp Southbound				Arrow Highway Westbound				Live Oak Lane Northbound				Arrow Highway 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	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
05:15 PM	0	0	0	0	0	0	2	2	0	0	2	2	0	2	0	2	6
05:30 PM	0	0	0	0	0	0	2	2	0	0	0	0	0	4	0	4	6
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
Total Volume	0	0	0	0	0	1	4	5	0	0	2	2	0	9	0	9	16
% App. Total	0	0	0	0	0	20	80		0	0	100		0	100	0		
PHF	.000	.000	.000	.000	.000	.250	.500	.625	.000	.000	.250	.250	.000	.563	.000	.563	.667

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

City of Irwindale
 N/S: I-605 NB On Ramp/Live Oak Lane
 E/W: Arrow Highway
 Weather: Clear

File Name : 12_IRW_LO Ln_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



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

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1
+15 mins.	0	0	0	0	0	0	2	2	0	0	2	2	0	2	0	2
+30 mins.	0	0	0	0	0	0	2	2	0	0	0	0	0	4	0	4
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
Total Volume	0	0	0	0	0	1	4	5	0	0	2	2	0	9	0	9
% App. Total	0	0	0	0	0	20	80		0	0	100		0	100	0	
PHF	.000	.000	.000	.000	.000	.250	.500	.625	.000	.000	.250	.250	.000	.563	.000	.563

City of Irwindale
 N/S: San Gabriel River Trail
 E/W: Arrow Highway
 Weather: Clear

File Name : 13_IRW_SGRT_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

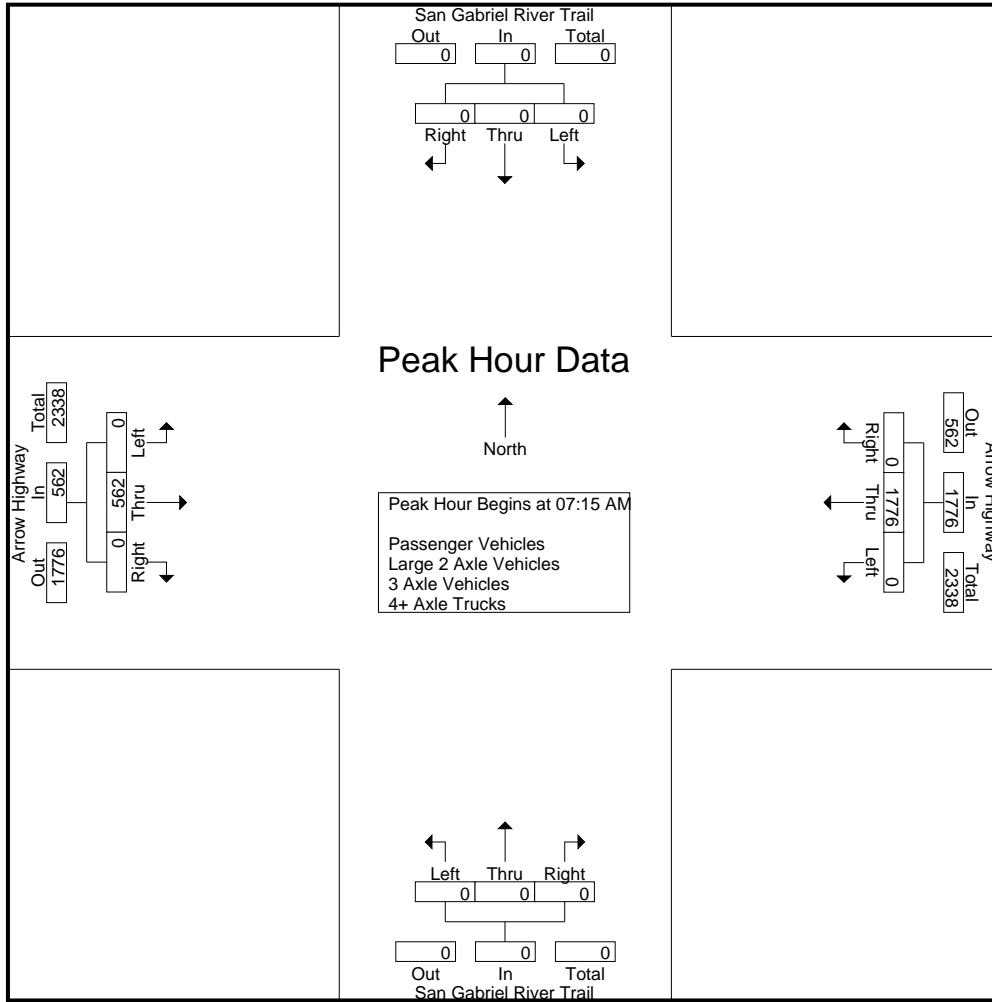
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	San Gabriel River Trail Southbound				Arrow Highway Westbound				San Gabriel River Trail Northbound				Arrow Highway 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	0	0	0	0	417	0	417	0	0	0	0	0	96	0	96	513
07:15 AM	0	0	0	0	0	482	0	482	0	0	0	0	0	126	0	126	608
07:30 AM	0	0	0	0	0	511	0	511	0	0	0	0	0	123	0	123	634
07:45 AM	0	0	0	0	0	399	0	399	0	0	0	0	0	164	0	164	563
Total	0	0	0	0	0	1809	0	1809	0	0	0	0	0	509	0	509	2318
08:00 AM	0	0	0	0	0	384	0	384	0	0	0	0	0	149	0	149	533
08:15 AM	0	0	0	0	1	373	0	374	0	0	0	0	0	153	1	154	528
08:30 AM	0	0	0	0	0	310	0	310	0	0	0	0	0	139	0	139	449
08:45 AM	0	0	0	0	0	308	0	308	0	0	0	0	0	136	0	136	444
Total	0	0	0	0	1	1375	0	1376	0	0	0	0	0	577	1	578	1954
Grand Total	0	0	0	0	1	3184	0	3185	0	0	0	0	0	1086	1	1087	4272
Apprch %	0	0	0		0	100	0		0	0	0		0	99.9	0.1		
Total %	0	0	0		0	74.5	0	74.6	0	0	0		0	25.4	0	25.4	
Passenger Vehicles	0	0	0	0	1	2983	0	2984	0	0	0	0	0	912	1	913	3897
% Passenger Vehicles	0	0	0	0	100	93.7	0	93.7	0	0	0	0	0	84	100	84	91.2
Large 2 Axle Vehicles	0	0	0	0	0	42	0	42	0	0	0	0	0	29	0	29	71
% Large 2 Axle Vehicles	0	0	0	0	0	1.3	0	1.3	0	0	0	0	0	2.7	0	2.7	1.7
3 Axle Vehicles	0	0	0	0	0	17	0	17	0	0	0	0	0	8	0	8	25
% 3 Axle Vehicles	0	0	0	0	0	0.5	0	0.5	0	0	0	0	0	0.7	0	0.7	0.6
4+ Axle Trucks	0	0	0	0	0	142	0	142	0	0	0	0	0	137	0	137	279
% 4+ Axle Trucks	0	0	0	0	0	4.5	0	4.5	0	0	0	0	0	12.6	0	12.6	6.5

Start Time	San Gabriel River Trail Southbound				Arrow Highway Westbound				San Gabriel River Trail Northbound				Arrow Highway 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	0	482	0	482	0	0	0	0	0	126	0	126	608
07:30 AM	0	0	0	0	0	511	0	511	0	0	0	0	0	123	0	123	634
07:45 AM	0	0	0	0	0	399	0	399	0	0	0	0	0	164	0	164	563
08:00 AM	0	0	0	0	0	384	0	384	0	0	0	0	0	149	0	149	533
Total Volume	0	0	0	0	0	1776	0	1776	0	0	0	0	0	562	0	562	2338
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.869	.000	.869	.000	.000	.000	.000	.000	.857	.000	.857	.922

City of Irwindale
 N/S: San Gabriel River Trail
 E/W: Arrow Highway
 Weather: Clear

File Name : 13_IRW_SGRT_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 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				07:00 AM				07:00 AM				07:45 AM			
+0 mins.	0	0	0	0	0	417	0	417	0	0	0	0	0	164	0	164
+15 mins.	0	0	0	0	0	482	0	482	0	0	0	0	0	149	0	149
+30 mins.	0	0	0	0	0	511	0	511	0	0	0	0	0	153	1	154
+45 mins.	0	0	0	0	0	399	0	399	0	0	0	0	0	139	0	139
Total Volume	0	0	0	0	0	1809	0	1809	0	0	0	0	0	605	1	606
% App. Total	0	0	0	0	0	100	0	100	0	0	0	0	0	99.8	0.2	100
PHF	.000	.000	.000	.000	.000	.885	.000	.885	.000	.000	.000	.000	.000	.922	.250	.924

City of Irwindale
 N/S: San Gabriel River Trail
 E/W: Arrow Highway
 Weather: Clear

File Name : 13_IRW_SGRT_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Passenger Vehicles

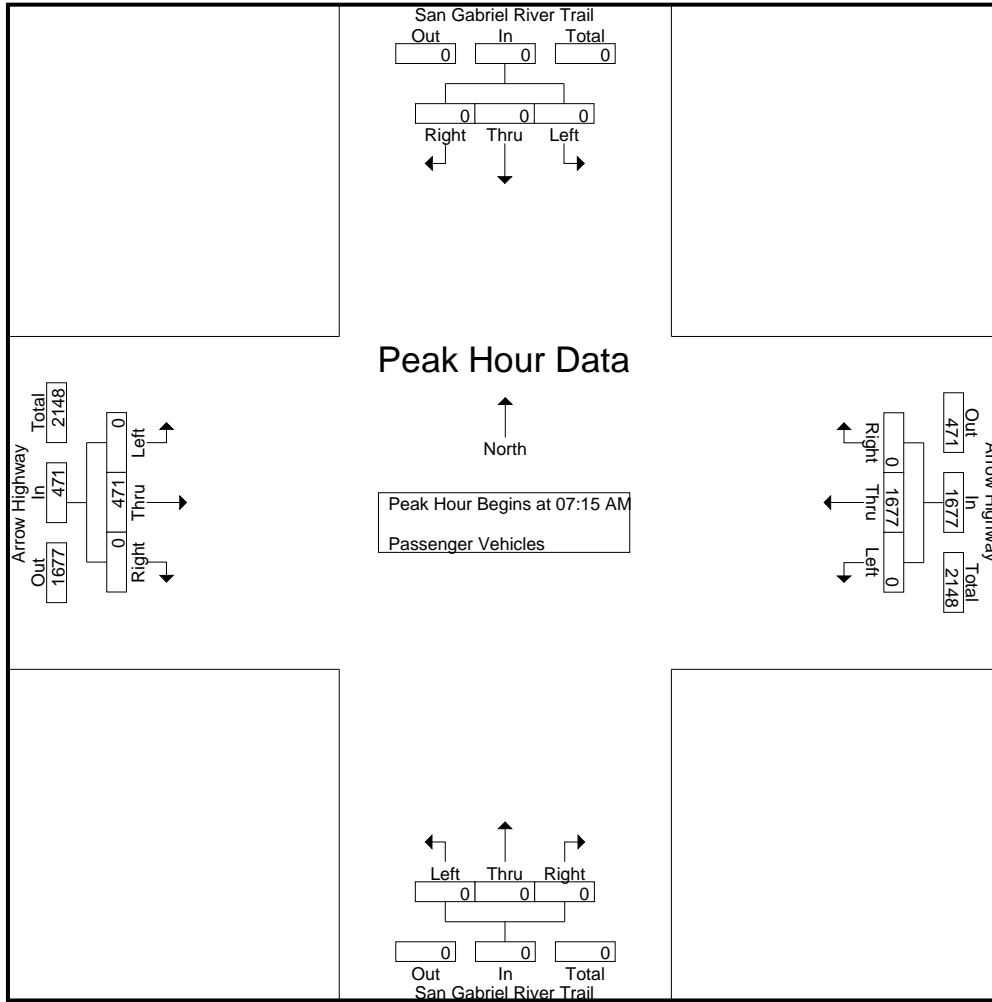
Start Time	San Gabriel River Trail Southbound				Arrow Highway Westbound				San Gabriel River Trail Northbound				Arrow Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	401	0	401	0	0	0	0	0	83	0	83	484
07:15 AM	0	0	0	0	0	450	0	450	0	0	0	0	0	100	0	100	550
07:30 AM	0	0	0	0	0	486	0	486	0	0	0	0	0	103	0	103	589
07:45 AM	0	0	0	0	0	376	0	376	0	0	0	0	0	138	0	138	514
Total	0	0	0	0	0	1713	0	1713	0	0	0	0	0	424	0	424	2137
08:00 AM	0	0	0	0	0	365	0	365	0	0	0	0	0	130	0	130	495
08:15 AM	0	0	0	0	1	345	0	346	0	0	0	0	0	127	1	128	474
08:30 AM	0	0	0	0	0	284	0	284	0	0	0	0	0	117	0	117	401
08:45 AM	0	0	0	0	0	276	0	276	0	0	0	0	0	114	0	114	390
Total	0	0	0	0	1	1270	0	1271	0	0	0	0	0	488	1	489	1760
Grand Total	0	0	0	0	1	2983	0	2984	0	0	0	0	0	912	1	913	3897
Apprch %	0	0	0	0	0	100	0		0	0	0	0	0	99.9	0.1		
Total %	0	0	0	0	0	76.5	0	76.6	0	0	0	0	0	23.4	0	23.4	

Start Time	San Gabriel River Trail Southbound				Arrow Highway Westbound				San Gabriel River Trail Northbound				Arrow Highway 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	0	0	0	0	450	0	450	0	0	0	0	0	100	0	100	550
07:30 AM	0	0	0	0	0	486	0	486	0	0	0	0	0	103	0	103	589
07:45 AM	0	0	0	0	0	376	0	376	0	0	0	0	0	138	0	138	514
08:00 AM	0	0	0	0	0	365	0	365	0	0	0	0	0	130	0	130	495
Total Volume	0	0	0	0	0	1677	0	1677	0	0	0	0	0	471	0	471	2148
% App. Total	0	0	0	0	0	100	0		0	0	0	0	0	100	0		
PHF	.000	.000	.000	.000	.000	.863	.000	.863	.000	.000	.000	.000	.000	.853	.000	.853	.912

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

City of Irwindale
 N/S: San Gabriel River Trail
 E/W: Arrow Highway
 Weather: Clear

File Name : 13_IRW_SGRT_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	0	0	0	0	450	0	450	0	0	0	0	0	100	0	100
+15 mins.	0	0	0	0	0	486	0	486	0	0	0	0	0	103	0	103
+30 mins.	0	0	0	0	0	376	0	376	0	0	0	0	0	138	0	138
+45 mins.	0	0	0	0	0	365	0	365	0	0	0	0	0	130	0	130
Total Volume	0	0	0	0	0	1677	0	1677	0	0	0	0	0	471	0	471
% App. Total	0	0	0	0	0	100	0	100	0	0	0	0	0	100	0	100
PHF	.000	.000	.000	.000	.000	.863	.000	.863	.000	.000	.000	.000	.000	.853	.000	.853

City of Irwindale
 N/S: San Gabriel River Trail
 E/W: Arrow Highway
 Weather: Clear

File Name : 13_IRW_SGRT_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

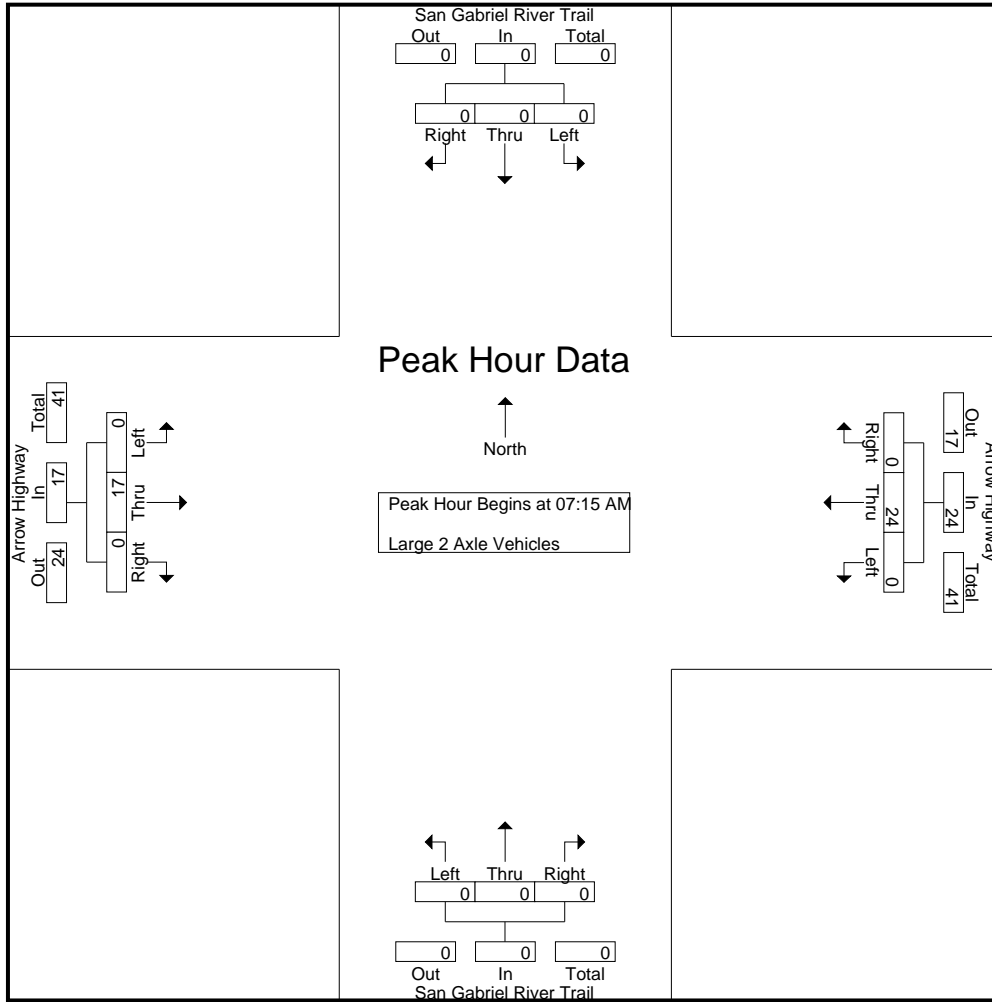
Start Time	San Gabriel River Trail Southbound				Arrow Highway Westbound				San Gabriel River Trail Northbound				Arrow Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	6	0	6	0	0	0	0	0	5	0	5	11
07:15 AM	0	0	0	0	0	10	0	10	0	0	0	0	0	3	0	3	13
07:30 AM	0	0	0	0	0	6	0	6	0	0	0	0	0	6	0	6	12
07:45 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	3	0	3	6
Total	0	0	0	0	0	25	0	25	0	0	0	0	0	17	0	17	42
08:00 AM	0	0	0	0	0	5	0	5	0	0	0	0	0	5	0	5	10
08:15 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	3	0	3	6
08:30 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	4	0	4	7
08:45 AM	0	0	0	0	0	6	0	6	0	0	0	0	0	0	0	0	6
Total	0	0	0	0	0	17	0	17	0	0	0	0	0	12	0	12	29
Grand Total	0	0	0	0	0	42	0	42	0	0	0	0	0	29	0	29	71
Apprch %	0	0	0	0	0	100	0	0	0	0	0	0	0	100	0	0	
Total %	0	0	0	0	0	59.2	0	59.2	0	0	0	0	0	40.8	0	40.8	

Start Time	San Gabriel River Trail Southbound				Arrow Highway Westbound				San Gabriel River Trail Northbound				Arrow Highway 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	0	0	0	0	10	0	10	0	0	0	0	0	3	0	3	13
07:30 AM	0	0	0	0	0	6	0	6	0	0	0	0	0	6	0	6	12
07:45 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	3	0	3	6
08:00 AM	0	0	0	0	0	5	0	5	0	0	0	0	0	5	0	5	10
Total Volume	0	0	0	0	0	24	0	24	0	0	0	0	0	17	0	17	41
% App. Total	0	0	0	0	0	100	0	0	0	0	0	0	0	100	0	0	
PHF	.000	.000	.000	.000	.000	.600	.000	.600	.000	.000	.000	.000	.000	.708	.000	.708	.788

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

City of Irwindale
 N/S: San Gabriel River Trail
 E/W: Arrow Highway
 Weather: Clear

File Name : 13_IRW_SGRT_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	0	0	0	0	10	0	10	0	0	0	0	0	3	0	3
+15 mins.	0	0	0	0	0	6	0	6	0	0	0	0	0	6	0	6
+30 mins.	0	0	0	0	0	3	0	3	0	0	0	0	0	3	0	3
+45 mins.	0	0	0	0	0	5	0	5	0	0	0	0	0	5	0	5
Total Volume	0	0	0	0	0	24	0	24	0	0	0	0	0	17	0	17
% App. Total	0	0	0	0	0	100	0	100	0	0	0	0	0	100	0	100
PHF	.000	.000	.000	.000	.000	.600	.000	.600	.000	.000	.000	.000	.000	.708	.000	.708

City of Irwindale
 N/S: San Gabriel River Trail
 E/W: Arrow Highway
 Weather: Clear

File Name : 13_IRW_SGRT_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 3 Axle Vehicles

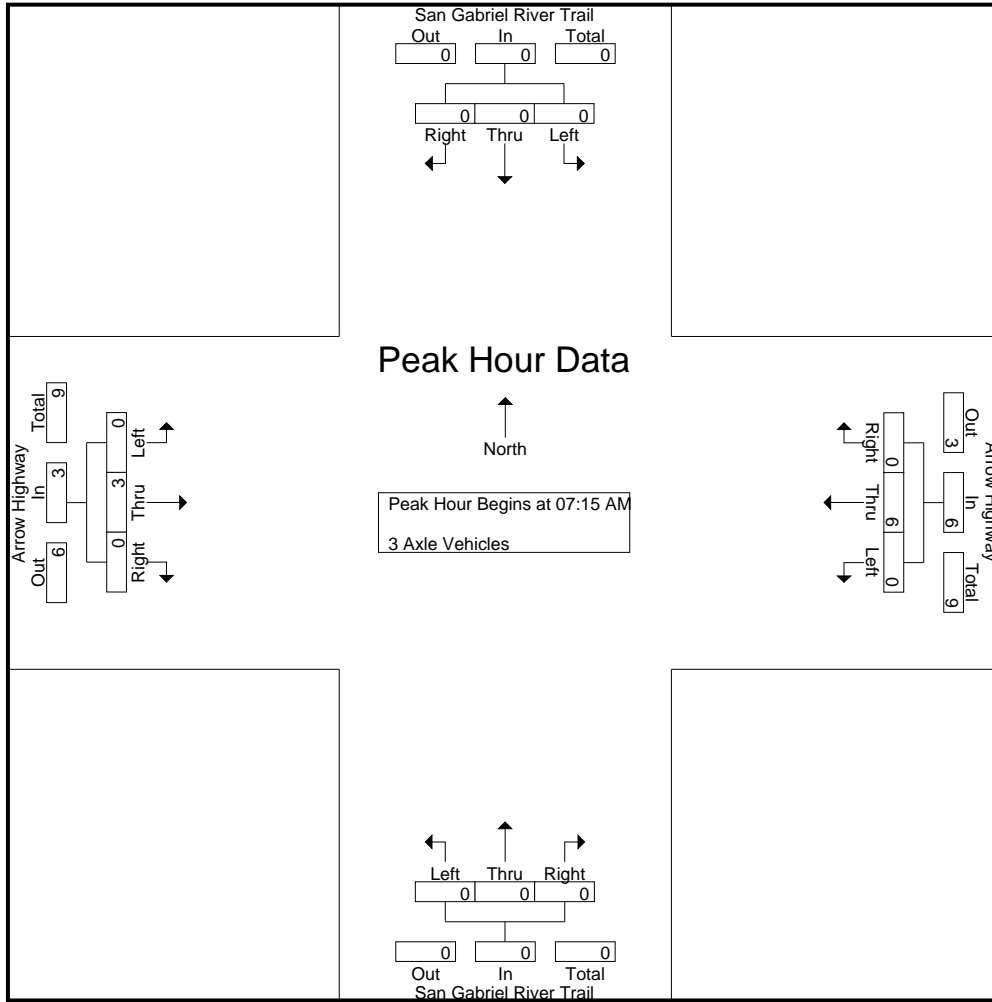
Start Time	San Gabriel River Trail Southbound				Arrow Highway Westbound				San Gabriel River Trail Northbound				Arrow Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	6	0	6	0	0	0	0	0	1	0	1	7
07:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
07:30 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
07:45 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
Total	0	0	0	0	0	11	0	11	0	0	0	0	0	4	0	4	15
08:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
08:15 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	1	0	1	4
08:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	3	0	3	4
Total	0	0	0	0	0	6	0	6	0	0	0	0	0	4	0	4	10
Grand Total	0	0	0	0	0	17	0	17	0	0	0	0	0	8	0	8	25
Apprch %	0	0	0	0	0	100	0	68	0	0	0	0	0	100	0	32	
Total %	0	0	0	0	0	68	0	68	0	0	0	0	0	32	0	32	

Start Time	San Gabriel River Trail Southbound				Arrow Highway Westbound				San Gabriel River Trail Northbound				Arrow Highway 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	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
07:30 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
07:45 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
08:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	6	0	6	0	0	0	0	0	3	0	3	9
% App. Total	0	0	0	0	0	100	0	75	0	0	0	0	0	100	0	75	
PHF	.000	.000	.000	.000	.000	.750	.000	.750	.000	.000	.000	.000	.000	.750	.000	.750	.750

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

City of Irwindale
 N/S: San Gabriel River Trail
 E/W: Arrow Highway
 Weather: Clear

File Name : 13_IRW_SGRT_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1
+15 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1
+30 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1
+45 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	6	0	6	0	0	0	0	0	3	0	3
% App. Total	0	0	0	0	0	100	0	100	0	0	0	0	0	100	0	100
PHF	.000	.000	.000	.000	.000	.750	.000	.750	.000	.000	.000	.000	.000	.750	.000	.750

City of Irwindale
 N/S: San Gabriel River Trail
 E/W: Arrow Highway
 Weather: Clear

File Name : 13_IRW_SGRT_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

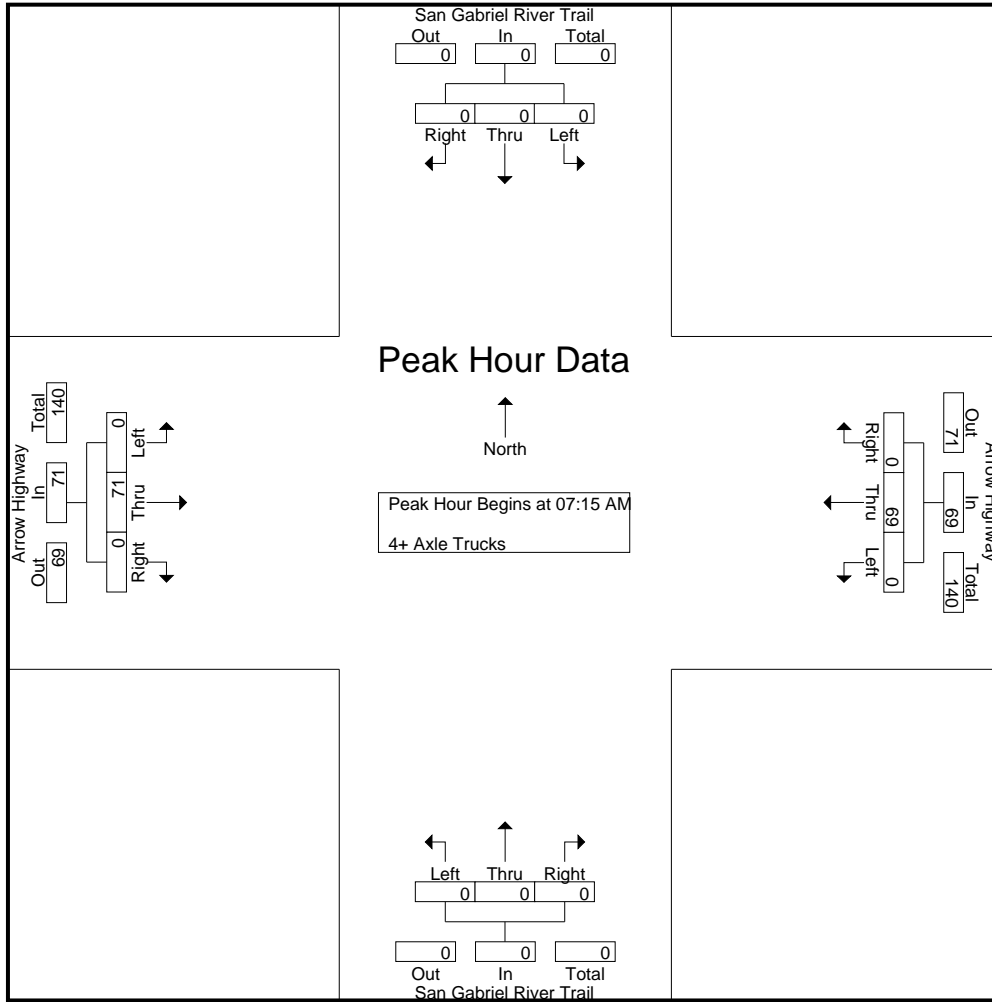
Groups Printed- 4+ Axle Trucks

Start Time	San Gabriel River Trail Southbound				Arrow Highway Westbound				San Gabriel River Trail Northbound				Arrow Highway 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	0	0	0	0	4	0	4	0	0	0	0	0	7	0	7	11
07:15 AM	0	0	0	0	0	21	0	21	0	0	0	0	0	22	0	22	43
07:30 AM	0	0	0	0	0	17	0	17	0	0	0	0	0	13	0	13	30
07:45 AM	0	0	0	0	0	18	0	18	0	0	0	0	0	22	0	22	40
Total	0	0	0	0	0	60	0	60	0	0	0	0	0	64	0	64	124
08:00 AM	0	0	0	0	0	13	0	13	0	0	0	0	0	14	0	14	27
08:15 AM	0	0	0	0	0	22	0	22	0	0	0	0	0	22	0	22	44
08:30 AM	0	0	0	0	0	22	0	22	0	0	0	0	0	18	0	18	40
08:45 AM	0	0	0	0	0	25	0	25	0	0	0	0	0	19	0	19	44
Total	0	0	0	0	0	82	0	82	0	0	0	0	0	73	0	73	155
Grand Total	0	0	0	0	0	142	0	142	0	0	0	0	0	137	0	137	279
Apprch %	0	0	0	0	0	100	0	100	0	0	0	0	0	100	0	100	
Total %	0	0	0	0	0	50.9	0	50.9	0	0	0	0	0	49.1	0	49.1	

Start Time	San Gabriel River Trail Southbound				Arrow Highway Westbound				San Gabriel River Trail Northbound				Arrow Highway 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 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	21	0	21	0	0	0	0	0	22	0	22	43
07:30 AM	0	0	0	0	0	17	0	17	0	0	0	0	0	13	0	13	30
07:45 AM	0	0	0	0	0	18	0	18	0	0	0	0	0	22	0	22	40
08:00 AM	0	0	0	0	0	13	0	13	0	0	0	0	0	14	0	14	27
Total Volume	0	0	0	0	0	69	0	69	0	0	0	0	0	71	0	71	140
% App. Total	0	0	0	0	0	100	0	100	0	0	0	0	0	100	0	100	
PHF	.000	.000	.000	.000	.000	.821	.000	.821	.000	.000	.000	.000	.000	.807	.000	.807	.814

City of Irwindale
 N/S: San Gabriel River Trail
 E/W: Arrow Highway
 Weather: Clear

File Name : 13_IRW_SGRT_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	0	0	0	0	21	0	21	0	0	0	0	0	22	0	22
+15 mins.	0	0	0	0	0	17	0	17	0	0	0	0	0	13	0	13
+30 mins.	0	0	0	0	0	18	0	18	0	0	0	0	0	22	0	22
+45 mins.	0	0	0	0	0	13	0	13	0	0	0	0	0	14	0	14
Total Volume	0	0	0	0	0	69	0	69	0	0	0	0	0	71	0	71
% App. Total	0	0	0	0	0	100	0	100	0	0	0	0	0	100	0	100
PHF	.000	.000	.000	.000	.000	.821	.000	.821	.000	.000	.000	.000	.000	.807	.000	.807

City of Irwindale
 N/S: San Gabriel River Trail
 E/W: Arrow Highway
 Weather: Clear

File Name : 13_IRW_SGRT_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

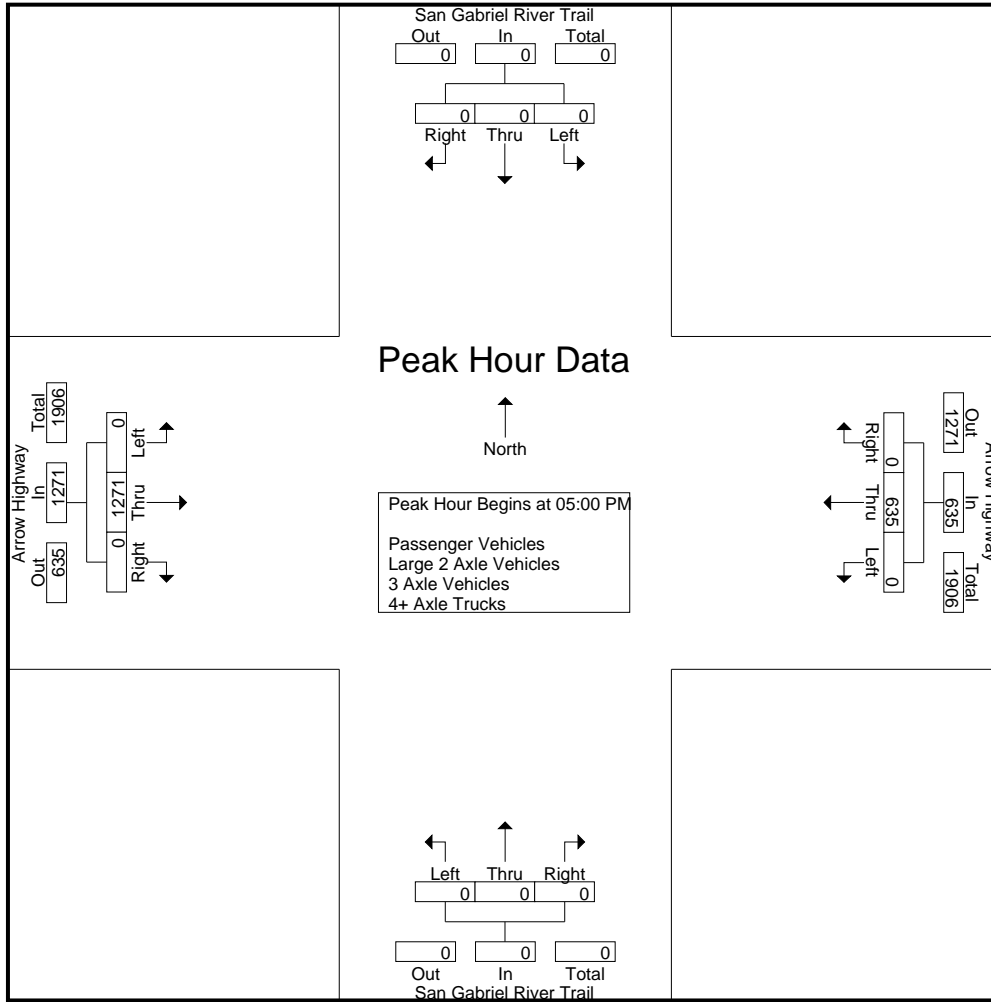
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	San Gabriel River Trail Southbound				Arrow Highway Westbound				San Gabriel River Trail Northbound				Arrow Highway 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	0	0	0	0	137	0	137	0	0	0	0	0	271	0	271	408
04:15 PM	0	0	0	0	0	152	0	152	0	0	0	0	0	242	0	242	394
04:30 PM	0	0	0	0	0	166	0	166	0	0	0	0	0	244	0	244	410
04:45 PM	0	0	0	0	0	169	0	169	0	0	0	0	0	291	0	291	460
Total	0	0	0	0	0	624	0	624	0	0	0	0	0	1048	0	1048	1672
05:00 PM	0	0	0	0	0	185	0	185	0	0	0	0	0	295	0	295	480
05:15 PM	0	0	0	0	0	154	0	154	0	0	0	0	0	317	0	317	471
05:30 PM	0	0	0	0	0	144	0	144	0	0	0	0	0	311	0	311	455
05:45 PM	0	0	0	0	0	152	0	152	0	0	0	0	0	348	0	348	500
Total	0	0	0	0	0	635	0	635	0	0	0	0	0	1271	0	1271	1906
Grand Total	0	0	0	0	0	1259	0	1259	0	0	0	0	0	2319	0	2319	3578
Apprch %	0	0	0	0	0	100	0	100	0	0	0	0	0	100	0	100	
Total %	0	0	0	0	0	35.2	0	35.2	0	0	0	0	0	64.8	0	64.8	
Passenger Vehicles	0	0	0	0	0	1221	0	1221	0	0	0	0	0	2266	0	2266	3487
% Passenger Vehicles	0	0	0	0	0	97	0	97	0	0	0	0	0	97.7	0	97.7	97.5
Large 2 Axle Vehicles	0	0	0	0	0	22	0	22	0	0	0	0	0	32	0	32	54
% Large 2 Axle Vehicles	0	0	0	0	0	1.7	0	1.7	0	0	0	0	0	1.4	0	1.4	1.5
3 Axle Vehicles	0	0	0	0	0	3	0	3	0	0	0	0	0	8	0	8	11
% 3 Axle Vehicles	0	0	0	0	0	0.2	0	0.2	0	0	0	0	0	0.3	0	0.3	0.3
4+ Axle Trucks	0	0	0	0	0	13	0	13	0	0	0	0	0	13	0	13	26
% 4+ Axle Trucks	0	0	0	0	0	1	0	1	0	0	0	0	0	0.6	0	0.6	0.7

Start Time	San Gabriel River Trail Southbound				Arrow Highway Westbound				San Gabriel River Trail Northbound				Arrow Highway 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 05:00 PM																	
05:00 PM	0	0	0	0	0	185	0	185	0	0	0	0	0	295	0	295	480
05:15 PM	0	0	0	0	0	154	0	154	0	0	0	0	0	317	0	317	471
05:30 PM	0	0	0	0	0	144	0	144	0	0	0	0	0	311	0	311	455
05:45 PM	0	0	0	0	0	152	0	152	0	0	0	0	0	348	0	348	500
Total Volume	0	0	0	0	0	635	0	635	0	0	0	0	0	1271	0	1271	1906
% App. Total	0	0	0	0	0	100	0	100	0	0	0	0	0	100	0	100	
PHF	.000	.000	.000	.000	.000	.858	.000	.858	.000	.000	.000	.000	.000	.913	.000	.913	.953

City of Irwindale
 N/S: San Gabriel River Trail
 E/W: Arrow Highway
 Weather: Clear

File Name : 13_IRW_SGRT_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
 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				04:00 PM				05:00 PM			
+0 mins.	0	0	0	0	0	166	0	166	0	0	0	0	0	295	0	295
+15 mins.	0	0	0	0	0	169	0	169	0	0	0	0	0	317	0	317
+30 mins.	0	0	0	0	0	185	0	185	0	0	0	0	0	311	0	311
+45 mins.	0	0	0	0	0	154	0	154	0	0	0	0	0	348	0	348
Total Volume	0	0	0	0	0	674	0	674	0	0	0	0	0	1271	0	1271
% App. Total	0	0	0	0	0	100	0	100	0	0	0	0	0	100	0	100
PHF	.000	.000	.000	.000	.000	.911	.000	.911	.000	.000	.000	.000	.000	.913	.000	.913

City of Irwindale
 N/S: San Gabriel River Trail
 E/W: Arrow Highway
 Weather: Clear

File Name : 13_IRW_SGRT_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Passenger Vehicles

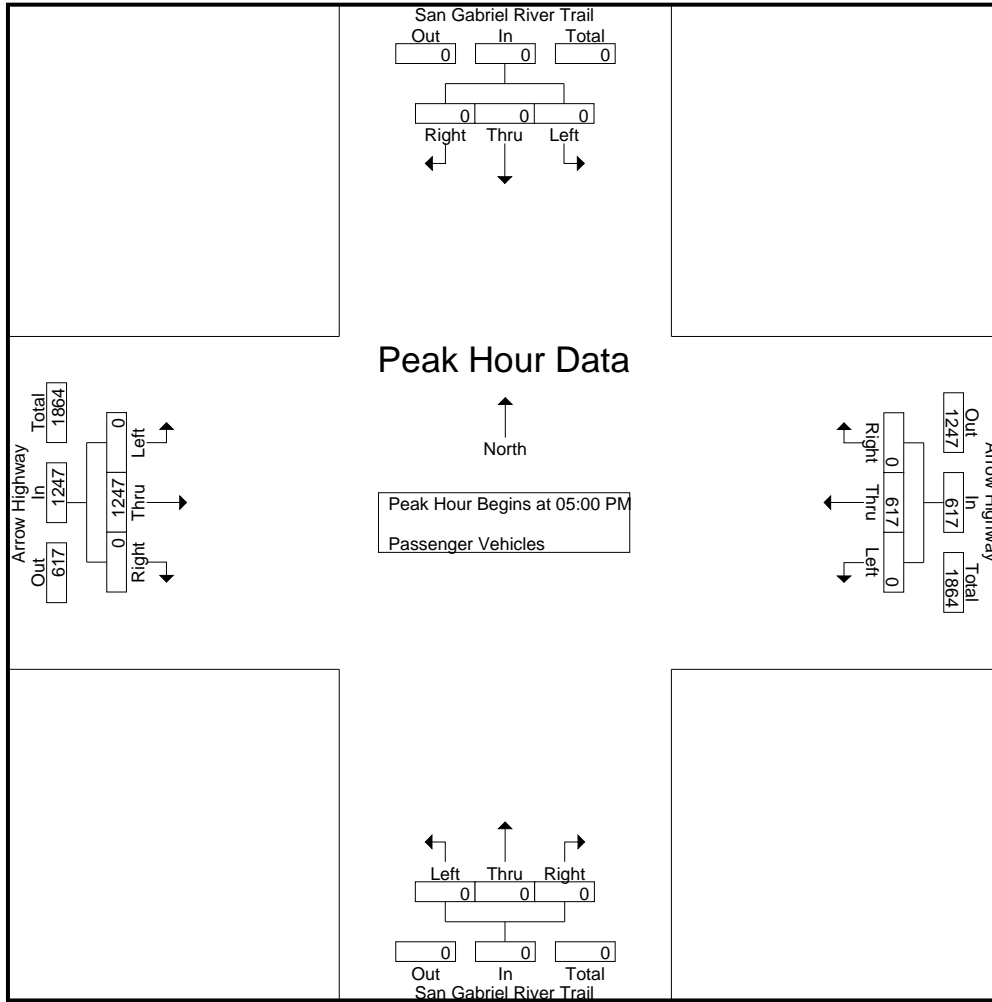
Start Time	San Gabriel River Trail Southbound				Arrow Highway Westbound				San Gabriel River Trail Northbound				Arrow Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	130	0	130	0	0	0	0	0	268	0	268	398
04:15 PM	0	0	0	0	0	147	0	147	0	0	0	0	0	229	0	229	376
04:30 PM	0	0	0	0	0	164	0	164	0	0	0	0	0	239	0	239	403
04:45 PM	0	0	0	0	0	163	0	163	0	0	0	0	0	283	0	283	446
Total	0	0	0	0	0	604	0	604	0	0	0	0	0	1019	0	1019	1623
05:00 PM	0	0	0	0	0	181	0	181	0	0	0	0	0	289	0	289	470
05:15 PM	0	0	0	0	0	148	0	148	0	0	0	0	0	312	0	312	460
05:30 PM	0	0	0	0	0	138	0	138	0	0	0	0	0	306	0	306	444
05:45 PM	0	0	0	0	0	150	0	150	0	0	0	0	0	340	0	340	490
Total	0	0	0	0	0	617	0	617	0	0	0	0	0	1247	0	1247	1864
Grand Total	0	0	0	0	0	1221	0	1221	0	0	0	0	0	2266	0	2266	3487
Apprch %	0	0	0	0	0	100	0	100	0	0	0	0	0	100	0	100	
Total %	0	0	0	0	0	35	0	35	0	0	0	0	0	65	0	65	

Start Time	San Gabriel River Trail Southbound				Arrow Highway Westbound				San Gabriel River Trail Northbound				Arrow Highway 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	0	0	0	0	181	0	181	0	0	0	0	0	289	0	289	470
05:15 PM	0	0	0	0	0	148	0	148	0	0	0	0	0	312	0	312	460
05:30 PM	0	0	0	0	0	138	0	138	0	0	0	0	0	306	0	306	444
05:45 PM	0	0	0	0	0	150	0	150	0	0	0	0	0	340	0	340	490
Total Volume	0	0	0	0	0	617	0	617	0	0	0	0	0	1247	0	1247	1864
% App. Total	0	0	0	0	0	100	0	100	0	0	0	0	0	100	0	100	
PHF	.000	.000	.000	.000	.000	.852	.000	.852	.000	.000	.000	.000	.000	.917	.000	.917	.951

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

City of Irwindale
 N/S: San Gabriel River Trail
 E/W: Arrow Highway
 Weather: Clear

File Name : 13_IRW_SGRT_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



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

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	0	0	0	181	0	181	0	0	0	0	0	289	0	289
+15 mins.	0	0	0	0	0	148	0	148	0	0	0	0	0	312	0	312
+30 mins.	0	0	0	0	0	138	0	138	0	0	0	0	0	306	0	306
+45 mins.	0	0	0	0	0	150	0	150	0	0	0	0	0	340	0	340
Total Volume	0	0	0	0	0	617	0	617	0	0	0	0	0	1247	0	1247
% App. Total	0	0	0	0	0	100	0	100	0	0	0	0	0	100	0	100
PHF	.000	.000	.000	.000	.000	.852	.000	.852	.000	.000	.000	.000	.000	.917	.000	.917

City of Irwindale
 N/S: San Gabriel River Trail
 E/W: Arrow Highway
 Weather: Clear

File Name : 13_IRW_SGRT_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

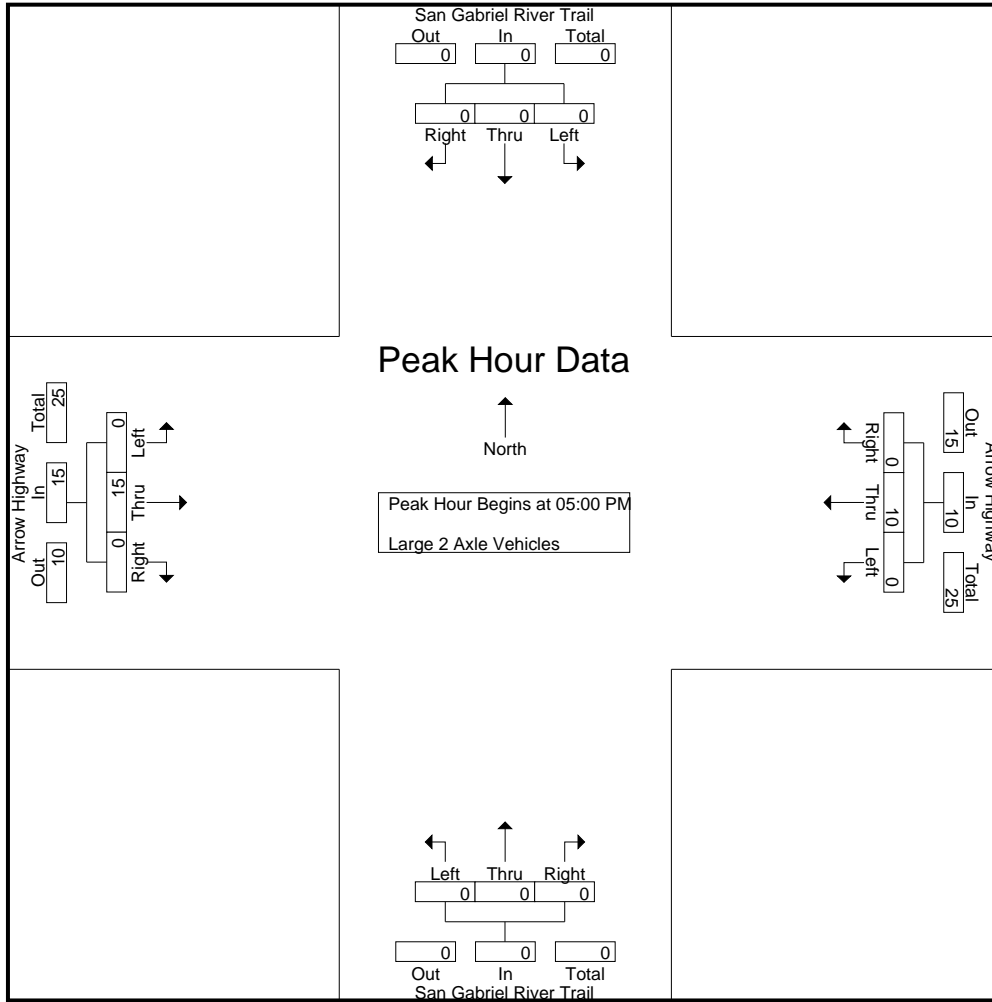
Start Time	San Gabriel River Trail Southbound				Arrow Highway Westbound				San Gabriel River Trail Northbound				Arrow Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	4	0	4	0	0	0	0	0	3	0	3	7
04:15 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	10	0	10	13
04:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	3
04:45 PM	0	0	0	0	0	4	0	4	0	0	0	0	0	2	0	2	6
Total	0	0	0	0	0	12	0	12	0	0	0	0	0	17	0	17	29
05:00 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	6	0	6	8
05:15 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	2	0	2	5
05:30 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	2	0	2	5
05:45 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	5	0	5	7
Total	0	0	0	0	0	10	0	10	0	0	0	0	0	15	0	15	25
Grand Total	0	0	0	0	0	22	0	22	0	0	0	0	0	32	0	32	54
Apprch %	0	0	0	0	0	100	0	0	0	0	0	0	0	100	0	0	
Total %	0	0	0	0	0	40.7	0	40.7	0	0	0	0	0	59.3	0	59.3	

Start Time	San Gabriel River Trail Southbound				Arrow Highway Westbound				San Gabriel River Trail Northbound				Arrow Highway 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	0	0	0	0	2	0	2	0	0	0	0	0	6	0	6	8
05:15 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	2	0	2	5
05:30 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	2	0	2	5
05:45 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	5	0	5	7
Total Volume	0	0	0	0	0	10	0	10	0	0	0	0	0	15	0	15	25
% App. Total	0	0	0	0	0	100	0	0	0	0	0	0	0	100	0	0	
PHF	.000	.000	.000	.000	.000	.833	.000	.833	.000	.000	.000	.000	.000	.625	.000	.625	.781

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

City of Irwindale
 N/S: San Gabriel River Trail
 E/W: Arrow Highway
 Weather: Clear

File Name : 13_IRW_SGRT_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



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

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	6	0	6
+15 mins.	0	0	0	0	0	3	0	3	0	0	0	0	0	2	0	2
+30 mins.	0	0	0	0	0	3	0	3	0	0	0	0	0	2	0	2
+45 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	5	0	5
Total Volume	0	0	0	0	0	10	0	10	0	0	0	0	0	15	0	15
% App. Total	0	0	0	0	0	100	0	100	0	0	0	0	0	100	0	100
PHF	.000	.000	.000	.000	.000	.833	.000	.833	.000	.000	.000	.000	.000	.625	.000	.625

City of Irwindale
 N/S: San Gabriel River Trail
 E/W: Arrow Highway
 Weather: Clear

File Name : 13_IRW_SGRT_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 3 Axle Vehicles

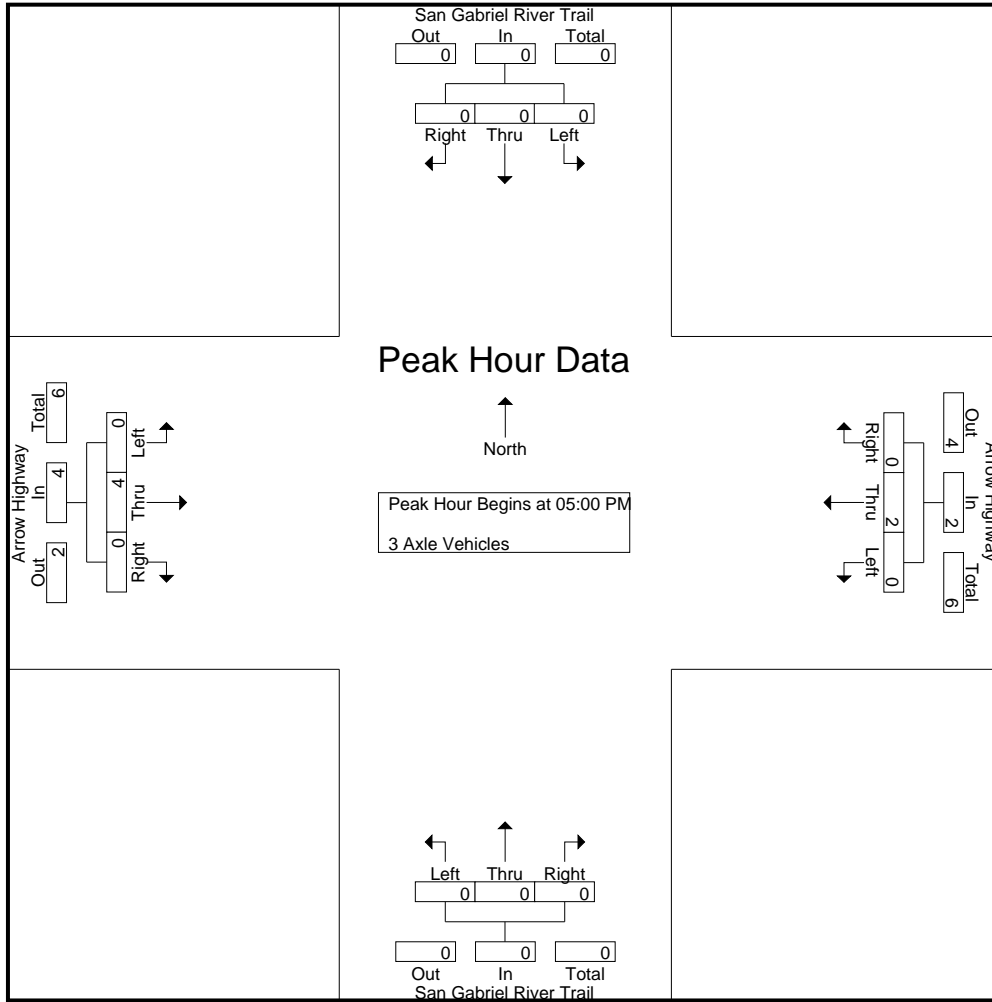
Start Time	San Gabriel River Trail Southbound				Arrow Highway Westbound				San Gabriel River Trail Northbound				Arrow Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	3
Total	0	0	0	0	0	1	0	1	0	0	0	0	0	4	0	4	5
05:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	3
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
Total	0	0	0	0	0	2	0	2	0	0	0	0	0	4	0	4	6
Grand Total	0	0	0	0	0	3	0	3	0	0	0	0	0	8	0	8	11
Apprch %	0	0	0		0	100	0		0	0	0		0	100	0		
Total %	0	0	0		0	27.3	0	27.3	0	0	0		0	72.7	0	72.7	

Start Time	San Gabriel River Trail Southbound				Arrow Highway Westbound				San Gabriel River Trail Northbound				Arrow Highway 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	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	3
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
Total Volume	0	0	0	0	0	2	0	2	0	0	0	0	0	4	0	4	6
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.000	.500	.000	.500	.500

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

City of Irwindale
 N/S: San Gabriel River Trail
 E/W: Arrow Highway
 Weather: Clear

File Name : 13_IRW_SGRT_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



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

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
Total Volume	0	0	0	0	0	2	0	2	0	0	0	0	0	4	0	4
% App. Total	0	0	0	0	0	100	0	0	0	0	0	0	0	100	0	0
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.000	.500	.000	.500

City of Irwindale
 N/S: San Gabriel River Trail
 E/W: Arrow Highway
 Weather: Clear

File Name : 13_IRW_SGRT_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 4+ Axle Trucks

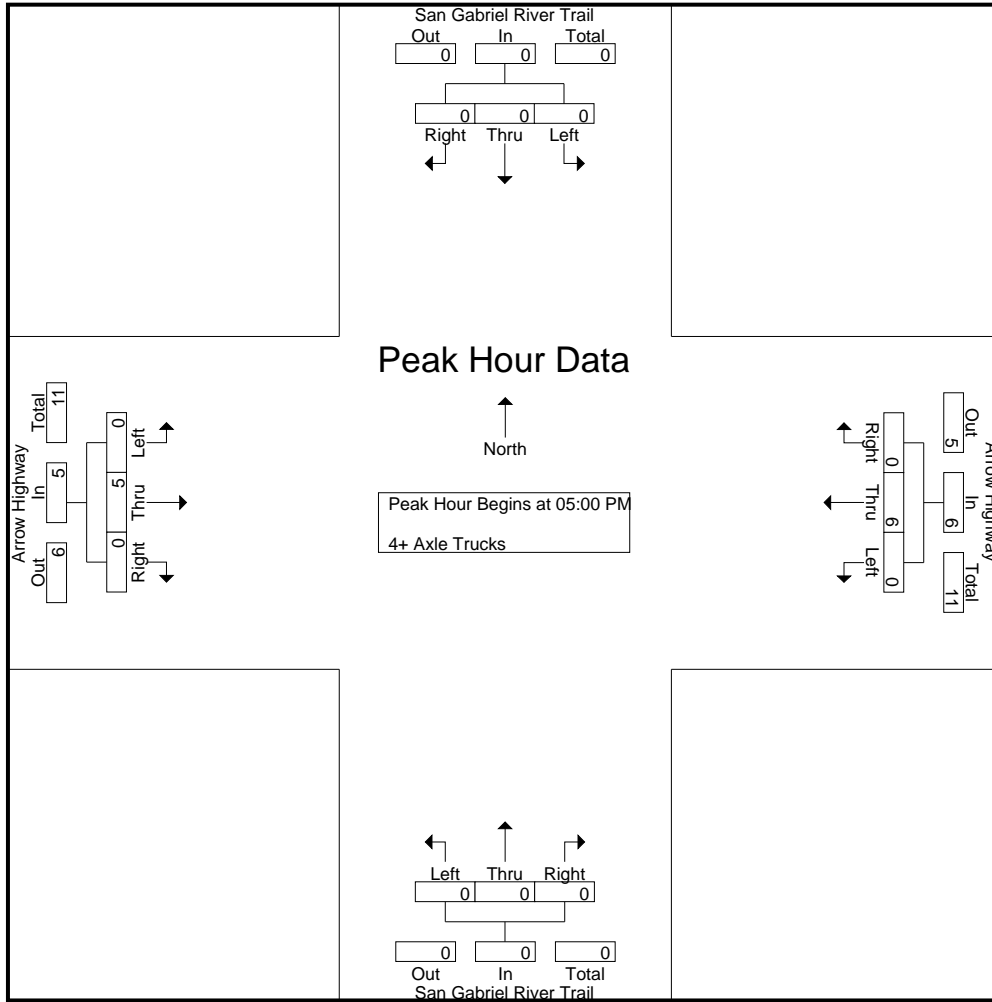
Start Time	San Gabriel River Trail Southbound				Arrow Highway Westbound				San Gabriel River Trail Northbound				Arrow Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	3
04:15 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
04:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	3	0	3	4
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	4	0	4	5
Total	0	0	0	0	0	7	0	7	0	0	0	0	0	8	0	8	15
05:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
05:30 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	3	0	3	6
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	6	0	6	0	0	0	0	0	5	0	5	11
Grand Total	0	0	0	0	0	13	0	13	0	0	0	0	0	13	0	13	26
Apprch %	0	0	0		0	100	0		0	0	0		0	100	0		
Total %	0	0	0		0	50	0		0	0	0		0	50	0		

Start Time	San Gabriel River Trail Southbound				Arrow Highway Westbound				San Gabriel River Trail Northbound				Arrow Highway 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	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
05:30 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	3	0	3	6
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total Volume	0	0	0	0	0	6	0	6	0	0	0	0	0	5	0	5	11
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.000	.417	.000	.417	.458

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

City of Irwindale
 N/S: San Gabriel River Trail
 E/W: Arrow Highway
 Weather: Clear

File Name : 13_IRW_SGRT_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



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

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1
+30 mins.	0	0	0	0	0	3	0	3	0	0	0	0	0	3	0	3
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Total Volume	0	0	0	0	0	6	0	6	0	0	0	0	0	5	0	5
% App. Total	0	0	0	0	0	100	0	100	0	0	0	0	0	100	0	100
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.000	.417	.000	.417

City of Irwindale
 N/S: Rivergrade Road
 E/W: Arrow Highway
 Weather: Clear

File Name : 14_IRW_Riv_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

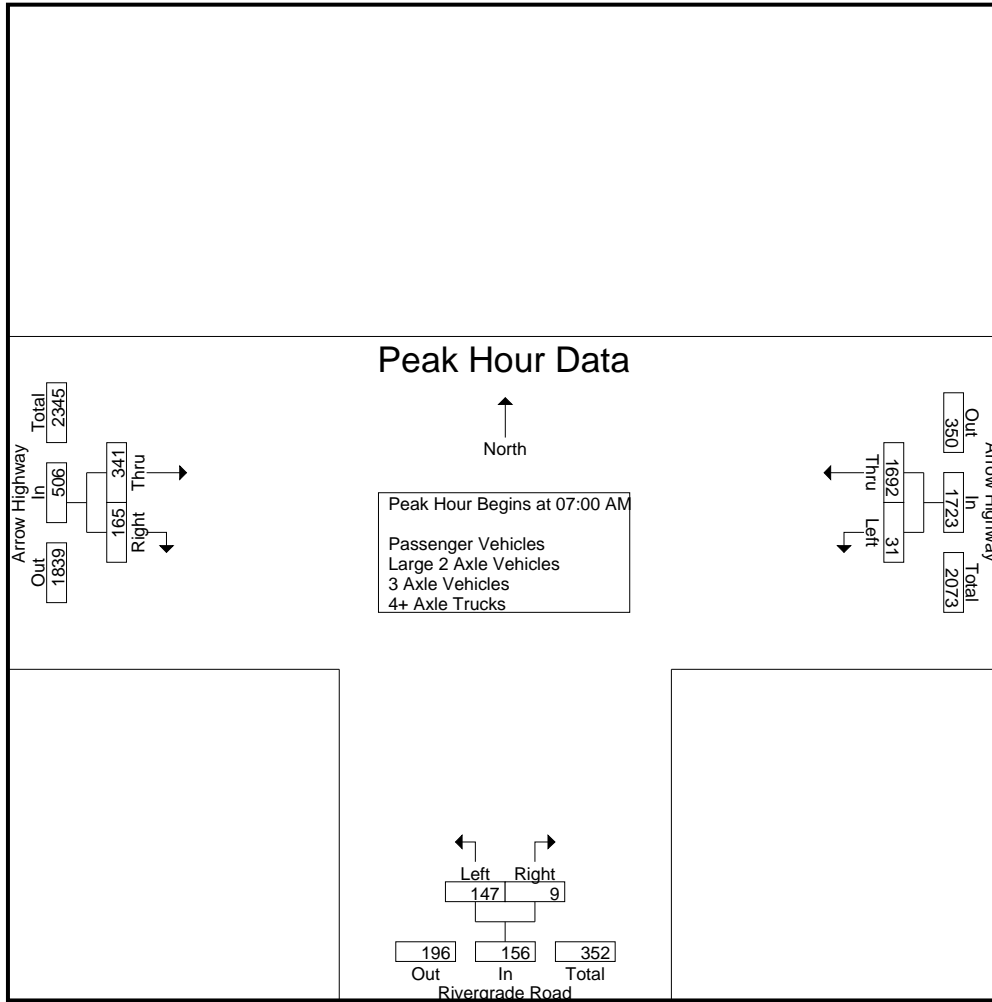
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Arrow Highway Westbound			Rivergrade Road Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	2	397	399	36	3	39	58	33	91	529
07:15 AM	7	447	454	35	1	36	82	42	124	614
07:30 AM	7	472	479	35	3	38	92	35	127	644
07:45 AM	15	376	391	41	2	43	109	55	164	598
Total	31	1692	1723	147	9	156	341	165	506	2385
08:00 AM	3	333	336	39	1	40	107	42	149	525
08:15 AM	9	346	355	26	2	28	93	55	148	531
08:30 AM	1	294	295	29	1	30	101	46	147	472
08:45 AM	0	264	264	31	2	33	105	36	141	438
Total	13	1237	1250	125	6	131	406	179	585	1966
Grand Total	44	2929	2973	272	15	287	747	344	1091	4351
Apprch %	1.5	98.5		94.8	5.2		68.5	31.5		
Total %	1	67.3	68.3	6.3	0.3	6.6	17.2	7.9	25.1	
Passenger Vehicles	41	2771	2812	217	13	230	628	292	920	3962
% Passenger Vehicles	93.2	94.6	94.6	79.8	86.7	80.1	84.1	84.9	84.3	91.1
Large 2 Axle Vehicles	1	37	38	9	1	10	15	14	29	77
% Large 2 Axle Vehicles	2.3	1.3	1.3	3.3	6.7	3.5	2	4.1	2.7	1.8
3 Axle Vehicles	1	13	14	5	0	5	2	4	6	25
% 3 Axle Vehicles	2.3	0.4	0.5	1.8	0	1.7	0.3	1.2	0.5	0.6
4+ Axle Trucks	1	108	109	41	1	42	102	34	136	287
% 4+ Axle Trucks	2.3	3.7	3.7	15.1	6.7	14.6	13.7	9.9	12.5	6.6

Start Time	Arrow Highway Westbound			Rivergrade Road Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	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 07:00 AM										
07:00 AM	2	397	399	36	3	39	58	33	91	529
07:15 AM	7	447	454	35	1	36	82	42	124	614
07:30 AM	7	472	479	35	3	38	92	35	127	644
07:45 AM	15	376	391	41	2	43	109	55	164	598
Total Volume	31	1692	1723	147	9	156	341	165	506	2385
% App. Total	1.8	98.2		94.2	5.8		67.4	32.6		
PHF	.517	.896	.899	.896	.750	.907	.782	.750	.771	.926

City of Irwindale
 N/S: Rivergrade Road
 E/W: Arrow Highway
 Weather: Clear

File Name : 14_IRW_Riv_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 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			07:45 AM		
+0 mins.	2	397	399	35	1	36	109	55	164
+15 mins.	7	447	454	35	3	38	107	42	149
+30 mins.	7	472	479	41	2	43	93	55	148
+45 mins.	15	376	391	39	1	40	101	46	147
Total Volume	31	1692	1723	150	7	157	410	198	608
% App. Total	1.8	98.2		95.5	4.5		67.4	32.6	
PHF	.517	.896	.899	.915	.583	.913	.940	.900	.927

City of Irwindale
 N/S: Rivergrade Road
 E/W: Arrow Highway
 Weather: Clear

File Name : 14_IRW_Riv_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Passenger Vehicles

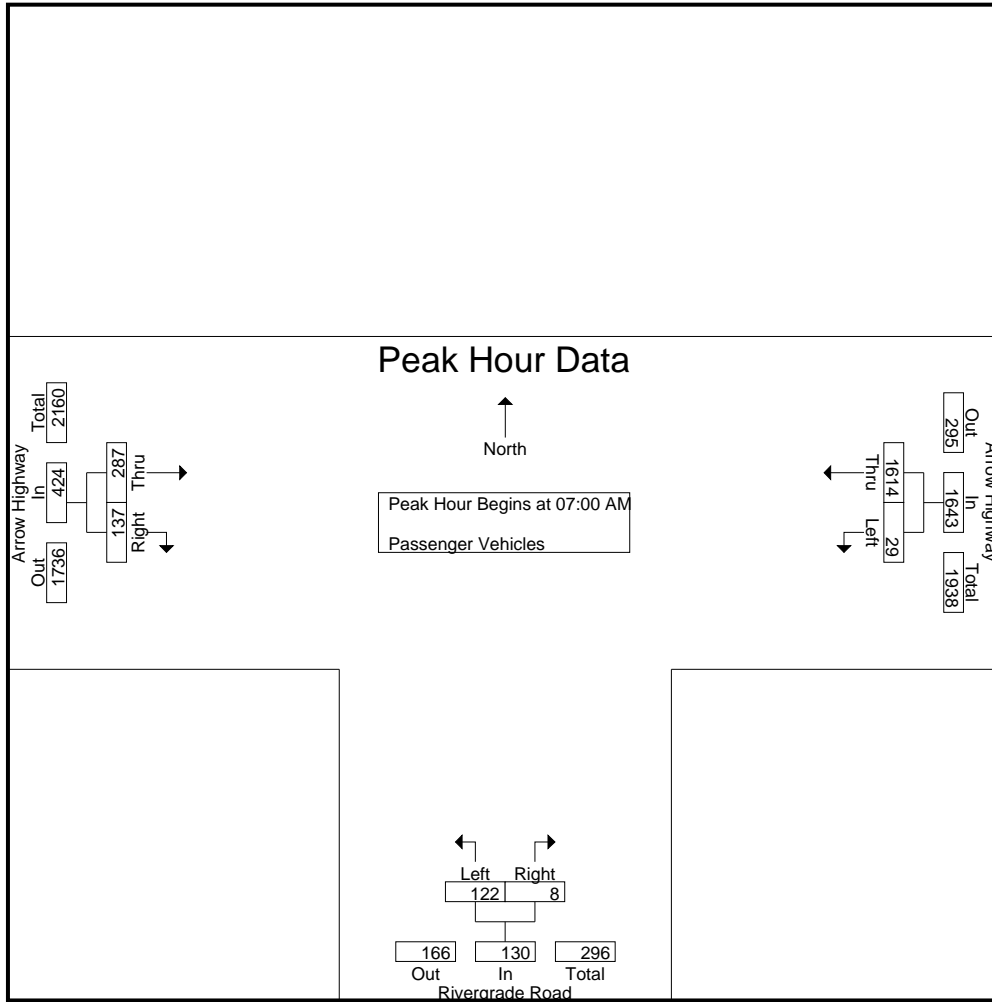
Start Time	Arrow Highway Westbound			Rivergrade Road Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	2	381	383	31	3	34	52	27	79	496
07:15 AM	7	422	429	28	1	29	68	33	101	559
07:30 AM	6	451	457	32	3	35	74	31	105	597
07:45 AM	14	360	374	31	1	32	93	46	139	545
Total	29	1614	1643	122	8	130	287	137	424	2197
08:00 AM	3	320	323	35	1	36	91	38	129	488
08:15 AM	8	322	330	18	2	20	75	49	124	474
08:30 AM	1	275	276	22	0	22	85	39	124	422
08:45 AM	0	240	240	20	2	22	90	29	119	381
Total	12	1157	1169	95	5	100	341	155	496	1765
Grand Total	41	2771	2812	217	13	230	628	292	920	3962
Apprch %	1.5	98.5		94.3	5.7		68.3	31.7		
Total %	1	69.9	71	5.5	0.3	5.8	15.9	7.4	23.2	

Start Time	Arrow Highway Westbound			Rivergrade Road Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	2	381	383	31	3	34	52	27	79	496
07:15 AM	7	422	429	28	1	29	68	33	101	559
07:30 AM	6	451	457	32	3	35	74	31	105	597
07:45 AM	14	360	374	31	1	32	93	46	139	545
Total Volume	29	1614	1643	122	8	130	287	137	424	2197
% App. Total	1.8	98.2		93.8	6.2		67.7	32.3		
PHF	.518	.895	.899	.953	.667	.929	.772	.745	.763	.920

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

City of Irwindale
 N/S: Rivergrade Road
 E/W: Arrow Highway
 Weather: Clear

File Name : 14_IRW_Riv_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



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

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	2	381	383	31	3	34	52	27	79
+15 mins.	7	422	429	28	1	29	68	33	101
+30 mins.	6	451	457	32	3	35	74	31	105
+45 mins.	14	360	374	31	1	32	93	46	139
Total Volume	29	1614	1643	122	8	130	287	137	424
% App. Total	1.8	98.2		93.8	6.2		67.7	32.3	
PHF	.518	.895	.899	.953	.667	.929	.772	.745	.763

City of Irwindale
 N/S: Rivergrade Road
 E/W: Arrow Highway
 Weather: Clear

File Name : 14_IRW_Riv_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

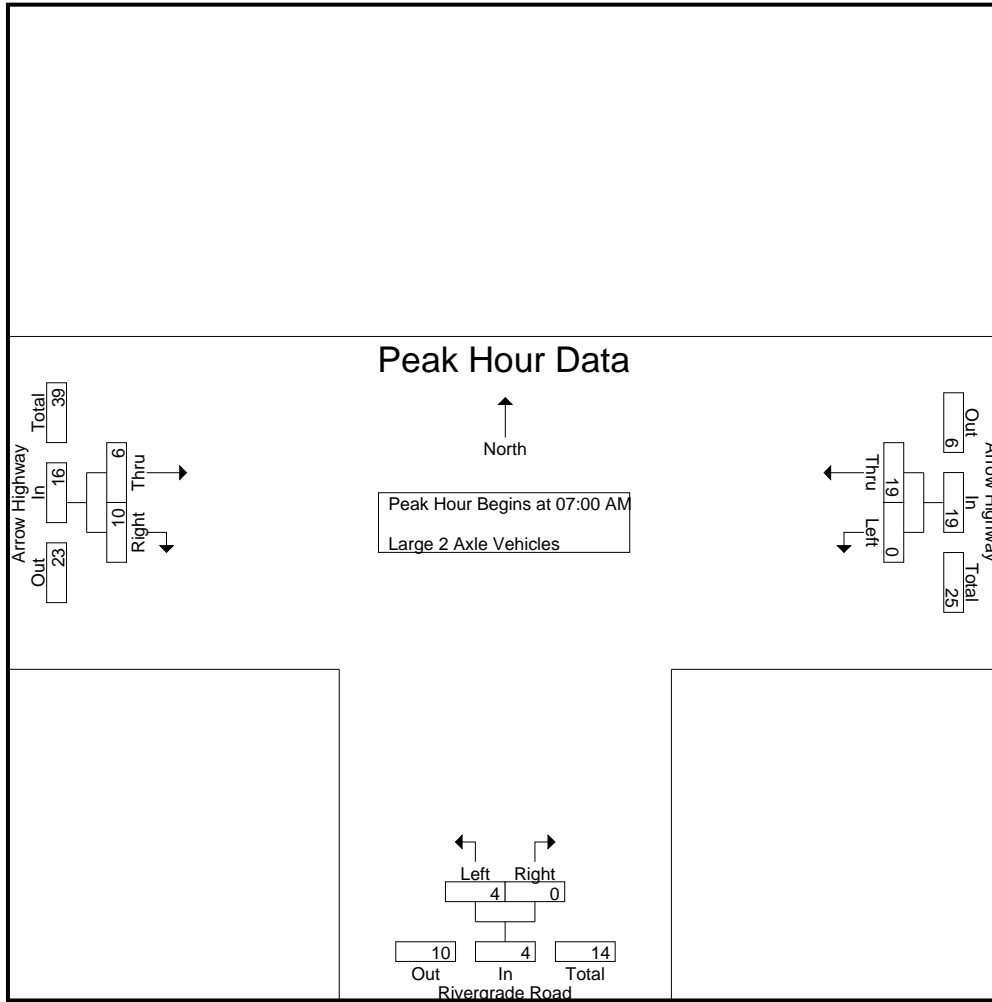
Start Time	Arrow Highway Westbound			Rivergrade Road Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	0	3	3	2	0	2	2	3	5	10
07:15 AM	0	8	8	1	0	1	1	1	2	11
07:30 AM	0	4	4	0	0	0	3	3	6	10
07:45 AM	0	4	4	1	0	1	0	3	3	8
Total	0	19	19	4	0	4	6	10	16	39
08:00 AM	0	4	4	1	0	1	4	1	5	10
08:15 AM	1	5	6	0	0	0	3	1	4	10
08:30 AM	0	4	4	1	1	2	2	2	4	10
08:45 AM	0	5	5	3	0	3	0	0	0	8
Total	1	18	19	5	1	6	9	4	13	38
Grand Total	1	37	38	9	1	10	15	14	29	77
Apprch %	2.6	97.4		90	10		51.7	48.3		
Total %	1.3	48.1	49.4	11.7	1.3	13	19.5	18.2	37.7	

Start Time	Arrow Highway Westbound			Rivergrade Road Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	0	3	3	2	0	2	2	3	5	10
07:15 AM	0	8	8	1	0	1	1	1	2	11
07:30 AM	0	4	4	0	0	0	3	3	6	10
07:45 AM	0	4	4	1	0	1	0	3	3	8
Total Volume	0	19	19	4	0	4	6	10	16	39
% App. Total	0	100		100	0		37.5	62.5		
PHF	.000	.594	.594	.500	.000	.500	.500	.833	.667	.886

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

City of Irwindale
 N/S: Rivergrade Road
 E/W: Arrow Highway
 Weather: Clear

File Name : 14_IRW_Riv_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



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

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	3	3	2	0	2	2	3	5
+15 mins.	0	8	8	1	0	1	1	1	2
+30 mins.	0	4	4	0	0	0	3	3	6
+45 mins.	0	4	4	1	0	1	0	3	3
Total Volume	0	19	19	4	0	4	6	10	16
% App. Total	0	100		100	0		37.5	62.5	
PHF	.000	.594	.594	.500	.000	.500	.500	.833	.667

City of Irwindale
 N/S: Rivergrade Road
 E/W: Arrow Highway
 Weather: Clear

File Name : 14_IRW_Riv_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 3 Axle Vehicles

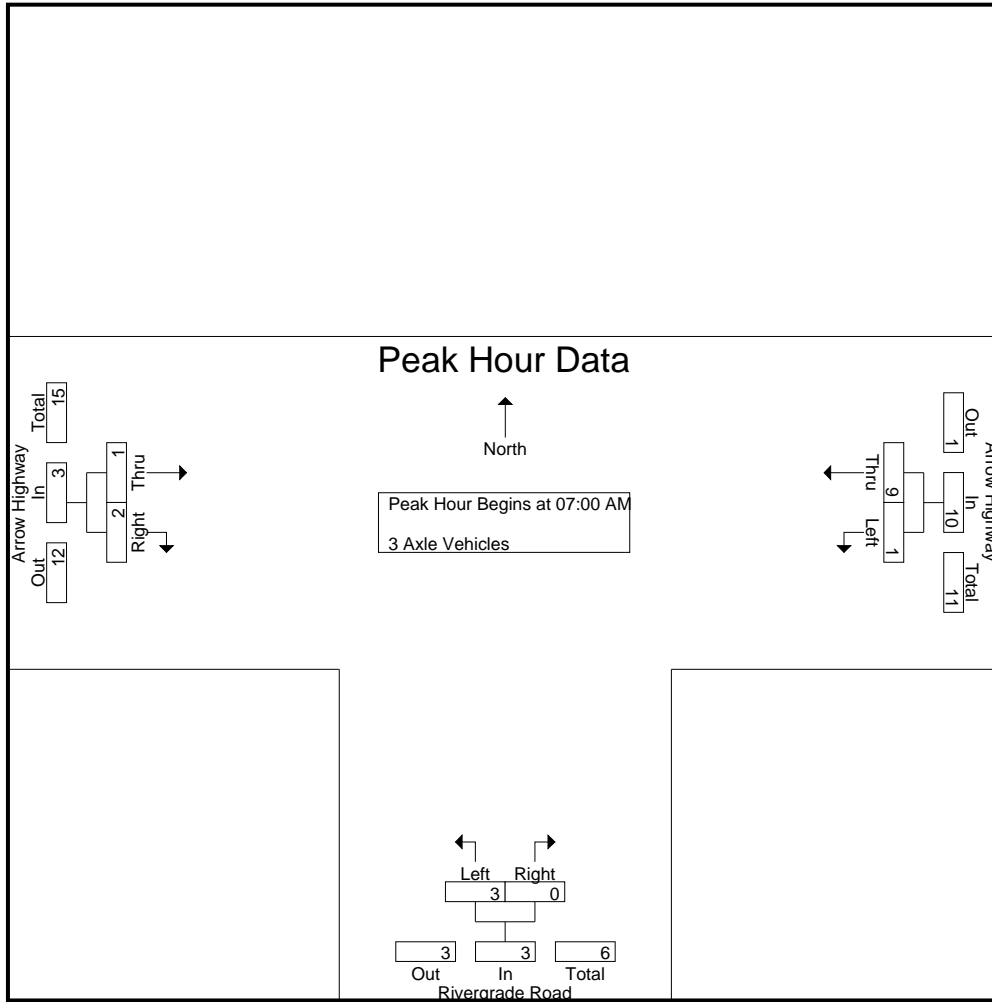
Start Time	Arrow Highway Westbound			Rivergrade Road Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	0	6	6	1	0	1	0	0	0	7
07:15 AM	0	1	1	1	0	1	0	1	1	3
07:30 AM	0	2	2	0	0	0	1	0	1	3
07:45 AM	1	0	1	1	0	1	0	1	1	3
Total	1	9	10	3	0	3	1	2	3	16
08:00 AM	0	1	1	0	0	0	0	0	0	1
08:15 AM	0	2	2	1	0	1	0	0	0	3
08:30 AM	0	0	0	1	0	1	0	0	0	1
08:45 AM	0	1	1	0	0	0	1	2	3	4
Total	0	4	4	2	0	2	1	2	3	9
Grand Total	1	13	14	5	0	5	2	4	6	25
Apprch %	7.1	92.9		100	0		33.3	66.7		
Total %	4	52	56	20	0	20	8	16	24	

Start Time	Arrow Highway Westbound			Rivergrade Road Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	0	6	6	1	0	1	0	0	0	7
07:15 AM	0	1	1	1	0	1	0	1	1	3
07:30 AM	0	2	2	0	0	0	1	0	1	3
07:45 AM	1	0	1	1	0	1	0	1	1	3
Total Volume	1	9	10	3	0	3	1	2	3	16
% App. Total	10	90		100	0		33.3	66.7		
PHF	.250	.375	.417	.750	.000	.750	.250	.500	.750	.571

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

City of Irwindale
 N/S: Rivergrade Road
 E/W: Arrow Highway
 Weather: Clear

File Name : 14_IRW_Riv_Arr AM
 Site Code : 04223184
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Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	6	6	1	0	1	0	0	0
+15 mins.	0	1	1	1	0	1	0	1	1
+30 mins.	0	2	2	0	0	0	1	0	1
+45 mins.	1	0	1	1	0	1	0	1	1
Total Volume	1	9	10	3	0	3	1	2	3
% App. Total	10	90		100	0		33.3	66.7	
PHF	.250	.375	.417	.750	.000	.750	.250	.500	.750

City of Irwindale
 N/S: Rivergrade Road
 E/W: Arrow Highway
 Weather: Clear

File Name : 14_IRW_Riv_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	Arrow Highway Westbound			Rivergrade Road Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	0	7	7	2	0	2	4	3	7	16
07:15 AM	0	16	16	5	0	5	13	7	20	41
07:30 AM	1	15	16	3	0	3	14	1	15	34
07:45 AM	0	12	12	8	1	9	16	5	21	42
Total	1	50	51	18	1	19	47	16	63	133
08:00 AM	0	8	8	3	0	3	12	3	15	26
08:15 AM	0	17	17	7	0	7	15	5	20	44
08:30 AM	0	15	15	5	0	5	14	5	19	39
08:45 AM	0	18	18	8	0	8	14	5	19	45
Total	0	58	58	23	0	23	55	18	73	154
Grand Total	1	108	109	41	1	42	102	34	136	287
Apprch %	0.9	99.1		97.6	2.4		75	25		
Total %	0.3	37.6	38	14.3	0.3	14.6	35.5	11.8	47.4	

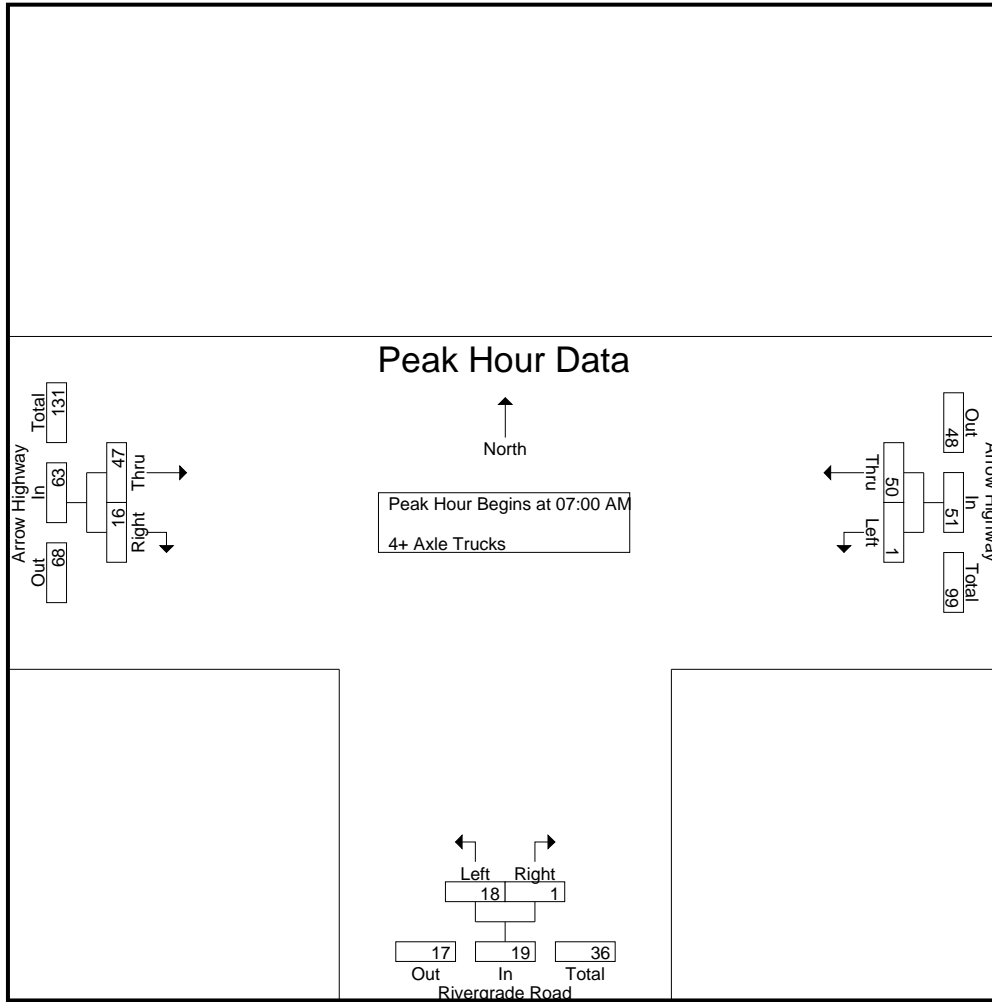
Start Time	Arrow Highway Westbound			Rivergrade Road Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	0	7	7	2	0	2	4	3	7	16
07:15 AM	0	16	16	5	0	5	13	7	20	41
07:30 AM	1	15	16	3	0	3	14	1	15	34
07:45 AM	0	12	12	8	1	9	16	5	21	42
Total Volume	1	50	51	18	1	19	47	16	63	133
% App. Total	2	98		94.7	5.3		74.6	25.4		
PHF	.250	.781	.797	.563	.250	.528	.734	.571	.750	.792

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

Peak Hour for Entire Intersection Begins at 07:00 AM

City of Irwindale
 N/S: Rivergrade Road
 E/W: Arrow Highway
 Weather: Clear

File Name : 14_IRW_Riv_Arr AM
 Site Code : 04223184
 Start Date : 3/2/2023
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Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	7	7	2	0	2	4	3	7
+15 mins.	0	16	16	5	0	5	13	7	20
+30 mins.	1	15	16	3	0	3	14	1	15
+45 mins.	0	12	12	8	1	9	16	5	21
Total Volume	1	50	51	18	1	19	47	16	63
% App. Total	2	98		94.7	5.3		74.6	25.4	
PHF	.250	.781	.797	.563	.250	.528	.734	.571	.750

City of Irwindale
 N/S: Rivergrade Road
 E/W: Arrow Highway
 Weather: Clear

File Name : 14_IRW_Riv_Arr PM
 Site Code : 04223184
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 Page No : 1

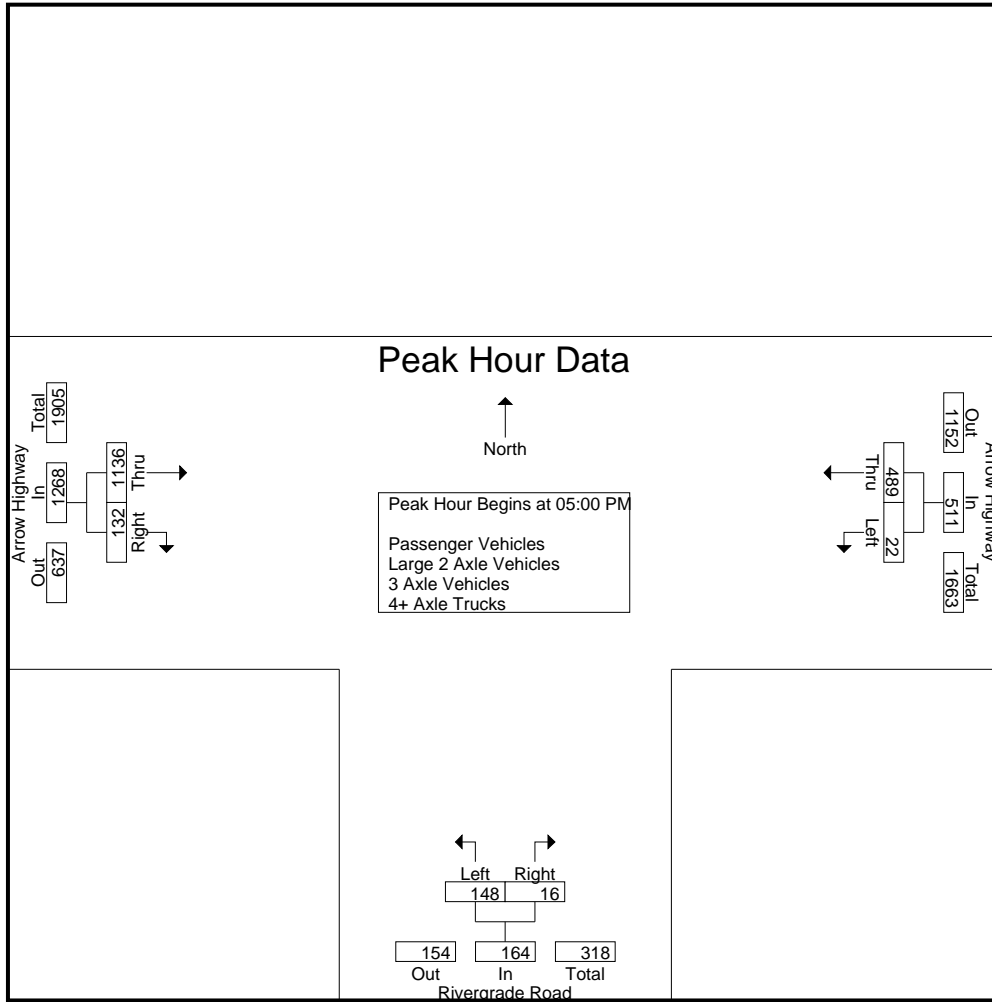
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Arrow Highway Westbound			Rivergrade Road Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	3	107	110	29	0	29	228	35	263	402
04:15 PM	8	128	136	25	2	27	206	39	245	408
04:30 PM	2	125	127	44	3	47	218	30	248	422
04:45 PM	5	134	139	24	4	28	252	41	293	460
Total	18	494	512	122	9	131	904	145	1049	1692
05:00 PM	10	138	148	51	8	59	258	37	295	502
05:15 PM	3	122	125	34	1	35	292	31	323	483
05:30 PM	1	109	110	36	3	39	277	26	303	452
05:45 PM	8	120	128	27	4	31	309	38	347	506
Total	22	489	511	148	16	164	1136	132	1268	1943
Grand Total	40	983	1023	270	25	295	2040	277	2317	3635
Apprch %	3.9	96.1		91.5	8.5		88	12		
Total %	1.1	27	28.1	7.4	0.7	8.1	56.1	7.6	63.7	
Passenger Vehicles	13	956	969	259	23	282	2013	260	2273	3524
% Passenger Vehicles	32.5	97.3	94.7	95.9	92	95.6	98.7	93.9	98.1	96.9
Large 2 Axle Vehicles	2	18	20	4	1	5	17	8	25	50
% Large 2 Axle Vehicles	5	1.8	2	1.5	4	1.7	0.8	2.9	1.1	1.4
3 Axle Vehicles	0	2	2	0	0	0	6	1	7	9
% 3 Axle Vehicles	0	0.2	0.2	0	0	0	0.3	0.4	0.3	0.2
4+ Axle Trucks	25	7	32	7	1	8	4	8	12	52
% 4+ Axle Trucks	62.5	0.7	3.1	2.6	4	2.7	0.2	2.9	0.5	1.4

Start Time	Arrow Highway Westbound			Rivergrade Road Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	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 05:00 PM										
05:00 PM	10	138	148	51	8	59	258	37	295	502
05:15 PM	3	122	125	34	1	35	292	31	323	483
05:30 PM	1	109	110	36	3	39	277	26	303	452
05:45 PM	8	120	128	27	4	31	309	38	347	506
Total Volume	22	489	511	148	16	164	1136	132	1268	1943
% App. Total	4.3	95.7		90.2	9.8		89.6	10.4		
PHF	.550	.886	.863	.725	.500	.695	.919	.868	.914	.960

City of Irwindale
 N/S: Rivergrade Road
 E/W: Arrow Highway
 Weather: Clear

File Name : 14_IRW_Riv_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
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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:

	04:15 PM			04:30 PM			05:00 PM		
+0 mins.	8	128	136	44	3	47	258	37	295
+15 mins.	2	125	127	24	4	28	292	31	323
+30 mins.	5	134	139	51	8	59	277	26	303
+45 mins.	10	138	148	34	1	35	309	38	347
Total Volume	25	525	550	153	16	169	1136	132	1268
% App. Total	4.5	95.5		90.5	9.5		89.6	10.4	
PHF	.625	.951	.929	.750	.500	.716	.919	.868	.914

City of Irwindale
 N/S: Rivergrade Road
 E/W: Arrow Highway
 Weather: Clear

File Name : 14_IRW_Riv_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

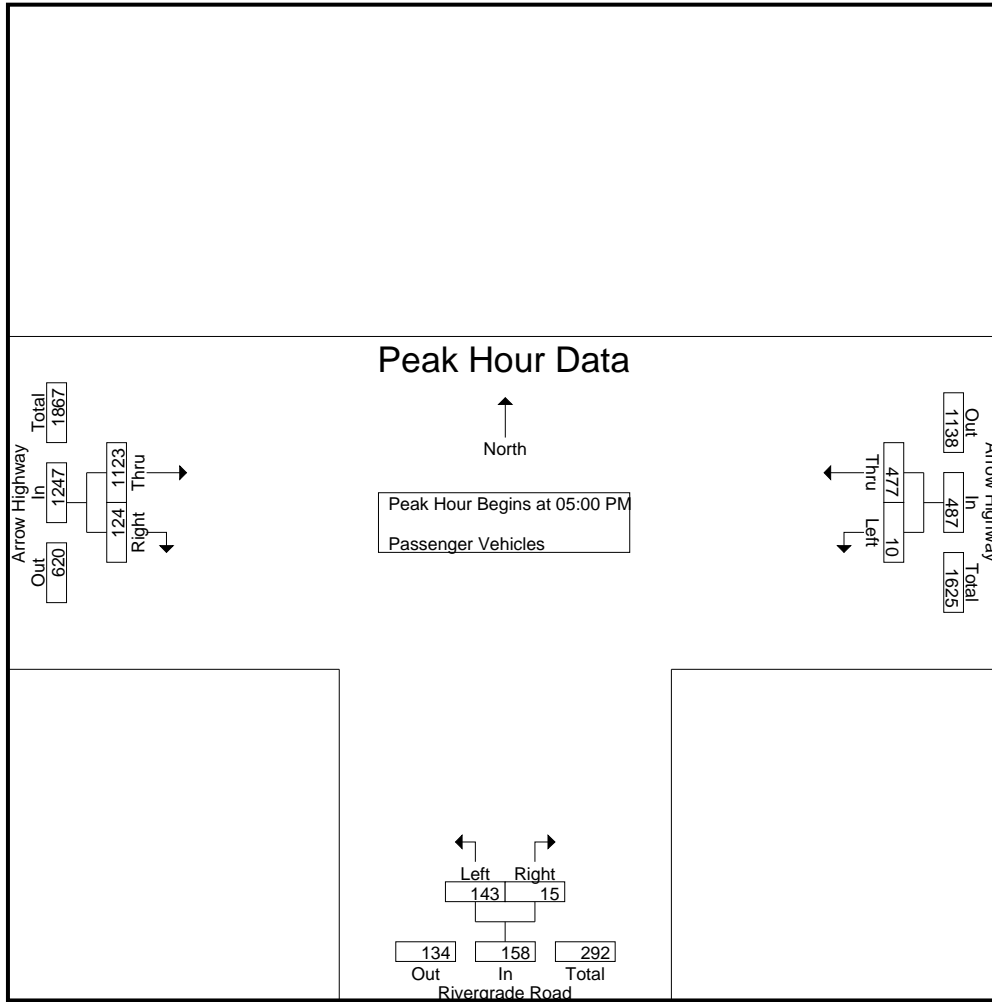
Groups Printed- Passenger Vehicles

Start Time	Arrow Highway Westbound			Rivergrade Road Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	1	102	103	27	0	27	226	34	260	390
04:15 PM	1	124	125	24	2	26	203	35	238	389
04:30 PM	0	122	122	44	3	47	215	28	243	412
04:45 PM	1	131	132	21	3	24	246	39	285	441
Total	3	479	482	116	8	124	890	136	1026	1632
05:00 PM	0	135	135	50	7	57	255	35	290	482
05:15 PM	3	119	122	31	1	32	289	29	318	472
05:30 PM	1	104	105	36	3	39	274	24	298	442
05:45 PM	6	119	125	26	4	30	305	36	341	496
Total	10	477	487	143	15	158	1123	124	1247	1892
Grand Total	13	956	969	259	23	282	2013	260	2273	3524
Apprch %	1.3	98.7		91.8	8.2		88.6	11.4		
Total %	0.4	27.1	27.5	7.3	0.7	8	57.1	7.4	64.5	

Start Time	Arrow Highway Westbound			Rivergrade Road Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
05:00 PM	0	135	135	50	7	57	255	35	290	482
05:15 PM	3	119	122	31	1	32	289	29	318	472
05:30 PM	1	104	105	36	3	39	274	24	298	442
05:45 PM	6	119	125	26	4	30	305	36	341	496
Total Volume	10	477	487	143	15	158	1123	124	1247	1892
% App. Total	2.1	97.9		90.5	9.5		90.1	9.9		
PHF	.417	.883	.902	.715	.536	.693	.920	.861	.914	.954

City of Irwindale
 N/S: Rivergrade Road
 E/W: Arrow Highway
 Weather: Clear

File Name : 14_IRW_Riv_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
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Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	0	135	135	50	7	57	255	35	290
+15 mins.	3	119	122	31	1	32	289	29	318
+30 mins.	1	104	105	36	3	39	274	24	298
+45 mins.	6	119	125	26	4	30	305	36	341
Total Volume	10	477	487	143	15	158	1123	124	1247
% App. Total	2.1	97.9		90.5	9.5		90.1	9.9	
PHF	.417	.883	.902	.715	.536	.693	.920	.861	.914

City of Irwindale
 N/S: Rivergrade Road
 E/W: Arrow Highway
 Weather: Clear

File Name : 14_IRW_Riv_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
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Groups Printed- Large 2 Axle Vehicles

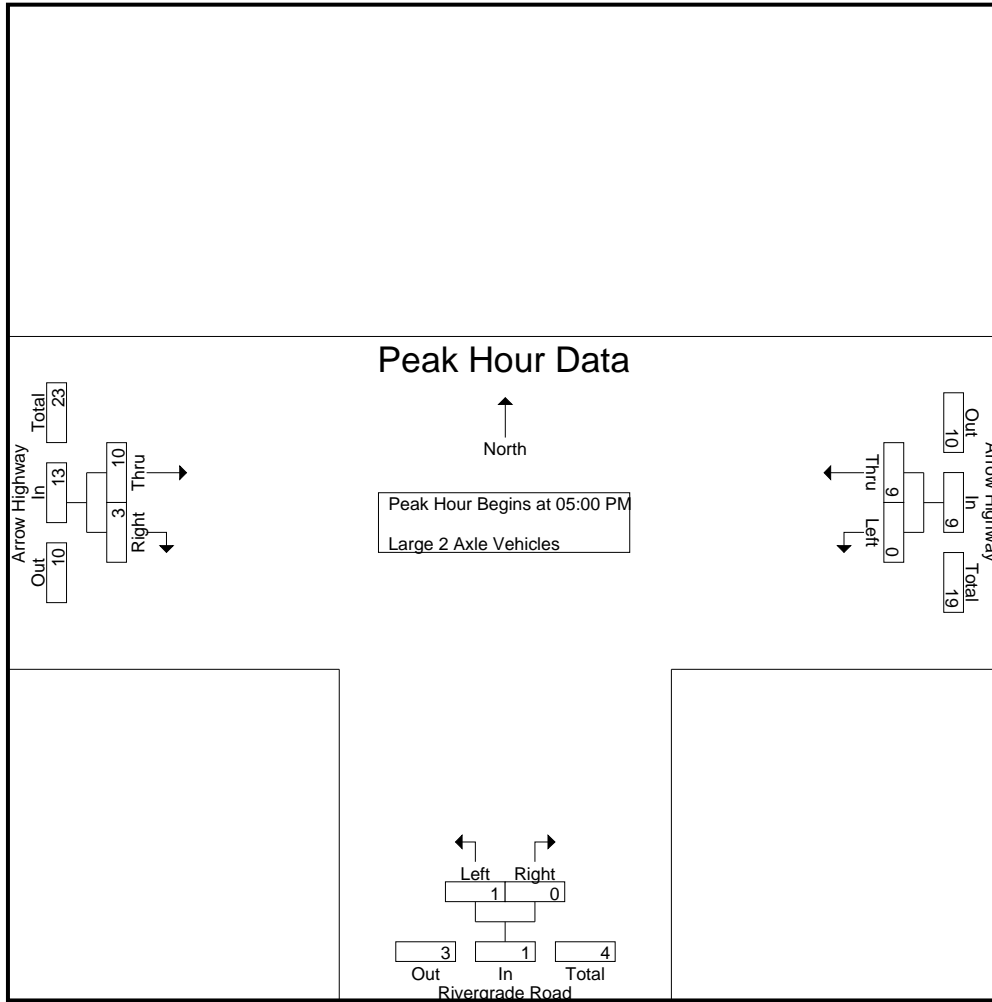
Start Time	Arrow Highway Westbound			Rivergrade Road Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	0	3	3	1	0	1	2	1	3	7
04:15 PM	1	3	4	0	0	0	1	3	4	8
04:30 PM	0	1	1	0	0	0	1	1	2	3
04:45 PM	1	2	3	2	1	3	3	0	3	9
Total	2	9	11	3	1	4	7	5	12	27
05:00 PM	0	2	2	0	0	0	3	2	5	7
05:15 PM	0	3	3	0	0	0	2	0	2	5
05:30 PM	0	3	3	0	0	0	2	0	2	5
05:45 PM	0	1	1	1	0	1	3	1	4	6
Total	0	9	9	1	0	1	10	3	13	23
Grand Total	2	18	20	4	1	5	17	8	25	50
Apprch %	10	90		80	20		68	32		
Total %	4	36	40	8	2	10	34	16	50	

Start Time	Arrow Highway Westbound			Rivergrade Road Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
05:00 PM	0	2	2	0	0	0	3	2	5	7
05:15 PM	0	3	3	0	0	0	2	0	2	5
05:30 PM	0	3	3	0	0	0	2	0	2	5
05:45 PM	0	1	1	1	0	1	3	1	4	6
Total Volume	0	9	9	1	0	1	10	3	13	23
% App. Total	0	100		100	0		76.9	23.1		
PHF	.000	.750	.750	.250	.000	.250	.833	.375	.650	.821

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

City of Irwindale
 N/S: Rivergrade Road
 E/W: Arrow Highway
 Weather: Clear

File Name : 14_IRW_Riv_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
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Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	0	2	2	0	0	0	3	2	5
+15 mins.	0	3	3	0	0	0	2	0	2
+30 mins.	0	3	3	0	0	0	2	0	2
+45 mins.	0	1	1	1	0	1	3	1	4
Total Volume	0	9	9	1	0	1	10	3	13
% App. Total	0	100		100	0		76.9	23.1	
PHF	.000	.750	.750	.250	.000	.250	.833	.375	.650

City of Irwindale
 N/S: Rivergrade Road
 E/W: Arrow Highway
 Weather: Clear

File Name : 14_IRW_Riv_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 3 Axle Vehicles

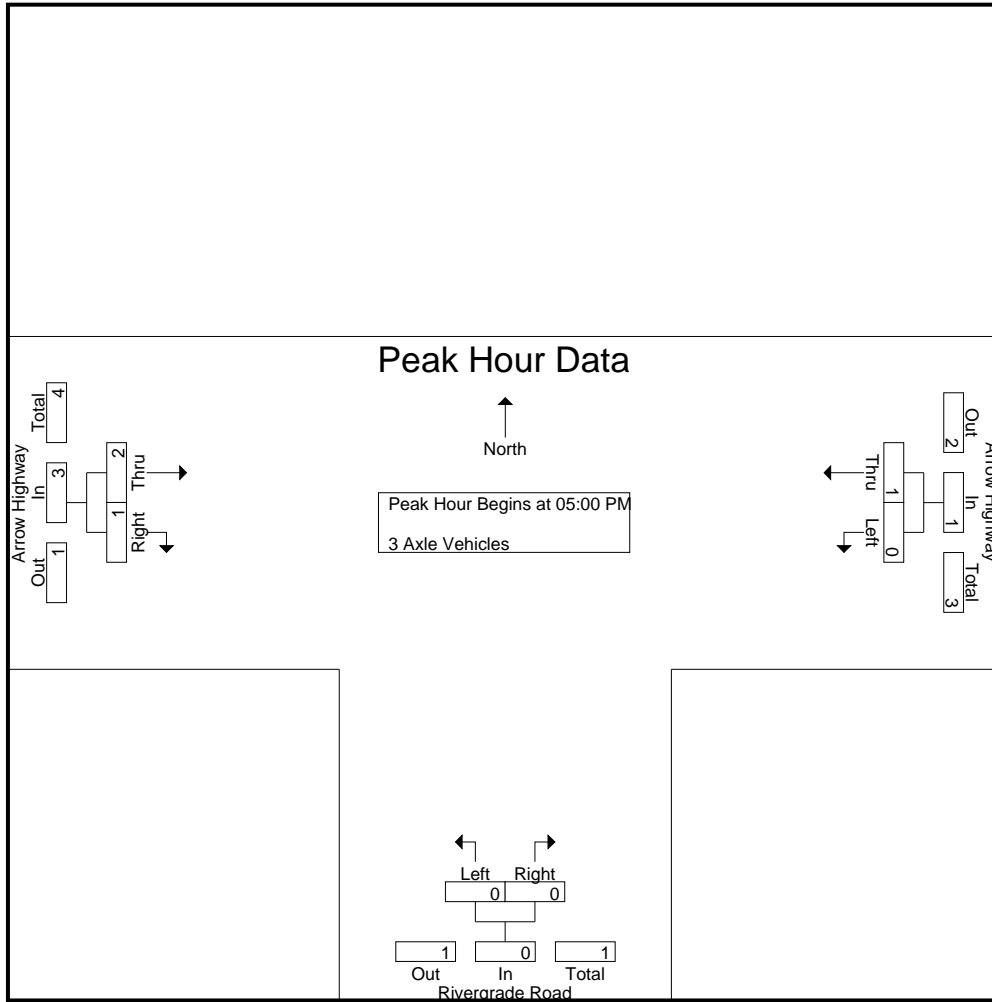
Start Time	Arrow Highway Westbound			Rivergrade Road Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	2	0	2	2
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	1	1	0	0	0	2	0	2	3
Total	0	1	1	0	0	0	4	0	4	5
05:00 PM	0	1	1	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	1	1	2	2
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	1	0	1	1
Total	0	1	1	0	0	0	2	1	3	4
Grand Total	0	2	2	0	0	0	6	1	7	9
Apprch %	0	100		0	0		85.7	14.3		
Total %	0	22.2	22.2	0	0	0	66.7	11.1	77.8	

Start Time	Arrow Highway Westbound			Rivergrade Road Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
05:00 PM	0	1	1	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	1	1	2	2
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	1	0	1	1
Total Volume	0	1	1	0	0	0	2	1	3	4
% App. Total	0	100		0	0		66.7	33.3		
PHF	.000	.250	.250	.000	.000	.000	.500	.250	.375	.500

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

City of Irwindale
 N/S: Rivergrade Road
 E/W: Arrow Highway
 Weather: Clear

File Name : 14_IRW_Riv_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



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

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	0	1	1	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	1	1	2
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	1	0	1
Total Volume	0	1	1	0	0	0	2	1	3
% App. Total	0	100		0	0		66.7	33.3	
PHF	.000	.250	.250	.000	.000	.000	.500	.250	.375

City of Irwindale
 N/S: Rivergrade Road
 E/W: Arrow Highway
 Weather: Clear

File Name : 14_IRW_Riv_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
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Groups Printed- 4+ Axle Trucks

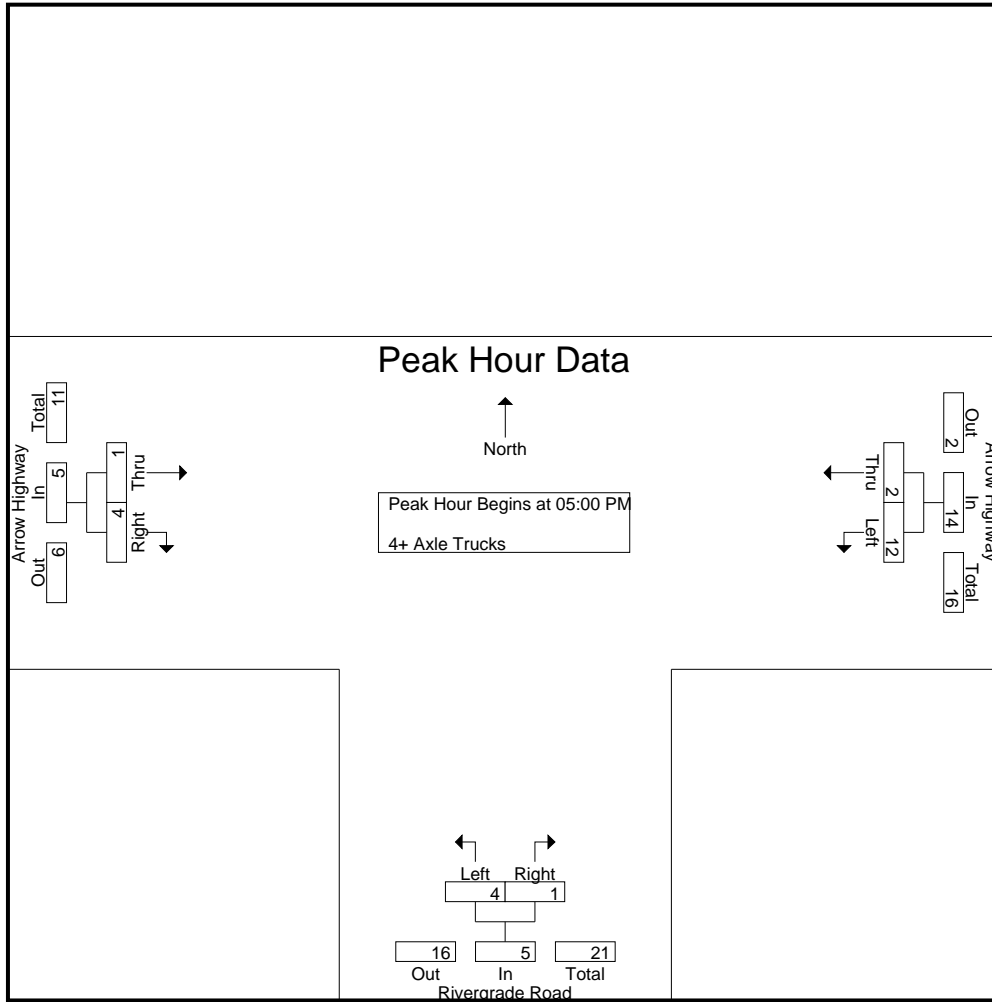
Start Time	Arrow Highway Westbound			Rivergrade Road Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	2	2	4	1	0	1	0	0	0	5
04:15 PM	6	1	7	1	0	1	0	1	1	9
04:30 PM	2	2	4	0	0	0	2	1	3	7
04:45 PM	3	0	3	1	0	1	1	2	3	7
Total	13	5	18	3	0	3	3	4	7	28
05:00 PM	10	0	10	1	1	2	0	0	0	12
05:15 PM	0	0	0	3	0	3	0	1	1	4
05:30 PM	0	2	2	0	0	0	1	2	3	5
05:45 PM	2	0	2	0	0	0	0	1	1	3
Total	12	2	14	4	1	5	1	4	5	24
Grand Total	25	7	32	7	1	8	4	8	12	52
Apprch %	78.1	21.9		87.5	12.5		33.3	66.7		
Total %	48.1	13.5	61.5	13.5	1.9	15.4	7.7	15.4	23.1	

Start Time	Arrow Highway Westbound			Rivergrade Road Northbound			Arrow Highway Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
05:00 PM	10	0	10	1	1	2	0	0	0	12
05:15 PM	0	0	0	3	0	3	0	1	1	4
05:30 PM	0	2	2	0	0	0	1	2	3	5
05:45 PM	2	0	2	0	0	0	0	1	1	3
Total Volume	12	2	14	4	1	5	1	4	5	24
% App. Total	85.7	14.3		80	20		20	80		
PHF	.300	.250	.350	.333	.250	.417	.250	.500	.417	.500

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

City of Irwindale
 N/S: Rivergrade Road
 E/W: Arrow Highway
 Weather: Clear

File Name : 14_IRW_Riv_Arr PM
 Site Code : 04223184
 Start Date : 3/2/2023
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Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	10	0	10	1	1	2	0	0	0
+15 mins.	0	0	0	3	0	3	0	1	1
+30 mins.	0	2	2	0	0	0	1	2	3
+45 mins.	2	0	2	0	0	0	0	1	1
Total Volume	12	2	14	4	1	5	1	4	5
% App. Total	85.7	14.3		80	20		20	80	
PHF	.300	.250	.350	.333	.250	.417	.250	.500	.417

City of Irwindale
 N/S: Arrow Highway (East)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 15_IRW_Arr E_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

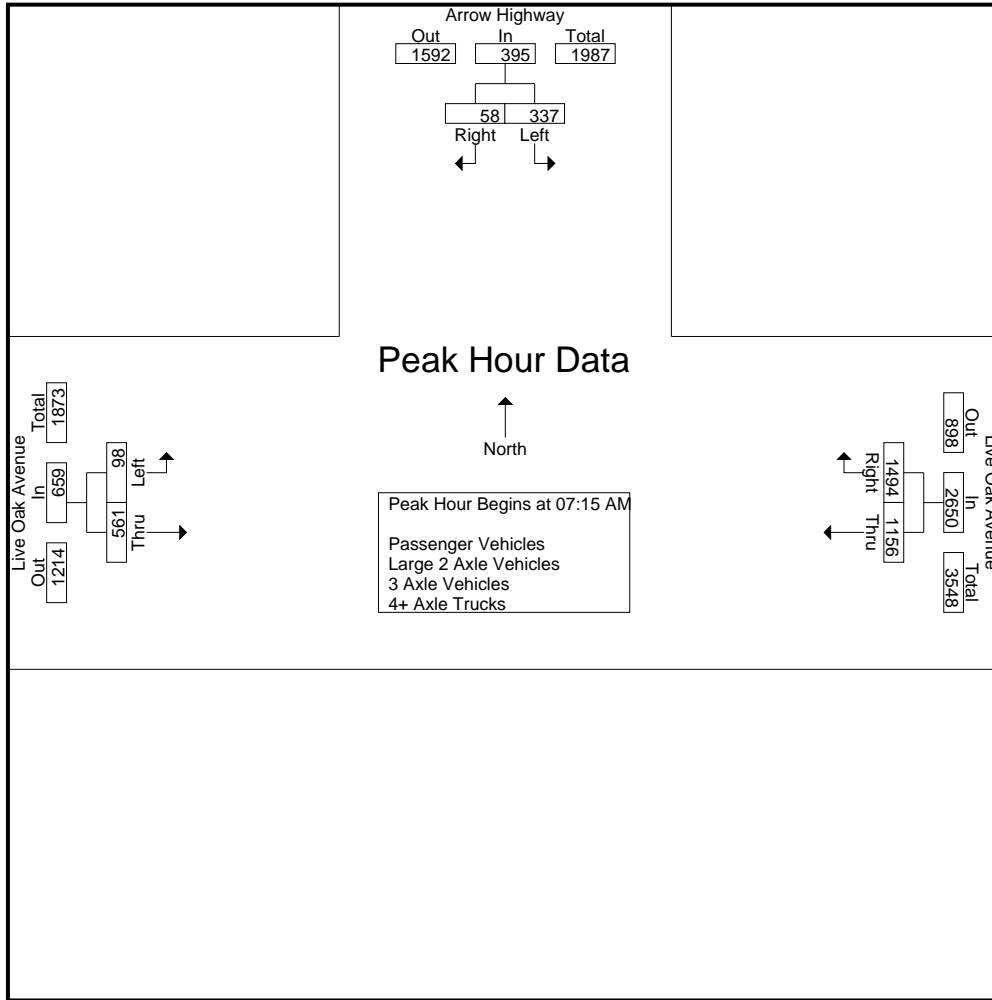
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:00 AM	50	13	63	240	373	613	23	119	142	818
07:15 AM	68	12	80	258	413	671	25	123	148	899
07:30 AM	84	15	99	334	440	774	24	119	143	1016
07:45 AM	91	18	109	277	348	625	18	166	184	918
Total	293	58	351	1109	1574	2683	90	527	617	3651
08:00 AM	94	13	107	287	293	580	31	153	184	871
08:15 AM	82	14	96	237	311	548	26	149	175	819
08:30 AM	87	13	100	201	272	473	18	149	167	740
08:45 AM	81	28	109	197	229	426	12	160	172	707
Total	344	68	412	922	1105	2027	87	611	698	3137
Grand Total	637	126	763	2031	2679	4710	177	1138	1315	6788
Apprch %	83.5	16.5		43.1	56.9		13.5	86.5		
Total %	9.4	1.9	11.2	29.9	39.5	69.4	2.6	16.8	19.4	
Passenger Vehicles	515	125	640	1926	2538	4464	173	1070	1243	6347
% Passenger Vehicles	80.8	99.2	83.9	94.8	94.7	94.8	97.7	94	94.5	93.5
Large 2 Axle Vehicles	17	0	17	52	26	78	2	27	29	124
% Large 2 Axle Vehicles	2.7	0	2.2	2.6	1	1.7	1.1	2.4	2.2	1.8
3 Axle Vehicles	2	0	2	16	29	45	0	11	11	58
% 3 Axle Vehicles	0.3	0	0.3	0.8	1.1	1	0	1	0.8	0.9
4+ Axle Trucks	103	1	104	37	86	123	2	30	32	259
% 4+ Axle Trucks	16.2	0.8	13.6	1.8	3.2	2.6	1.1	2.6	2.4	3.8

Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	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	68	12	80	258	413	671	25	123	148	899
07:30 AM	84	15	99	334	440	774	24	119	143	1016
07:45 AM	91	18	109	277	348	625	18	166	184	918
08:00 AM	94	13	107	287	293	580	31	153	184	871
Total Volume	337	58	395	1156	1494	2650	98	561	659	3704
% App. Total	85.3	14.7		43.6	56.4		14.9	85.1		
PHF	.896	.806	.906	.865	.849	.856	.790	.845	.895	.911

City of Irwindale
 N/S: Arrow Highway (East)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 15_IRW_Arr E_LO AM
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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:

	07:45 AM			07:00 AM			07:45 AM		
+0 mins.	91	18	109	240	373	613	18	166	184
+15 mins.	94	13	107	258	413	671	31	153	184
+30 mins.	82	14	96	334	440	774	26	149	175
+45 mins.	87	13	100	277	348	625	18	149	167
Total Volume	354	58	412	1109	1574	2683	93	617	710
% App. Total	85.9	14.1		41.3	58.7		13.1	86.9	
PHF	.941	.806	.945	.830	.894	.867	.750	.929	.965

City of Irwindale
 N/S: Arrow Highway (East)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 15_IRW_Arr E_LO AM
 Site Code : 04223184
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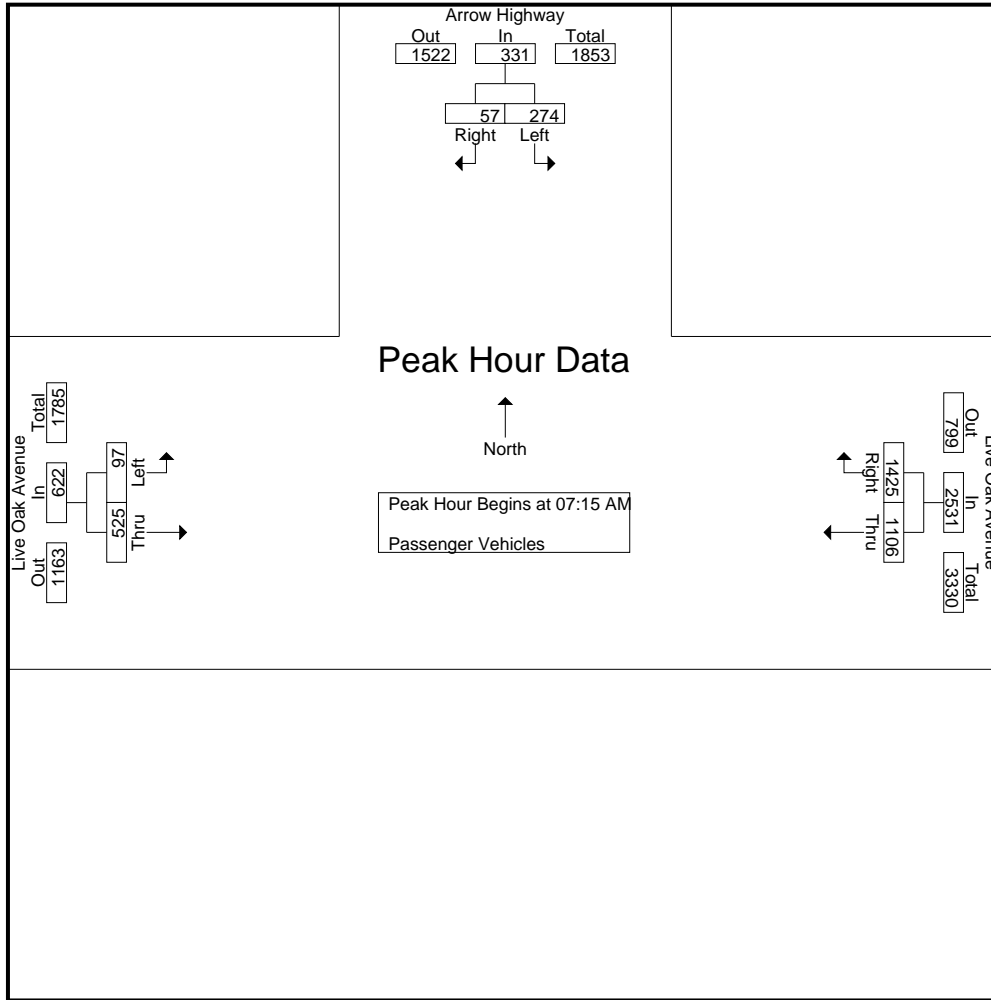
Groups Printed- Passenger Vehicles

Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:00 AM	42	13	55	228	359	587	22	110	132	774
07:15 AM	56	11	67	247	390	637	24	114	138	842
07:30 AM	64	15	79	322	422	744	24	115	139	962
07:45 AM	75	18	93	262	332	594	18	157	175	862
Total	237	57	294	1059	1503	2562	88	496	584	3440
08:00 AM	79	13	92	275	281	556	31	139	170	818
08:15 AM	64	14	78	227	289	516	26	139	165	759
08:30 AM	69	13	82	184	253	437	18	143	161	680
08:45 AM	66	28	94	181	212	393	10	153	163	650
Total	278	68	346	867	1035	1902	85	574	659	2907
Grand Total	515	125	640	1926	2538	4464	173	1070	1243	6347
Apprch %	80.5	19.5		43.1	56.9		13.9	86.1		
Total %	8.1	2	10.1	30.3	40	70.3	2.7	16.9	19.6	

Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	56	11	67	247	390	637	24	114	138	842
07:30 AM	64	15	79	322	422	744	24	115	139	962
07:45 AM	75	18	93	262	332	594	18	157	175	862
08:00 AM	79	13	92	275	281	556	31	139	170	818
Total Volume	274	57	331	1106	1425	2531	97	525	622	3484
% App. Total	82.8	17.2		43.7	56.3		15.6	84.4		
PHF	.867	.792	.890	.859	.844	.850	.782	.836	.889	.905

City of Irwindale
 N/S: Arrow Highway (East)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 15_IRW_Arr E_LO AM
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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	56	11	67	247	390	637	24	114	138
+15 mins.	64	15	79	322	422	744	24	115	139
+30 mins.	75	18	93	262	332	594	18	157	175
+45 mins.	79	13	92	275	281	556	31	139	170
Total Volume	274	57	331	1106	1425	2531	97	525	622
% App. Total	82.8	17.2		43.7	56.3		15.6	84.4	
PHF	.867	.792	.890	.859	.844	.850	.782	.836	.889

City of Irwindale
 N/S: Arrow Highway (East)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 15_IRW_Arr E_LO AM
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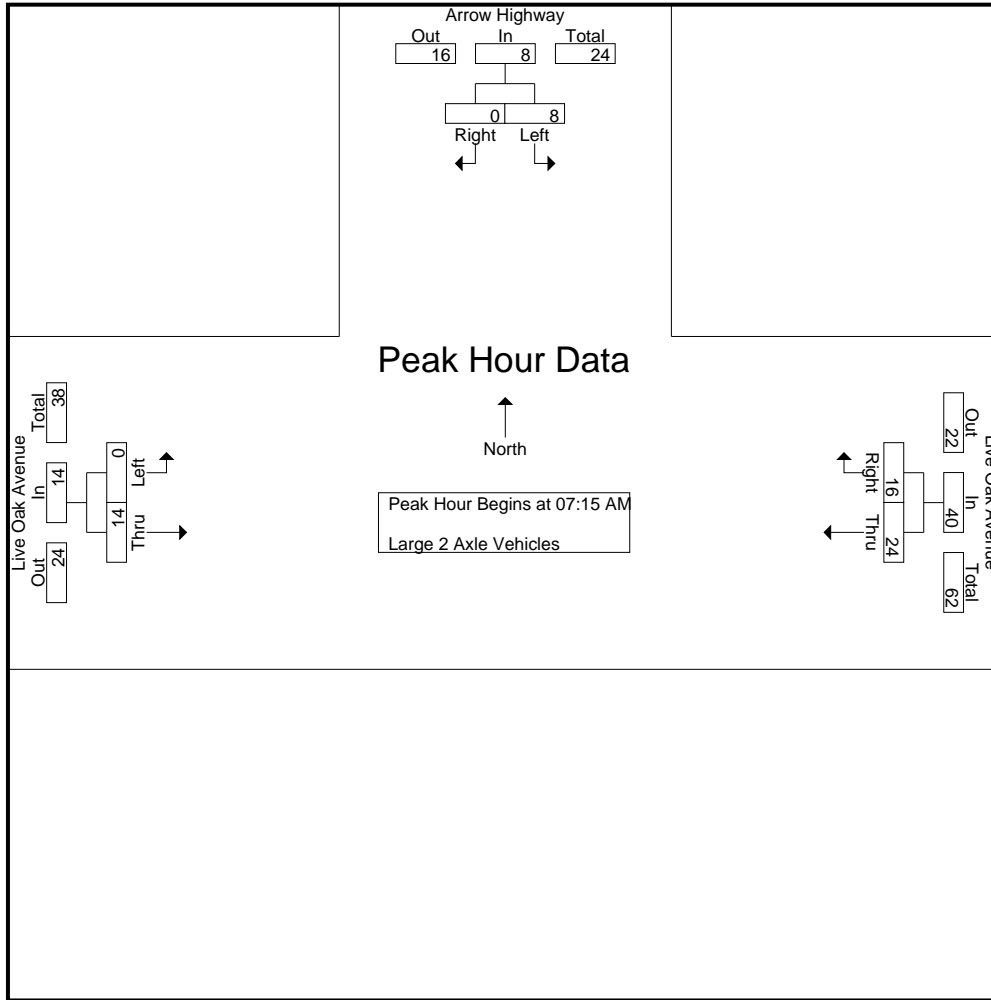
Groups Printed- Large 2 Axle Vehicles

Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:00 AM	2	0	2	5	3	8	1	5	6	16
07:15 AM	0	0	0	5	7	12	0	3	3	15
07:30 AM	5	0	5	7	4	11	0	2	2	18
07:45 AM	0	0	0	8	3	11	0	4	4	15
Total	7	0	7	25	17	42	1	14	15	64
08:00 AM	3	0	3	4	2	6	0	5	5	14
08:15 AM	4	0	4	8	4	12	0	3	3	19
08:30 AM	3	0	3	7	1	8	0	3	3	14
08:45 AM	0	0	0	8	2	10	1	2	3	13
Total	10	0	10	27	9	36	1	13	14	60
Grand Total	17	0	17	52	26	78	2	27	29	124
Apprch %	100	0		66.7	33.3		6.9	93.1		
Total %	13.7	0	13.7	41.9	21	62.9	1.6	21.8	23.4	

Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	0	0	0	5	7	12	0	3	3	15
07:30 AM	5	0	5	7	4	11	0	2	2	18
07:45 AM	0	0	0	8	3	11	0	4	4	15
08:00 AM	3	0	3	4	2	6	0	5	5	14
Total Volume	8	0	8	24	16	40	0	14	14	62
% App. Total	100	0		60	40		0	100		
PHF	.400	.000	.400	.750	.571	.833	.000	.700	.700	.861

City of Irwindale
 N/S: Arrow Highway (East)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 15_IRW_Arr E_LO AM
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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	0	0	0	5	7	12	0	3	3
+15 mins.	5	0	5	7	4	11	0	2	2
+30 mins.	0	0	0	8	3	11	0	4	4
+45 mins.	3	0	3	4	2	6	0	5	5
Total Volume	8	0	8	24	16	40	0	14	14
% App. Total	100	0		60	40		0	100	
PHF	.400	.000	.400	.750	.571	.833	.000	.700	.700

City of Irwindale
 N/S: Arrow Highway (East)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 15_IRW_Arr E_LO AM
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Groups Printed- 3 Axle Vehicles

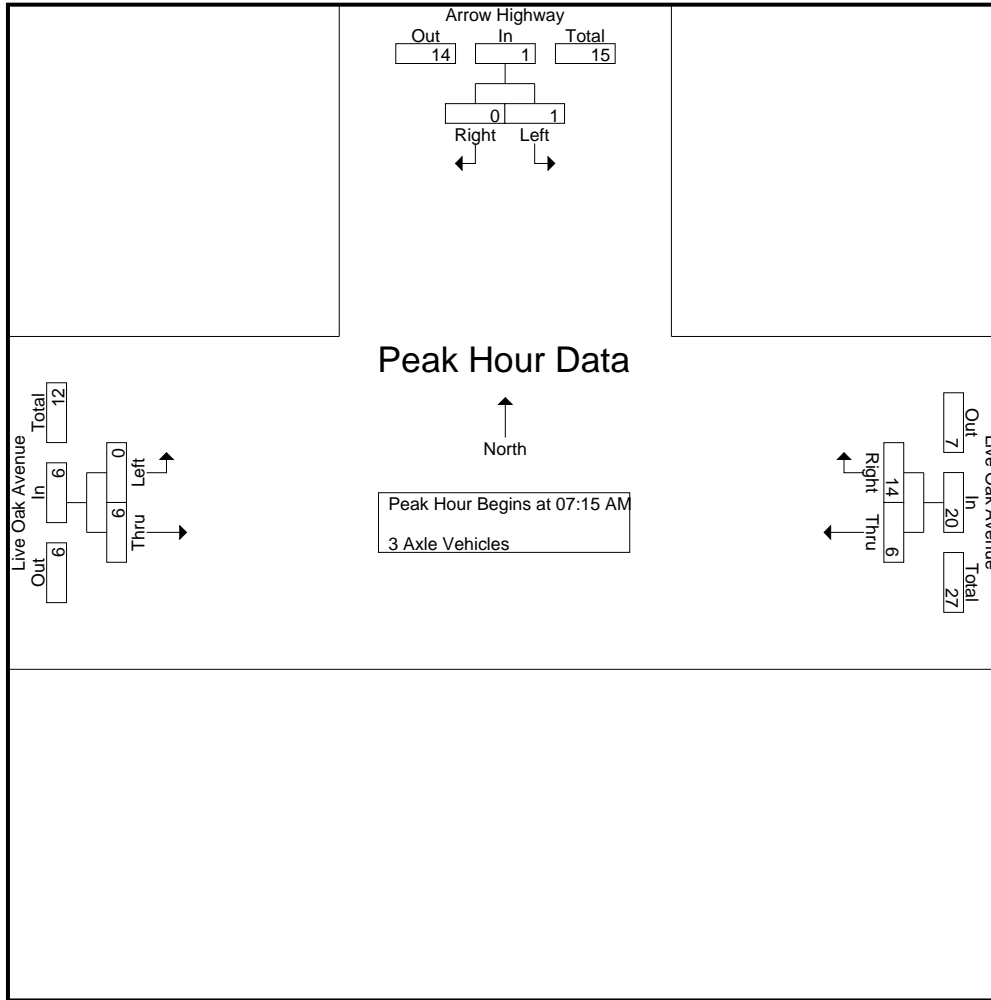
Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:00 AM	0	0	0	1	5	6	0	0	0	6
07:15 AM	0	0	0	2	4	6	0	0	0	6
07:30 AM	1	0	1	2	4	6	0	1	1	8
07:45 AM	0	0	0	1	3	4	0	3	3	7
Total	1	0	1	6	16	22	0	4	4	27
08:00 AM	0	0	0	1	3	4	0	2	2	6
08:15 AM	0	0	0	1	5	6	0	4	4	10
08:30 AM	0	0	0	6	2	8	0	1	1	9
08:45 AM	1	0	1	2	3	5	0	0	0	6
Total	1	0	1	10	13	23	0	7	7	31
Grand Total	2	0	2	16	29	45	0	11	11	58
Apprch %	100	0		35.6	64.4		0	100		
Total %	3.4	0	3.4	27.6	50	77.6	0	19	19	

Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:15 AM	0	0	0	2	4	6	0	0	0	6
07:30 AM	1	0	1	2	4	6	0	1	1	8
07:45 AM	0	0	0	1	3	4	0	3	3	7
08:00 AM	0	0	0	1	3	4	0	2	2	6
Total Volume	1	0	1	6	14	20	0	6	6	27
% App. Total	100	0		30	70		0	100		
PHF	.250	.000	.250	.750	.875	.833	.000	.500	.500	.844

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

City of Irwindale
 N/S: Arrow Highway (East)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 15_IRW_Arr E_LO AM
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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	0	0	0	2	4	6	0	0	0
+15 mins.	1	0	1	2	4	6	0	1	1
+30 mins.	0	0	0	1	3	4	0	3	3
+45 mins.	0	0	0	1	3	4	0	2	2
Total Volume	1	0	1	6	14	20	0	6	6
% App. Total	100	0		30	70		0	100	
PHF	.250	.000	.250	.750	.875	.833	.000	.500	.500

City of Irwindale
 N/S: Arrow Highway (East)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 15_IRW_Arr E_LO AM
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Groups Printed- 4+ Axle Trucks

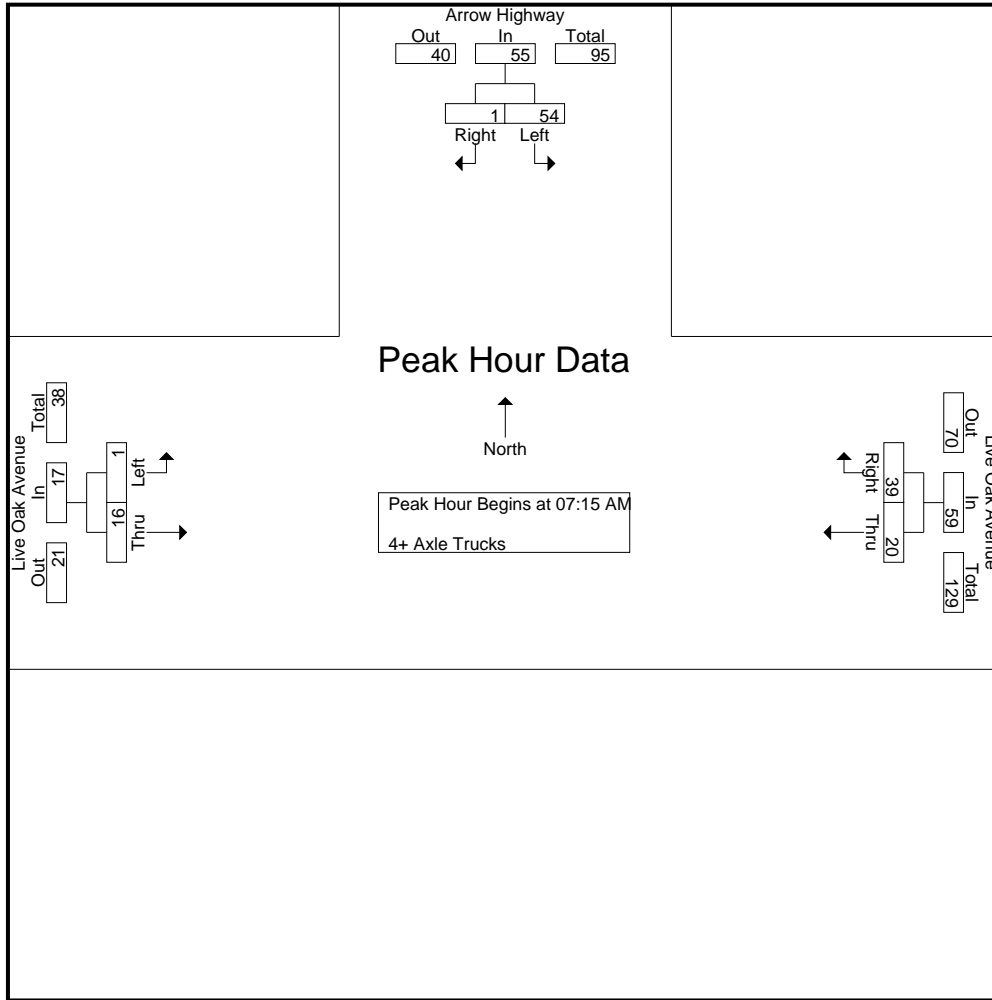
Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:00 AM	6	0	6	6	6	12	0	4	4	22
07:15 AM	12	1	13	4	12	16	1	6	7	36
07:30 AM	14	0	14	3	10	13	0	1	1	28
07:45 AM	16	0	16	6	10	16	0	2	2	34
Total	48	1	49	19	38	57	1	13	14	120
08:00 AM	12	0	12	7	7	14	0	7	7	33
08:15 AM	14	0	14	1	13	14	0	3	3	31
08:30 AM	15	0	15	4	16	20	0	2	2	37
08:45 AM	14	0	14	6	12	18	1	5	6	38
Total	55	0	55	18	48	66	1	17	18	139
Grand Total	103	1	104	37	86	123	2	30	32	259
Apprch %	99	1		30.1	69.9		6.2	93.8		
Total %	39.8	0.4	40.2	14.3	33.2	47.5	0.8	11.6	12.4	

Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:15 AM	12	1	13	4	12	16	1	6	7	36
07:30 AM	14	0	14	3	10	13	0	1	1	28
07:45 AM	16	0	16	6	10	16	0	2	2	34
08:00 AM	12	0	12	7	7	14	0	7	7	33
Total Volume	54	1	55	20	39	59	1	16	17	131
% App. Total	98.2	1.8		33.9	66.1		5.9	94.1		
PHF	.844	.250	.859	.714	.813	.922	.250	.571	.607	.910

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

City of Irwindale
 N/S: Arrow Highway (East)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 15_IRW_Arr E_LO AM
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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	12	1	13	4	12	16	1	6	7
+15 mins.	14	0	14	3	10	13	0	1	1
+30 mins.	16	0	16	6	10	16	0	2	2
+45 mins.	12	0	12	7	7	14	0	7	7
Total Volume	54	1	55	20	39	59	1	16	17
% App. Total	98.2	1.8		33.9	66.1		5.9	94.1	
PHF	.844	.250	.859	.714	.813	.922	.250	.571	.607

City of Irwindale
 N/S: Arrow Highway (East)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 15_IRW_Arr E_LO PM
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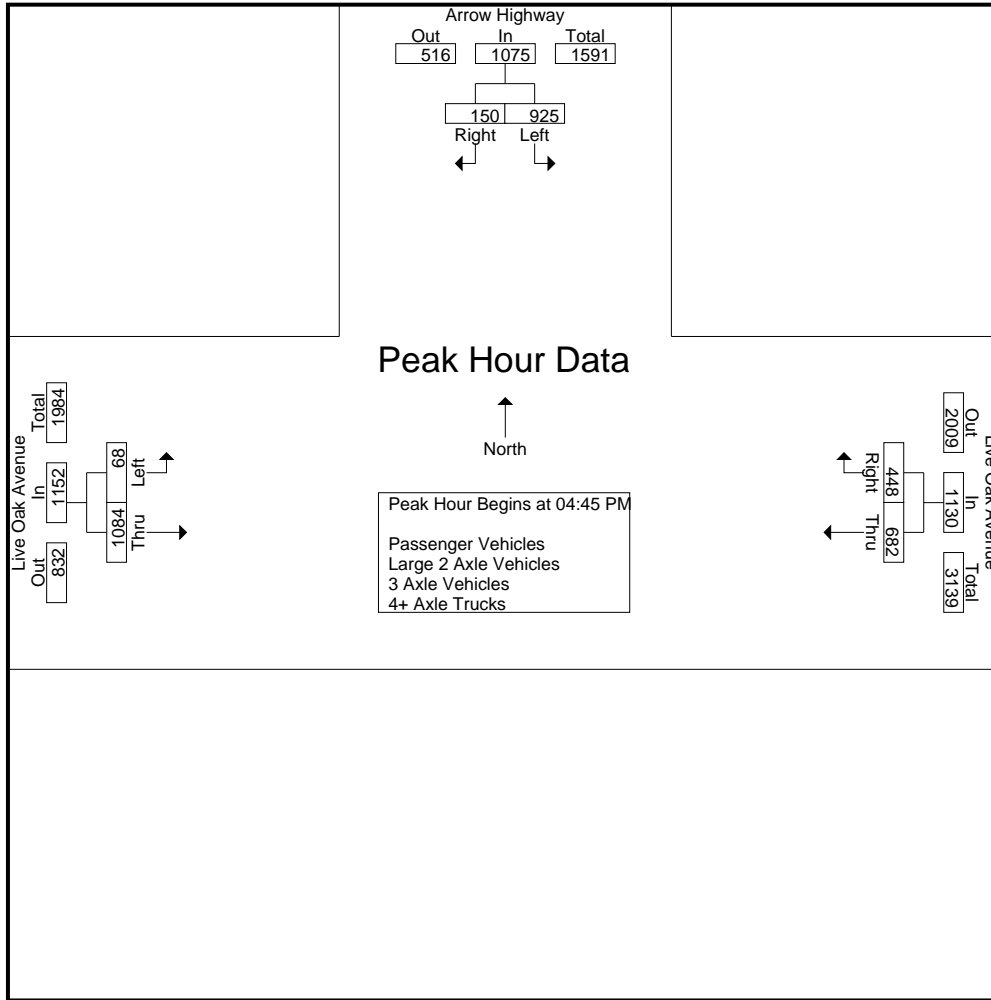
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
04:00 PM	189	34	223	143	92	235	16	292	308	766
04:15 PM	203	20	223	150	116	266	18	259	277	766
04:30 PM	194	25	219	176	118	294	11	142	153	666
04:45 PM	220	35	255	150	111	261	25	260	285	801
Total	806	114	920	619	437	1056	70	953	1023	2999
05:00 PM	226	40	266	201	135	336	13	269	282	884
05:15 PM	232	43	275	161	105	266	15	279	294	835
05:30 PM	247	32	279	170	97	267	15	276	291	837
05:45 PM	260	23	283	127	107	234	15	244	259	776
Total	965	138	1103	659	444	1103	58	1068	1126	3332
Grand Total	1771	252	2023	1278	881	2159	128	2021	2149	6331
Apprch %	87.5	12.5		59.2	40.8		6	94		
Total %	28	4	32	20.2	13.9	34.1	2	31.9	33.9	
Passenger Vehicles	1745	250	1995	1224	835	2059	125	1950	2075	6129
% Passenger Vehicles	98.5	99.2	98.6	95.8	94.8	95.4	97.7	96.5	96.6	96.8
Large 2 Axle Vehicles	17	1	18	19	17	36	0	38	38	92
% Large 2 Axle Vehicles	1	0.4	0.9	1.5	1.9	1.7	0	1.9	1.8	1.5
3 Axle Vehicles	5	0	5	9	8	17	0	9	9	31
% 3 Axle Vehicles	0.3	0	0.2	0.7	0.9	0.8	0	0.4	0.4	0.5
4+ Axle Trucks	4	1	5	26	21	47	3	24	27	79
% 4+ Axle Trucks	0.2	0.4	0.2	2	2.4	2.2	2.3	1.2	1.3	1.2

Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	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	220	35	255	150	111	261	25	260	285	801
05:00 PM	226	40	266	201	135	336	13	269	282	884
05:15 PM	232	43	275	161	105	266	15	279	294	835
05:30 PM	247	32	279	170	97	267	15	276	291	837
Total Volume	925	150	1075	682	448	1130	68	1084	1152	3357
% App. Total	86	14		60.4	39.6		5.9	94.1		
PHF	.936	.872	.963	.848	.830	.841	.680	.971	.980	.949

City of Irwindale
 N/S: Arrow Highway (East)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 15_IRW_Arr E_LO PM
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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			04:15 PM			04:45 PM		
+0 mins.	226	40	266	150	116	266	25	260	285
+15 mins.	232	43	275	176	118	294	13	269	282
+30 mins.	247	32	279	150	111	261	15	279	294
+45 mins.	260	23	283	201	135	336	15	276	291
Total Volume	965	138	1103	677	480	1157	68	1084	1152
% App. Total	87.5	12.5		58.5	41.5		5.9	94.1	
PHF	.928	.802	.974	.842	.889	.861	.680	.971	.980

City of Irwindale
 N/S: Arrow Highway (East)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 15_IRW_Arr E_LO PM
 Site Code : 04223184
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Groups Printed- Passenger Vehicles

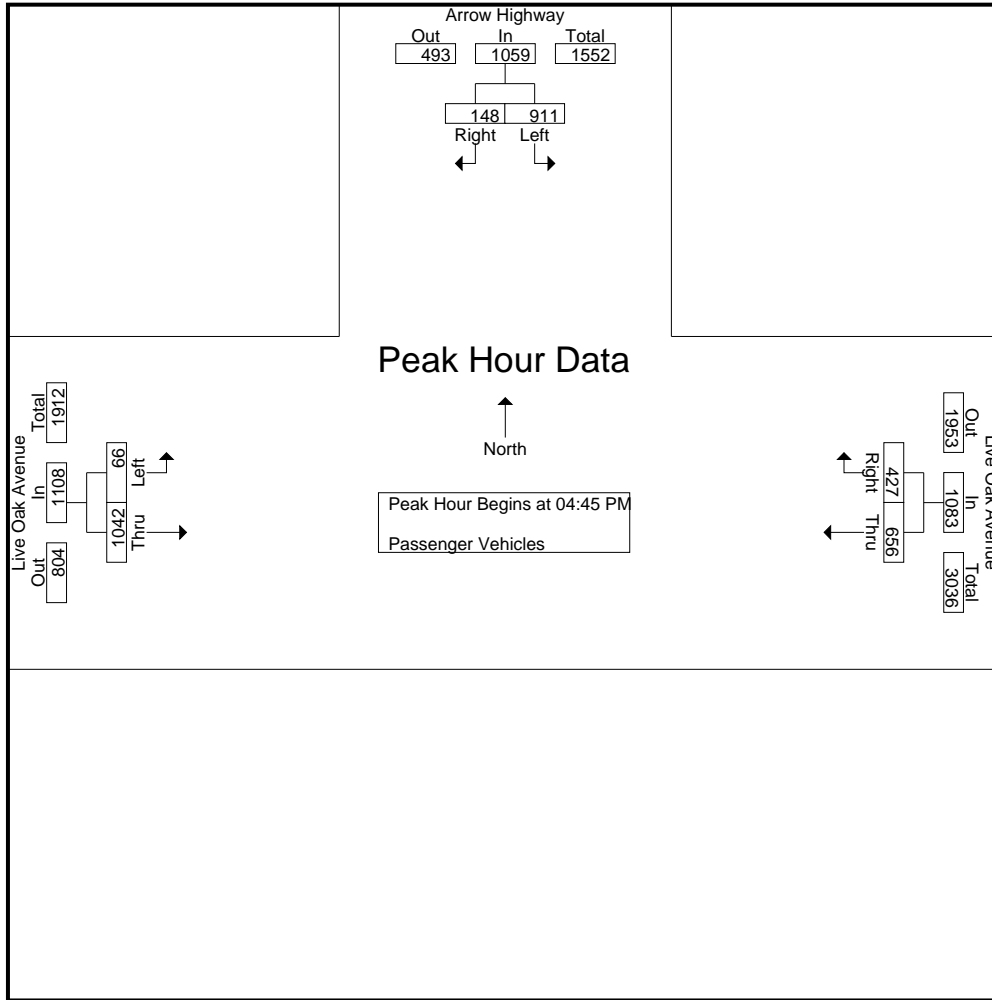
Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
04:00 PM	186	34	220	136	85	221	16	281	297	738
04:15 PM	200	20	220	141	106	247	17	246	263	730
04:30 PM	191	25	216	167	113	280	11	140	151	647
04:45 PM	215	33	248	144	104	248	25	255	280	776
Total	792	112	904	588	408	996	69	922	991	2891
05:00 PM	222	40	262	199	128	327	12	254	266	855
05:15 PM	231	43	274	151	102	253	15	265	280	807
05:30 PM	243	32	275	162	93	255	14	268	282	812
05:45 PM	257	23	280	124	104	228	15	241	256	764
Total	953	138	1091	636	427	1063	56	1028	1084	3238
Grand Total	1745	250	1995	1224	835	2059	125	1950	2075	6129
Apprch %	87.5	12.5		59.4	40.6		6	94		
Total %	28.5	4.1	32.6	20	13.6	33.6	2	31.8	33.9	

Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
04:45 PM	215	33	248	144	104	248	25	255	280	776
05:00 PM	222	40	262	199	128	327	12	254	266	855
05:15 PM	231	43	274	151	102	253	15	265	280	807
05:30 PM	243	32	275	162	93	255	14	268	282	812
Total Volume	911	148	1059	656	427	1083	66	1042	1108	3250
% App. Total	86	14		60.6	39.4		6	94		
PHF	.937	.860	.963	.824	.834	.828	.660	.972	.982	.950

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

City of Irwindale
 N/S: Arrow Highway (East)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 15_IRW_Arr E_LO PM
 Site Code : 04223184
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Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	215	33	248	144	104	248	25	255	280
+15 mins.	222	40	262	199	128	327	12	254	266
+30 mins.	231	43	274	151	102	253	15	265	280
+45 mins.	243	32	275	162	93	255	14	268	282
Total Volume	911	148	1059	656	427	1083	66	1042	1108
% App. Total	86	14		60.6	39.4		6	94	
PHF	.937	.860	.963	.824	.834	.828	.660	.972	.982

City of Irwindale
 N/S: Arrow Highway (East)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 15_IRW_Arr E_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

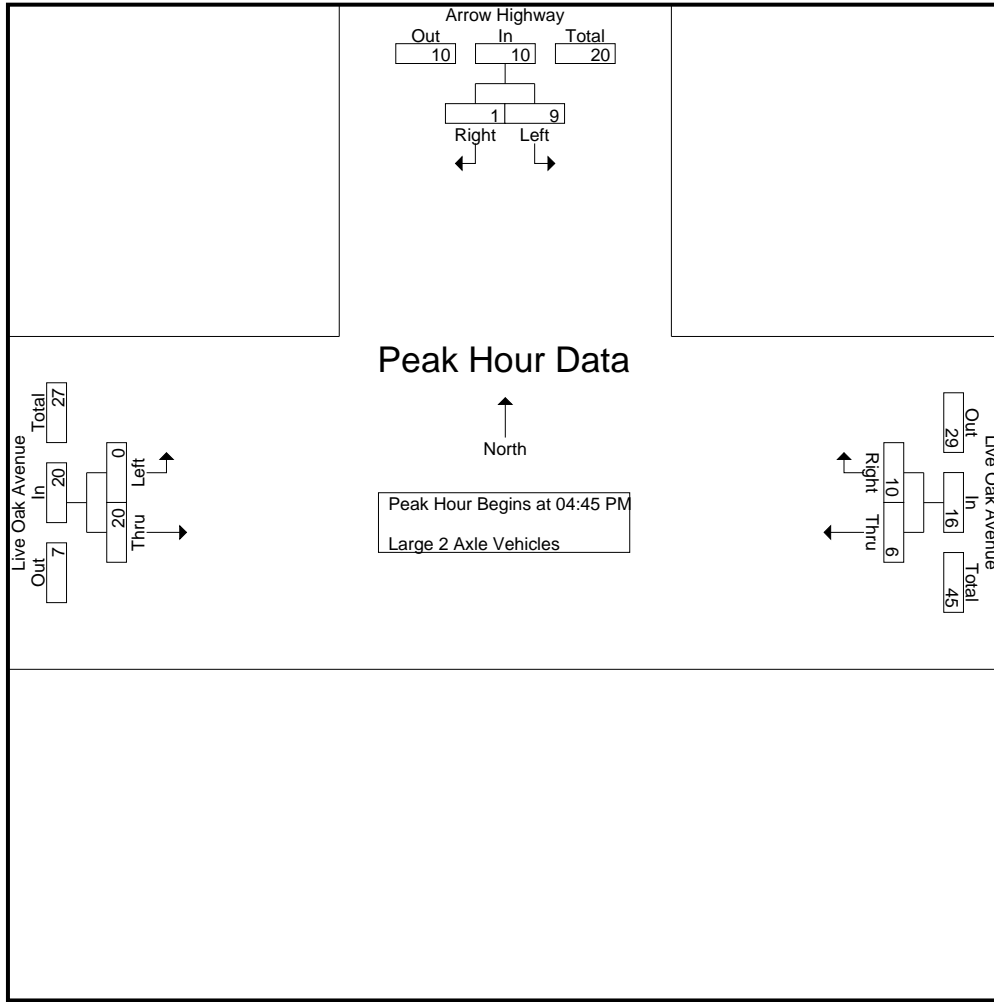
Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
04:00 PM	3	0	3	3	3	6	0	9	9	18
04:15 PM	1	0	1	3	2	5	0	5	5	11
04:30 PM	1	0	1	4	1	5	0	1	1	7
04:45 PM	3	1	4	1	3	4	0	2	2	10
Total	8	1	9	11	9	20	0	17	17	46
05:00 PM	3	0	3	1	2	3	0	8	8	14
05:15 PM	0	0	0	2	2	4	0	7	7	11
05:30 PM	3	0	3	2	3	5	0	3	3	11
05:45 PM	3	0	3	3	1	4	0	3	3	10
Total	9	0	9	8	8	16	0	21	21	46
Grand Total	17	1	18	19	17	36	0	38	38	92
Apprch %	94.4	5.6		52.8	47.2		0	100		
Total %	18.5	1.1	19.6	20.7	18.5	39.1	0	41.3	41.3	

Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
04:45 PM	3	1	4	1	3	4	0	2	2	10
05:00 PM	3	0	3	1	2	3	0	8	8	14
05:15 PM	0	0	0	2	2	4	0	7	7	11
05:30 PM	3	0	3	2	3	5	0	3	3	11
Total Volume	9	1	10	6	10	16	0	20	20	46
% App. Total	90	10		37.5	62.5		0	100		
PHF	.750	.250	.625	.750	.833	.800	.000	.625	.625	.821

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

City of Irwindale
 N/S: Arrow Highway (East)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 15_IRW_Arr E_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	3	1	4	1	3	4	0	2	2
+15 mins.	3	0	3	1	2	3	0	8	8
+30 mins.	0	0	0	2	2	4	0	7	7
+45 mins.	3	0	3	2	3	5	0	3	3
Total Volume	9	1	10	6	10	16	0	20	20
% App. Total	90	10		37.5	62.5		0	100	
PHF	.750	.250	.625	.750	.833	.800	.000	.625	.625

City of Irwindale
 N/S: Arrow Highway (East)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 15_IRW_Arr E_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 3 Axle Vehicles

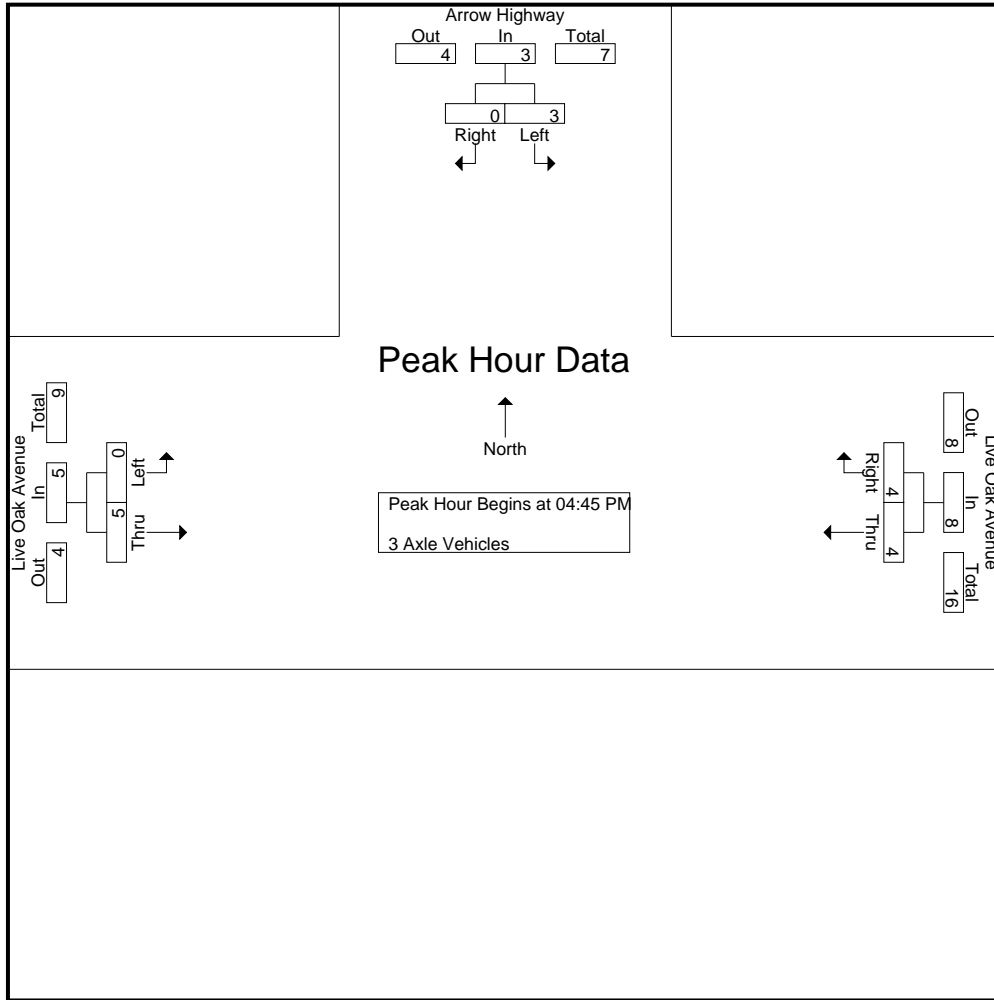
Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
04:00 PM	0	0	0	2	1	3	0	0	0	3
04:15 PM	2	0	2	1	2	3	0	4	4	9
04:30 PM	0	0	0	2	1	3	0	0	0	3
04:45 PM	2	0	2	3	2	5	0	1	1	8
Total	4	0	4	8	6	14	0	5	5	23
05:00 PM	0	0	0	0	1	1	0	1	1	2
05:15 PM	1	0	1	1	1	2	0	1	1	4
05:30 PM	0	0	0	0	0	0	0	2	2	2
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	1	0	1	1	2	3	0	4	4	8
Grand Total	5	0	5	9	8	17	0	9	9	31
Apprch %	100	0		52.9	47.1		0	100		
Total %	16.1	0	16.1	29	25.8	54.8	0	29	29	

Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
04:45 PM	2	0	2	3	2	5	0	1	1	8
05:00 PM	0	0	0	0	1	1	0	1	1	2
05:15 PM	1	0	1	1	1	2	0	1	1	4
05:30 PM	0	0	0	0	0	0	0	2	2	2
Total Volume	3	0	3	4	4	8	0	5	5	16
% App. Total	100	0		50	50		0	100		
PHF	.375	.000	.375	.333	.500	.400	.000	.625	.625	.500

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

City of Irwindale
 N/S: Arrow Highway (East)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 15_IRW_Arr E_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	2	0	2	3	2	5	0	1	1
+15 mins.	0	0	0	0	1	1	0	1	1
+30 mins.	1	0	1	1	1	2	0	1	1
+45 mins.	0	0	0	0	0	0	0	2	2
Total Volume	3	0	3	4	4	8	0	5	5
% App. Total	100	0		50	50		0	100	
PHF	.375	.000	.375	.333	.500	.400	.000	.625	.625

City of Irwindale
 N/S: Arrow Highway (East)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 15_IRW_Arr E_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 4+ Axle Trucks

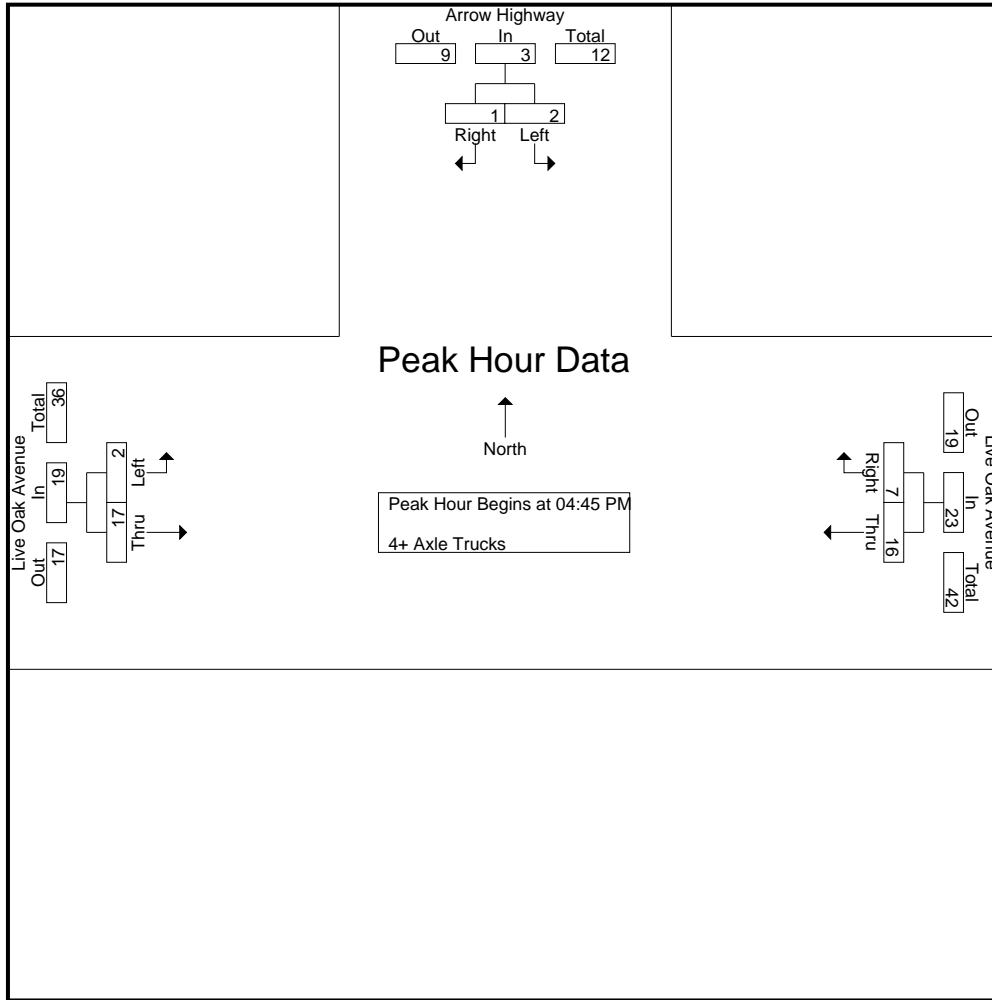
Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
04:00 PM	0	0	0	2	3	5	0	2	2	7
04:15 PM	0	0	0	5	6	11	1	4	5	16
04:30 PM	2	0	2	3	3	6	0	1	1	9
04:45 PM	0	1	1	2	2	4	0	2	2	7
Total	2	1	3	12	14	26	1	9	10	39
05:00 PM	1	0	1	1	4	5	1	6	7	13
05:15 PM	0	0	0	7	0	7	0	6	6	13
05:30 PM	1	0	1	6	1	7	1	3	4	12
05:45 PM	0	0	0	0	2	2	0	0	0	2
Total	2	0	2	14	7	21	2	15	17	40
Grand Total	4	1	5	26	21	47	3	24	27	79
Apprch %	80	20		55.3	44.7		11.1	88.9		
Total %	5.1	1.3	6.3	32.9	26.6	59.5	3.8	30.4	34.2	

Start Time	Arrow Highway Southbound			Live Oak Avenue Westbound			Live Oak Avenue Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
04:45 PM	0	1	1	2	2	4	0	2	2	7
05:00 PM	1	0	1	1	4	5	1	6	7	13
05:15 PM	0	0	0	7	0	7	0	6	6	13
05:30 PM	1	0	1	6	1	7	1	3	4	12
Total Volume	2	1	3	16	7	23	2	17	19	45
% App. Total	66.7	33.3		69.6	30.4		10.5	89.5		
PHF	.500	.250	.750	.571	.438	.821	.500	.708	.679	.865

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

City of Irwindale
 N/S: Arrow Highway (East)
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 15_IRW_Arr E_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	0	1	1	2	2	4	0	2	2
+15 mins.	1	0	1	1	4	5	1	6	7
+30 mins.	0	0	0	7	0	7	0	6	6
+45 mins.	1	0	1	6	1	7	1	3	4
Total Volume	2	1	3	16	7	23	2	17	19
% App. Total	66.7	33.3		69.6	30.4		10.5	89.5	
PHF	.500	.250	.750	.571	.438	.821	.500	.708	.679

City of Irwindale
 N/S: Speedway Drive
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 16_IRW_Speed_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

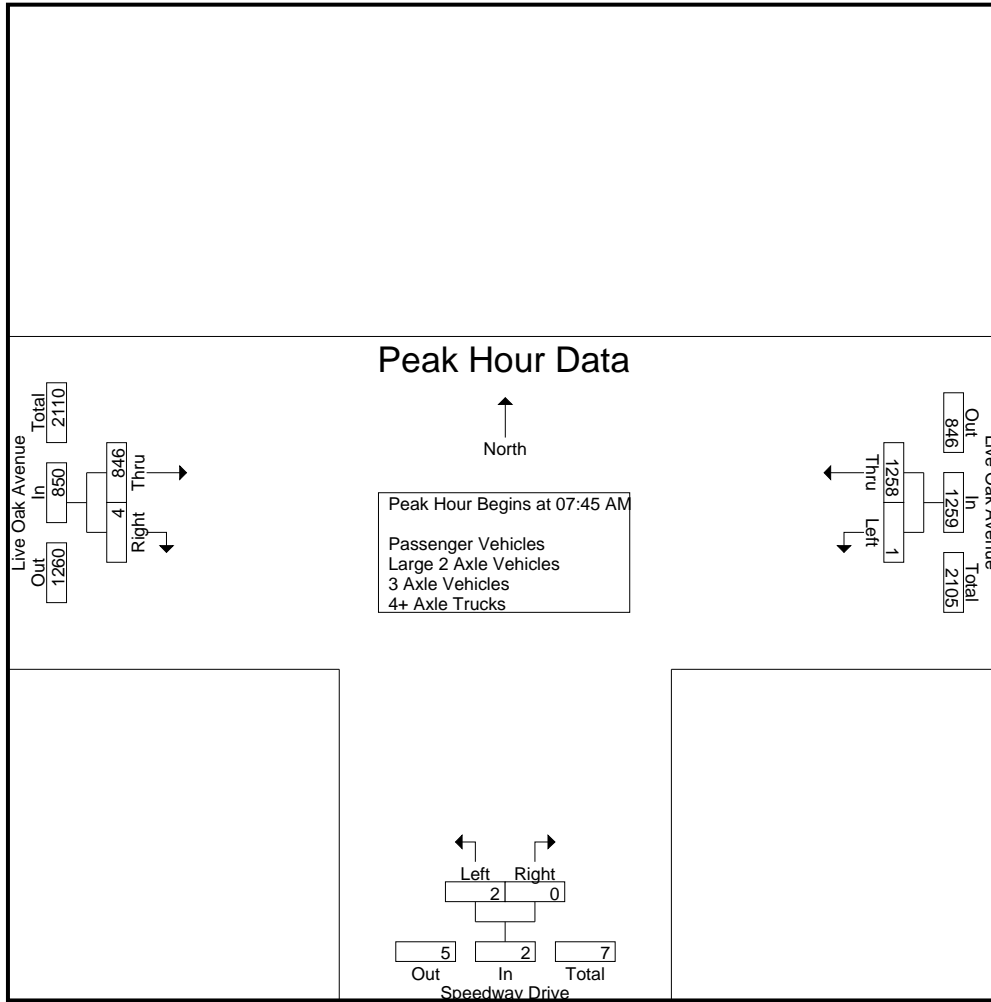
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Live Oak Avenue Westbound			Speedway Drive Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	1	246	247	1	1	2	154	1	155	404
07:15 AM	0	264	264	0	0	0	194	0	194	458
07:30 AM	0	295	295	0	0	0	174	0	174	469
07:45 AM	1	380	381	0	0	0	183	0	183	564
Total	2	1185	1187	1	1	2	705	1	706	1895
08:00 AM	0	325	325	0	0	0	225	0	225	550
08:15 AM	0	305	305	1	0	1	218	2	220	526
08:30 AM	0	248	248	1	0	1	220	2	222	471
08:45 AM	0	231	231	1	0	1	150	1	151	383
Total	0	1109	1109	3	0	3	813	5	818	1930
Grand Total	2	2294	2296	4	1	5	1518	6	1524	3825
Apprch %	0.1	99.9		80	20		99.6	0.4		
Total %	0.1	60	60	0.1	0	0.1	39.7	0.2	39.8	
Passenger Vehicles	2	2142	2144	3	0	3	1346	4	1350	3497
% Passenger Vehicles	100	93.4	93.4	75	0	60	88.7	66.7	88.6	91.4
Large 2 Axle Vehicles	0	55	55	1	0	1	42	1	43	99
% Large 2 Axle Vehicles	0	2.4	2.4	25	0	20	2.8	16.7	2.8	2.6
3 Axle Vehicles	0	19	19	0	0	0	25	0	25	44
% 3 Axle Vehicles	0	0.8	0.8	0	0	0	1.6	0	1.6	1.2
4+ Axle Trucks	0	78	78	0	1	1	105	1	106	185
% 4+ Axle Trucks	0	3.4	3.4	0	100	20	6.9	16.7	7	4.8

Start Time	Live Oak Avenue Westbound			Speedway Drive Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	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 07:45 AM										
07:45 AM	1	380	381	0	0	0	183	0	183	564
08:00 AM	0	325	325	0	0	0	225	0	225	550
08:15 AM	0	305	305	1	0	1	218	2	220	526
08:30 AM	0	248	248	1	0	1	220	2	222	471
Total Volume	1	1258	1259	2	0	2	846	4	850	2111
% App. Total	0.1	99.9		100	0		99.5	0.5		
PHF	.250	.828	.826	.500	.000	.500	.940	.500	.944	.936

City of Irwindale
 N/S: Speedway Drive
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 16_IRW_Speed_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 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:

	07:30 AM			08:00 AM			07:45 AM		
+0 mins.	0	295	295	0	0	0	183	0	183
+15 mins.	1	380	381	1	0	1	225	0	225
+30 mins.	0	325	325	1	0	1	218	2	220
+45 mins.	0	305	305	1	0	1	220	2	222
Total Volume	1	1305	1306	3	0	3	846	4	850
% App. Total	0.1	99.9		100	0		99.5	0.5	
PHF	.250	.859	.857	.750	.000	.750	.940	.500	.944

City of Irwindale
 N/S: Speedway Drive
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 16_IRW_Speed_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Passenger Vehicles

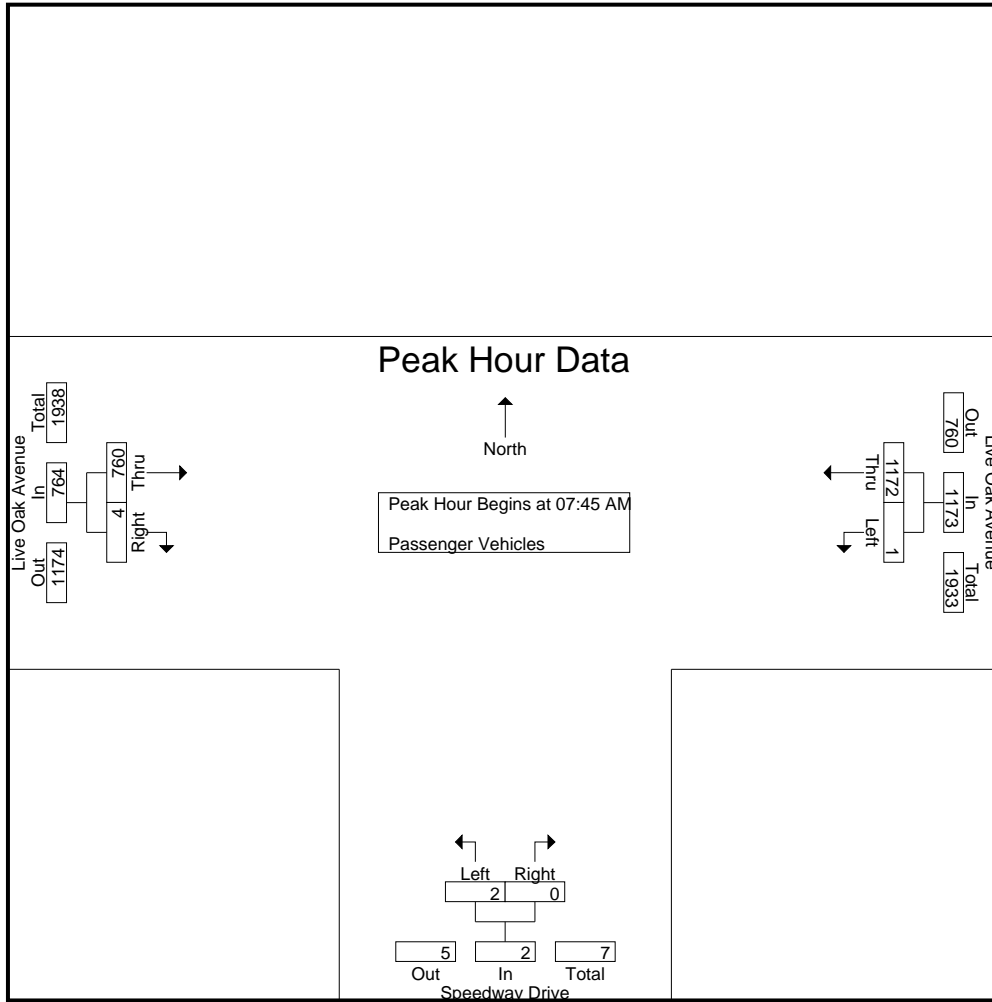
Start Time	Live Oak Avenue Westbound			Speedway Drive Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	1	226	227	0	0	0	128	0	128	355
07:15 AM	0	248	248	0	0	0	171	0	171	419
07:30 AM	0	282	282	0	0	0	150	0	150	432
07:45 AM	1	361	362	0	0	0	166	0	166	528
Total	2	1117	1119	0	0	0	615	0	615	1734
08:00 AM	0	300	300	0	0	0	202	0	202	502
08:15 AM	0	282	282	1	0	1	199	2	201	484
08:30 AM	0	229	229	1	0	1	193	2	195	425
08:45 AM	0	214	214	1	0	1	137	0	137	352
Total	0	1025	1025	3	0	3	731	4	735	1763
Grand Total	2	2142	2144	3	0	3	1346	4	1350	3497
Apprch %	0.1	99.9		100	0		99.7	0.3		
Total %	0.1	61.3	61.3	0.1	0	0.1	38.5	0.1	38.6	

Start Time	Live Oak Avenue Westbound			Speedway Drive Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:45 AM	1	361	362	0	0	0	166	0	166	528
08:00 AM	0	300	300	0	0	0	202	0	202	502
08:15 AM	0	282	282	1	0	1	199	2	201	484
08:30 AM	0	229	229	1	0	1	193	2	195	425
Total Volume	1	1172	1173	2	0	2	760	4	764	1939
% App. Total	0.1	99.9		100	0		99.5	0.5		
PHF	.250	.812	.810	.500	.000	.500	.941	.500	.946	.918

Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:45 AM

City of Irwindale
 N/S: Speedway Drive
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 16_IRW_Speed_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:45 AM			07:45 AM			07:45 AM		
+0 mins.	1	361	362	0	0	0	166	0	166
+15 mins.	0	300	300	0	0	0	202	0	202
+30 mins.	0	282	282	1	0	1	199	2	201
+45 mins.	0	229	229	1	0	1	193	2	195
Total Volume	1	1172	1173	2	0	2	760	4	764
% App. Total	0.1	99.9		100	0		99.5	0.5	
PHF	.250	.812	.810	.500	.000	.500	.941	.500	.946

City of Irwindale
 N/S: Speedway Drive
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 16_IRW_Speed_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

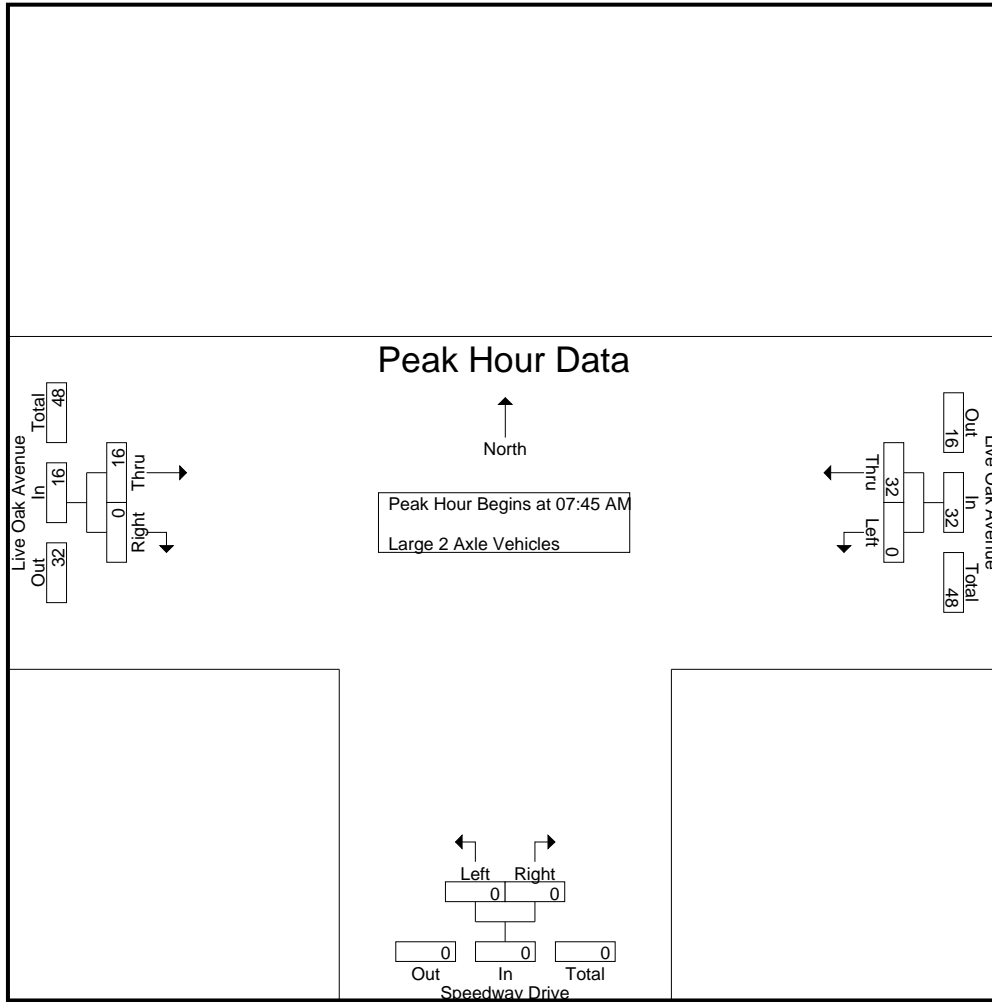
Start Time	Live Oak Avenue Westbound			Speedway Drive Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	0	9	9	1	0	1	6	0	6	16
07:15 AM	0	3	3	0	0	0	10	0	10	13
07:30 AM	0	5	5	0	0	0	7	0	7	12
07:45 AM	0	5	5	0	0	0	5	0	5	10
Total	0	22	22	1	0	1	28	0	28	51
08:00 AM	0	9	9	0	0	0	3	0	3	12
08:15 AM	0	10	10	0	0	0	3	0	3	13
08:30 AM	0	8	8	0	0	0	5	0	5	13
08:45 AM	0	6	6	0	0	0	3	1	4	10
Total	0	33	33	0	0	0	14	1	15	48
Grand Total	0	55	55	1	0	1	42	1	43	99
Apprch %	0	100		100	0		97.7	2.3		
Total %	0	55.6	55.6	1	0	1	42.4	1	43.4	

Start Time	Live Oak Avenue Westbound			Speedway Drive Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:45 AM	0	5	5	0	0	0	5	0	5	10
08:00 AM	0	9	9	0	0	0	3	0	3	12
08:15 AM	0	10	10	0	0	0	3	0	3	13
08:30 AM	0	8	8	0	0	0	5	0	5	13
Total Volume	0	32	32	0	0	0	16	0	16	48
% App. Total	0	100		0	0		100	0		
PHF	.000	.800	.800	.000	.000	.000	.800	.000	.800	.923

Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:45 AM

City of Irwindale
 N/S: Speedway Drive
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 16_IRW_Speed_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:45 AM			07:45 AM			07:45 AM		
+0 mins.	0	5	5	0	0	0	5	0	5
+15 mins.	0	9	9	0	0	0	3	0	3
+30 mins.	0	10	10	0	0	0	3	0	3
+45 mins.	0	8	8	0	0	0	5	0	5
Total Volume	0	32	32	0	0	0	16	0	16
% App. Total	0	100		0	0		100	0	
PHF	.000	.800	.800	.000	.000	.000	.800	.000	.800

City of Irwindale
 N/S: Speedway Drive
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 16_IRW_Speed_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	Live Oak Avenue Westbound			Speedway Drive Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	0	5	0	5	5
07:15 AM	0	4	4	0	0	0	2	0	2	6
07:30 AM	0	3	3	0	0	0	4	0	4	7
07:45 AM	0	3	3	0	0	0	2	0	2	5
Total	0	10	10	0	0	0	13	0	13	23
08:00 AM	0	2	2	0	0	0	4	0	4	6
08:15 AM	0	3	3	0	0	0	2	0	2	5
08:30 AM	0	3	3	0	0	0	2	0	2	5
08:45 AM	0	1	1	0	0	0	4	0	4	5
Total	0	9	9	0	0	0	12	0	12	21
Grand Total	0	19	19	0	0	0	25	0	25	44
Apprch %	0	100		0	0		100	0		
Total %	0	43.2	43.2	0	0	0	56.8	0	56.8	

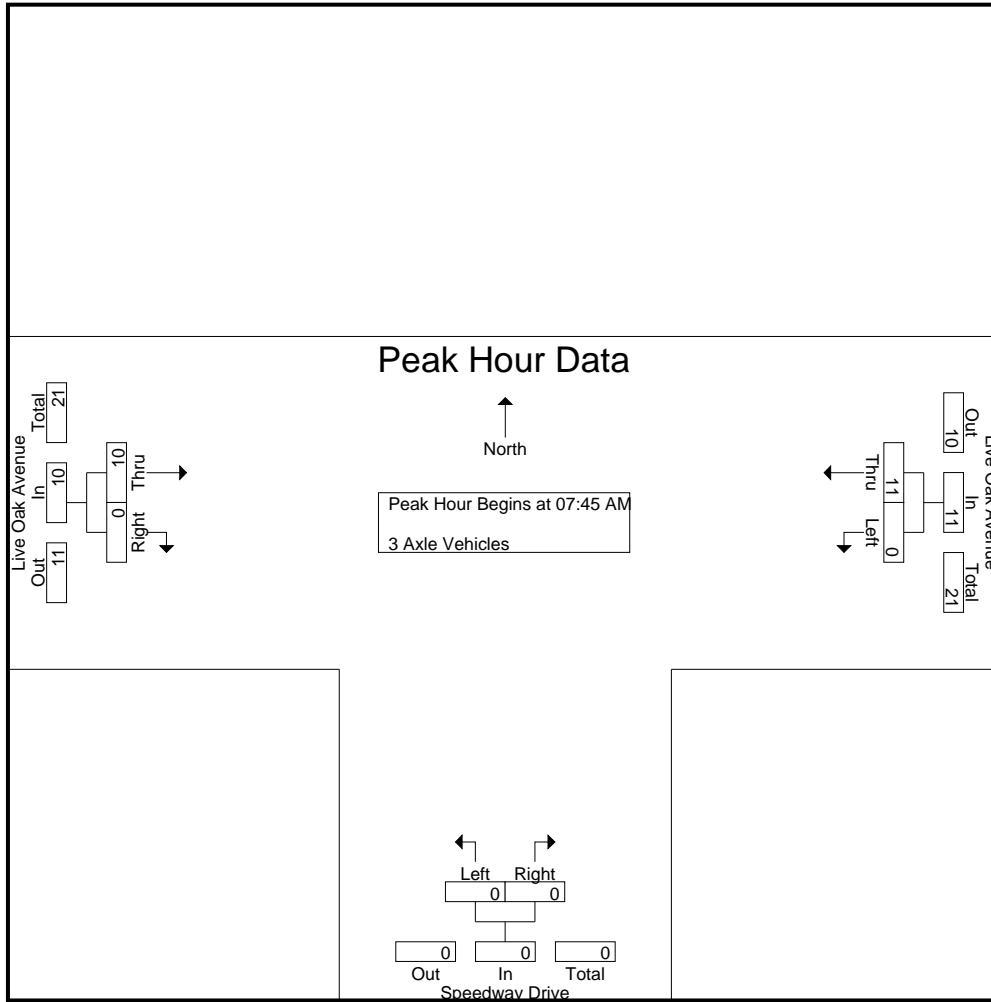
Start Time	Live Oak Avenue Westbound			Speedway Drive Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:45 AM	0	3	3	0	0	0	2	0	2	5
08:00 AM	0	2	2	0	0	0	4	0	4	6
08:15 AM	0	3	3	0	0	0	2	0	2	5
08:30 AM	0	3	3	0	0	0	2	0	2	5
Total Volume	0	11	11	0	0	0	10	0	10	21
% App. Total	0	100		0	0		100	0		
PHF	.000	.917	.917	.000	.000	.000	.625	.000	.625	.875

Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:45 AM

City of Irwindale
 N/S: Speedway Drive
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 16_IRW_Speed_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
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Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:45 AM			07:45 AM			07:45 AM		
+0 mins.	0	3	3	0	0	0	2	0	2
+15 mins.	0	2	2	0	0	0	4	0	4
+30 mins.	0	3	3	0	0	0	2	0	2
+45 mins.	0	3	3	0	0	0	2	0	2
Total Volume	0	11	11	0	0	0	10	0	10
% App. Total	0	100		0	0		100	0	
PHF	.000	.917	.917	.000	.000	.000	.625	.000	.625

City of Irwindale
 N/S: Speedway Drive
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 16_IRW_Speed_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 4+ Axle Trucks

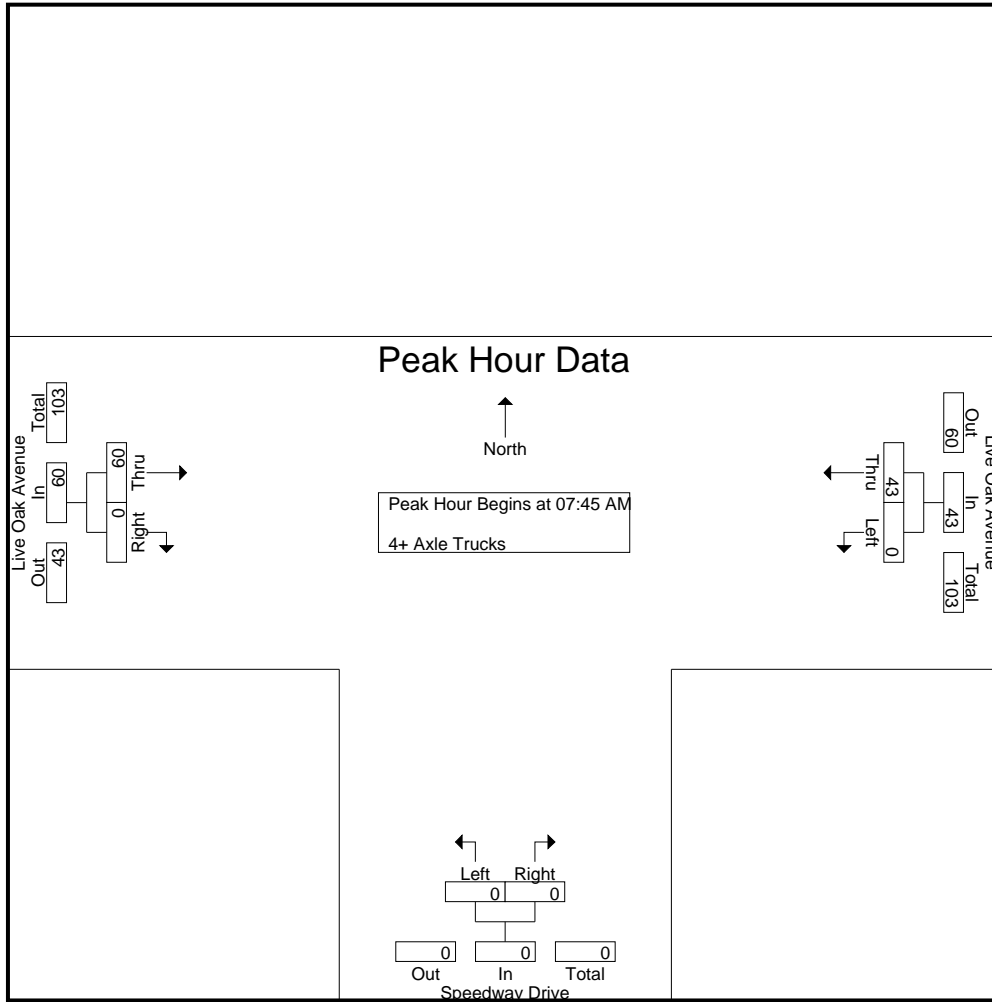
Start Time	Live Oak Avenue Westbound			Speedway Drive Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	0	11	11	0	1	1	15	1	16	28
07:15 AM	0	9	9	0	0	0	11	0	11	20
07:30 AM	0	5	5	0	0	0	13	0	13	18
07:45 AM	0	11	11	0	0	0	10	0	10	21
Total	0	36	36	0	1	1	49	1	50	87
08:00 AM	0	14	14	0	0	0	16	0	16	30
08:15 AM	0	10	10	0	0	0	14	0	14	24
08:30 AM	0	8	8	0	0	0	20	0	20	28
08:45 AM	0	10	10	0	0	0	6	0	6	16
Total	0	42	42	0	0	0	56	0	56	98
Grand Total	0	78	78	0	1	1	105	1	106	185
Apprch %	0	100		0	100		99.1	0.9		
Total %	0	42.2	42.2	0	0.5	0.5	56.8	0.5	57.3	

Start Time	Live Oak Avenue Westbound			Speedway Drive Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:45 AM	0	11	11	0	0	0	10	0	10	21
08:00 AM	0	14	14	0	0	0	16	0	16	30
08:15 AM	0	10	10	0	0	0	14	0	14	24
08:30 AM	0	8	8	0	0	0	20	0	20	28
Total Volume	0	43	43	0	0	0	60	0	60	103
% App. Total	0	100		0	0		100	0		
PHF	.000	.768	.768	.000	.000	.000	.750	.000	.750	.858

Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:45 AM

City of Irwindale
 N/S: Speedway Drive
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 16_IRW_Speed_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:45 AM			07:45 AM			07:45 AM		
+0 mins.	0	11	11	0	0	0	10	0	10
+15 mins.	0	14	14	0	0	0	16	0	16
+30 mins.	0	10	10	0	0	0	14	0	14
+45 mins.	0	8	8	0	0	0	20	0	20
Total Volume	0	43	43	0	0	0	60	0	60
% App. Total	0	100		0	0		100	0	
PHF	.000	.768	.768	.000	.000	.000	.750	.000	.750

City of Irwindale
 N/S: Speedway Drive
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 16_IRW_Speed_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

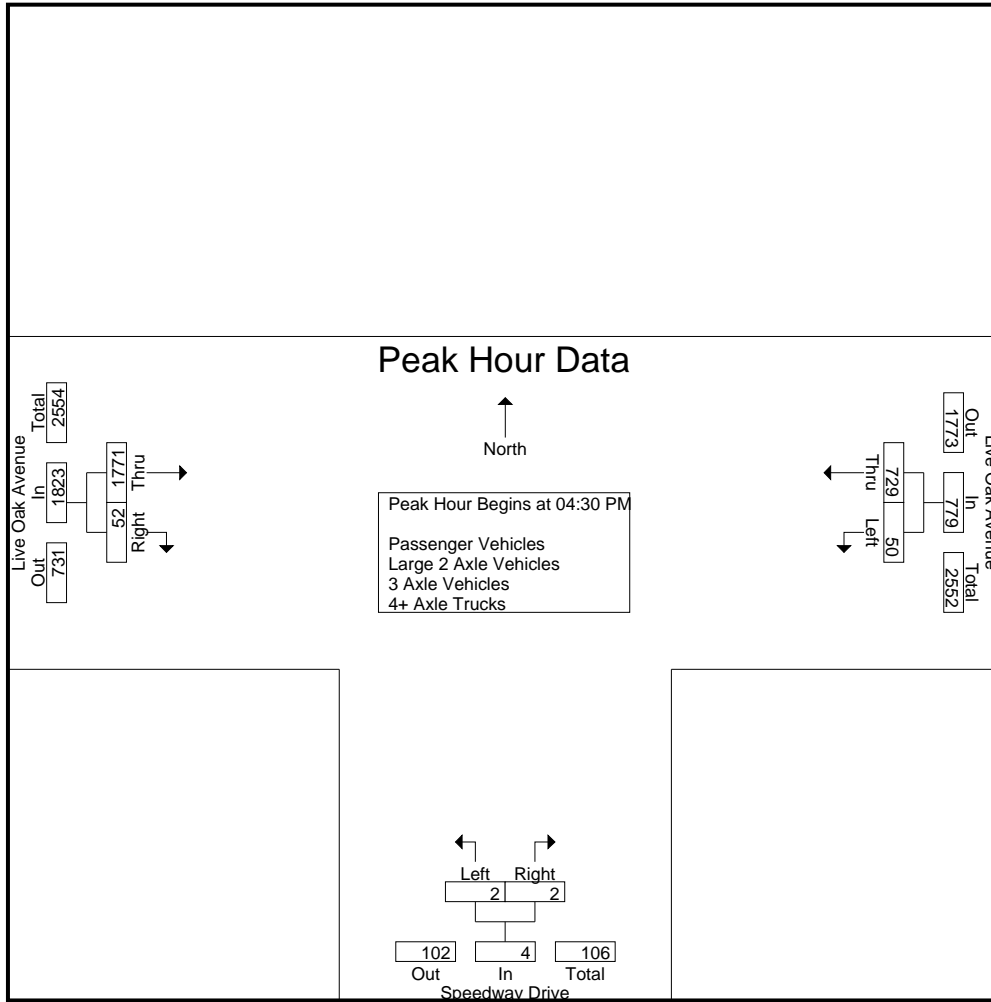
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Live Oak Avenue Westbound			Speedway Drive Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	7	139	146	0	2	2	400	12	412	560
04:15 PM	8	148	156	2	2	4	426	13	439	599
04:30 PM	15	170	185	2	0	2	460	13	473	660
04:45 PM	8	146	154	0	2	2	412	10	422	578
Total	38	603	641	4	6	10	1698	48	1746	2397
05:00 PM	17	222	239	0	0	0	421	20	441	680
05:15 PM	10	191	201	0	0	0	478	9	487	688
05:30 PM	10	165	175	0	4	4	448	12	460	639
05:45 PM	8	161	169	0	0	0	413	12	425	594
Total	45	739	784	0	4	4	1760	53	1813	2601
Grand Total	83	1342	1425	4	10	14	3458	101	3559	4998
Apprch %	5.8	94.2		28.6	71.4		97.2	2.8		
Total %	1.7	26.9	28.5	0.1	0.2	0.3	69.2	2	71.2	
Passenger Vehicles	82	1263	1345	1	10	11	3357	97	3454	4810
% Passenger Vehicles	98.8	94.1	94.4	25	100	78.6	97.1	96	97	96.2
Large 2 Axle Vehicles	1	20	21	3	0	3	53	2	55	79
% Large 2 Axle Vehicles	1.2	1.5	1.5	75	0	21.4	1.5	2	1.5	1.6
3 Axle Vehicles	0	15	15	0	0	0	12	0	12	27
% 3 Axle Vehicles	0	1.1	1.1	0	0	0	0.3	0	0.3	0.5
4+ Axle Trucks	0	44	44	0	0	0	36	2	38	82
% 4+ Axle Trucks	0	3.3	3.1	0	0	0	1	2	1.1	1.6

Start Time	Live Oak Avenue Westbound			Speedway Drive Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	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	15	170	185	2	0	2	460	13	473	660
04:45 PM	8	146	154	0	2	2	412	10	422	578
05:00 PM	17	222	239	0	0	0	421	20	441	680
05:15 PM	10	191	201	0	0	0	478	9	487	688
Total Volume	50	729	779	2	2	4	1771	52	1823	2606
% App. Total	6.4	93.6		50	50		97.1	2.9		
PHF	.735	.821	.815	.250	.250	.500	.926	.650	.936	.947

City of Irwindale
 N/S: Speedway Drive
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 16_IRW_Speed_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
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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			04:00 PM			04:30 PM		
+0 mins.	17	222	239	0	2	2	460	13	473
+15 mins.	10	191	201	2	2	4	412	10	422
+30 mins.	10	165	175	2	0	2	421	20	441
+45 mins.	8	161	169	0	2	2	478	9	487
Total Volume	45	739	784	4	6	10	1771	52	1823
% App. Total	5.7	94.3		40	60		97.1	2.9	
PHF	.662	.832	.820	.500	.750	.625	.926	.650	.936

City of Irwindale
 N/S: Speedway Drive
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 16_IRW_Speed_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
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Groups Printed- Passenger Vehicles

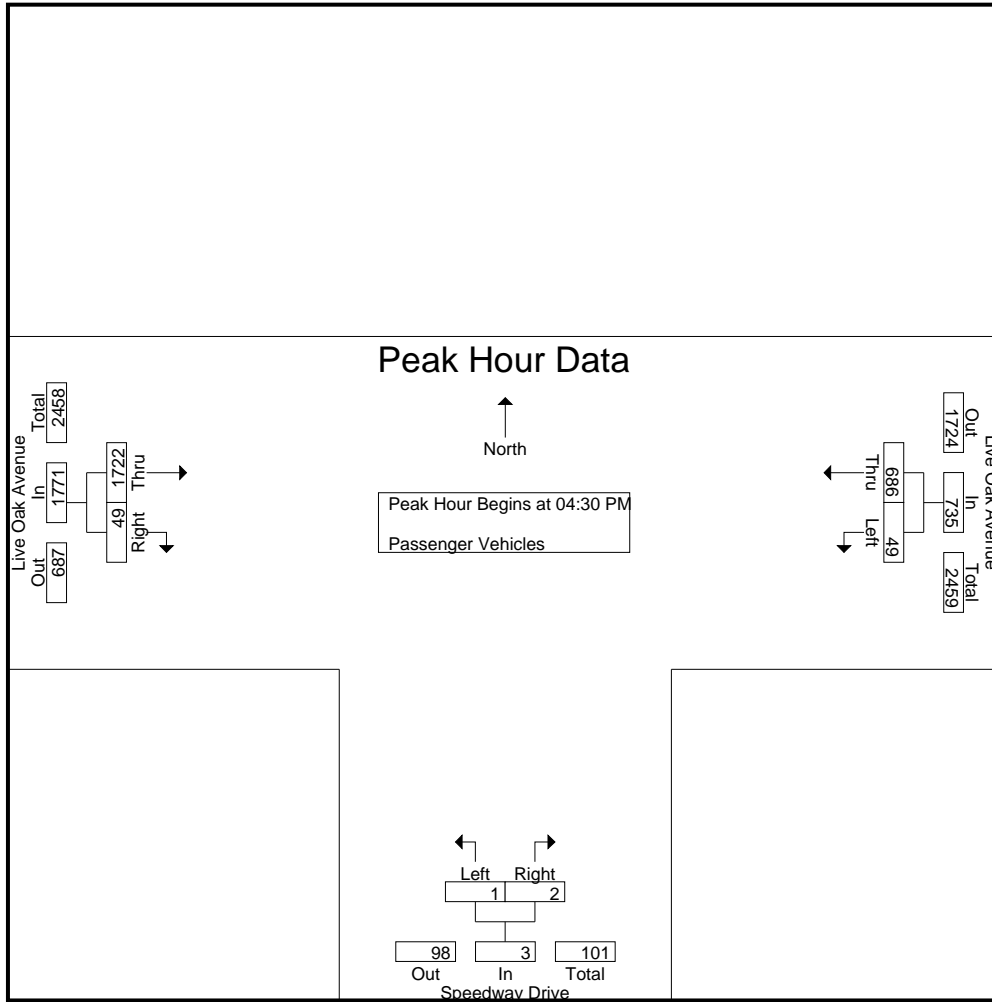
Start Time	Live Oak Avenue Westbound			Speedway Drive Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	7	130	137	0	2	2	383	11	394	533
04:15 PM	8	138	146	0	2	2	410	13	423	571
04:30 PM	14	155	169	1	0	1	446	13	459	629
04:45 PM	8	140	148	0	2	2	398	8	406	556
Total	37	563	600	1	6	7	1637	45	1682	2289
05:00 PM	17	212	229	0	0	0	412	19	431	660
05:15 PM	10	179	189	0	0	0	466	9	475	664
05:30 PM	10	155	165	0	4	4	439	12	451	620
05:45 PM	8	154	162	0	0	0	403	12	415	577
Total	45	700	745	0	4	4	1720	52	1772	2521
Grand Total	82	1263	1345	1	10	11	3357	97	3454	4810
Apprch %	6.1	93.9		9.1	90.9		97.2	2.8		
Total %	1.7	26.3	28	0	0.2	0.2	69.8	2	71.8	

Start Time	Live Oak Avenue Westbound			Speedway Drive Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:30 PM	14	155	169	1	0	1	446	13	459	629
04:45 PM	8	140	148	0	2	2	398	8	406	556
05:00 PM	17	212	229	0	0	0	412	19	431	660
05:15 PM	10	179	189	0	0	0	466	9	475	664
Total Volume	49	686	735	1	2	3	1722	49	1771	2509
% App. Total	6.7	93.3		33.3	66.7		97.2	2.8		
PHF	.721	.809	.802	.250	.250	.375	.924	.645	.932	.945

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

City of Irwindale
 N/S: Speedway Drive
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 16_IRW_Speed_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
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Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	14	155	169	1	0	1	446	13	459
+15 mins.	8	140	148	0	2	2	398	8	406
+30 mins.	17	212	229	0	0	0	412	19	431
+45 mins.	10	179	189	0	0	0	466	9	475
Total Volume	49	686	735	1	2	3	1722	49	1771
% App. Total	6.7	93.3		33.3	66.7		97.2	2.8	
PHF	.721	.809	.802	.250	.250	.375	.924	.645	.932

City of Irwindale
 N/S: Speedway Drive
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 16_IRW_Speed_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

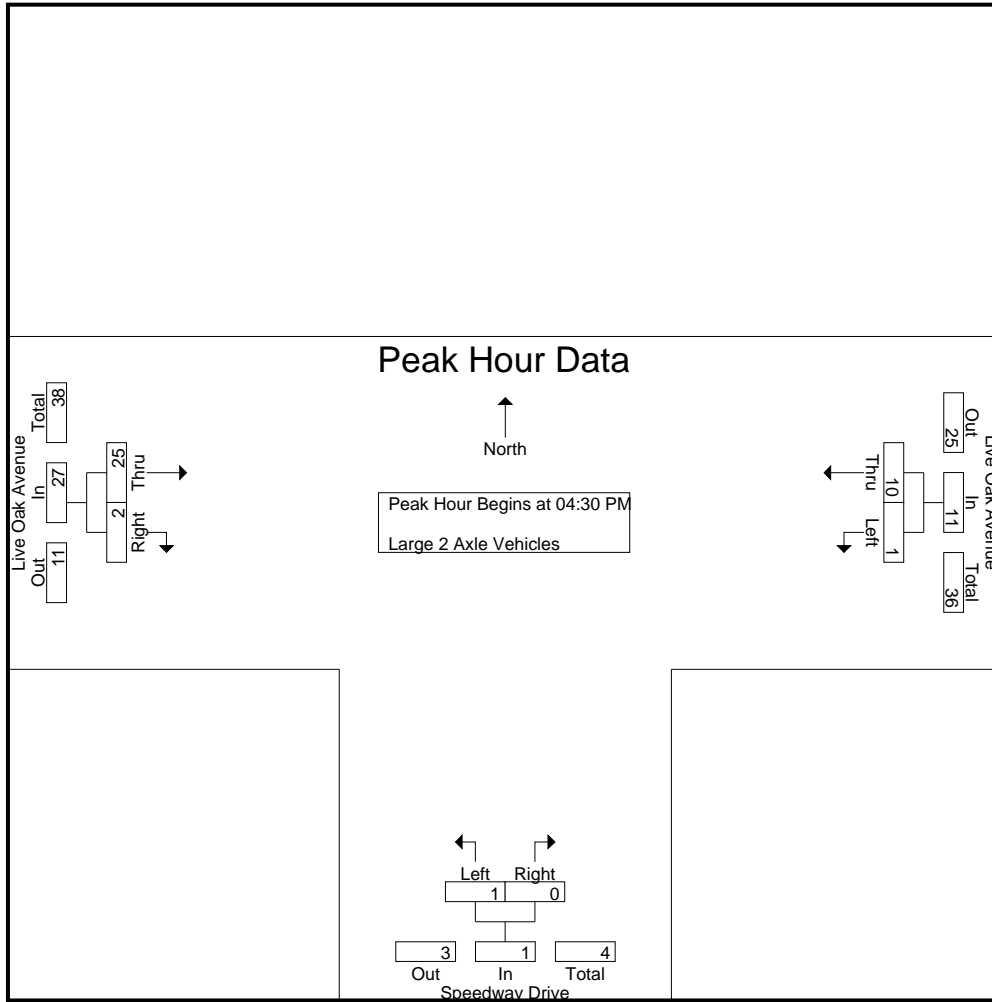
Start Time	Live Oak Avenue Westbound			Speedway Drive Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	0	1	1	0	0	0	11	0	11	12
04:15 PM	0	2	2	2	0	2	8	0	8	12
04:30 PM	1	5	6	1	0	1	6	0	6	13
04:45 PM	0	2	2	0	0	0	9	1	10	12
Total	1	10	11	3	0	3	34	1	35	49
05:00 PM	0	1	1	0	0	0	4	1	5	6
05:15 PM	0	2	2	0	0	0	6	0	6	8
05:30 PM	0	4	4	0	0	0	3	0	3	7
05:45 PM	0	3	3	0	0	0	6	0	6	9
Total	0	10	10	0	0	0	19	1	20	30
Grand Total	1	20	21	3	0	3	53	2	55	79
Apprch %	4.8	95.2		100	0		96.4	3.6		
Total %	1.3	25.3	26.6	3.8	0	3.8	67.1	2.5	69.6	

Start Time	Live Oak Avenue Westbound			Speedway Drive Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:30 PM	1	5	6	1	0	1	6	0	6	13
04:45 PM	0	2	2	0	0	0	9	1	10	12
05:00 PM	0	1	1	0	0	0	4	1	5	6
05:15 PM	0	2	2	0	0	0	6	0	6	8
Total Volume	1	10	11	1	0	1	25	2	27	39
% App. Total	9.1	90.9		100	0		92.6	7.4		
PHF	.250	.500	.458	.250	.000	.250	.694	.500	.675	.750

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

City of Irwindale
 N/S: Speedway Drive
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 16_IRW_Speed_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
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Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	1	5	6	1	0	1	6	0	6
+15 mins.	0	2	2	0	0	0	9	1	10
+30 mins.	0	1	1	0	0	0	4	1	5
+45 mins.	0	2	2	0	0	0	6	0	6
Total Volume	1	10	11	1	0	1	25	2	27
% App. Total	9.1	90.9		100	0		92.6	7.4	
PHF	.250	.500	.458	.250	.000	.250	.694	.500	.675

City of Irwindale
 N/S: Speedway Drive
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 16_IRW_Speed_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
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Groups Printed- 3 Axle Vehicles

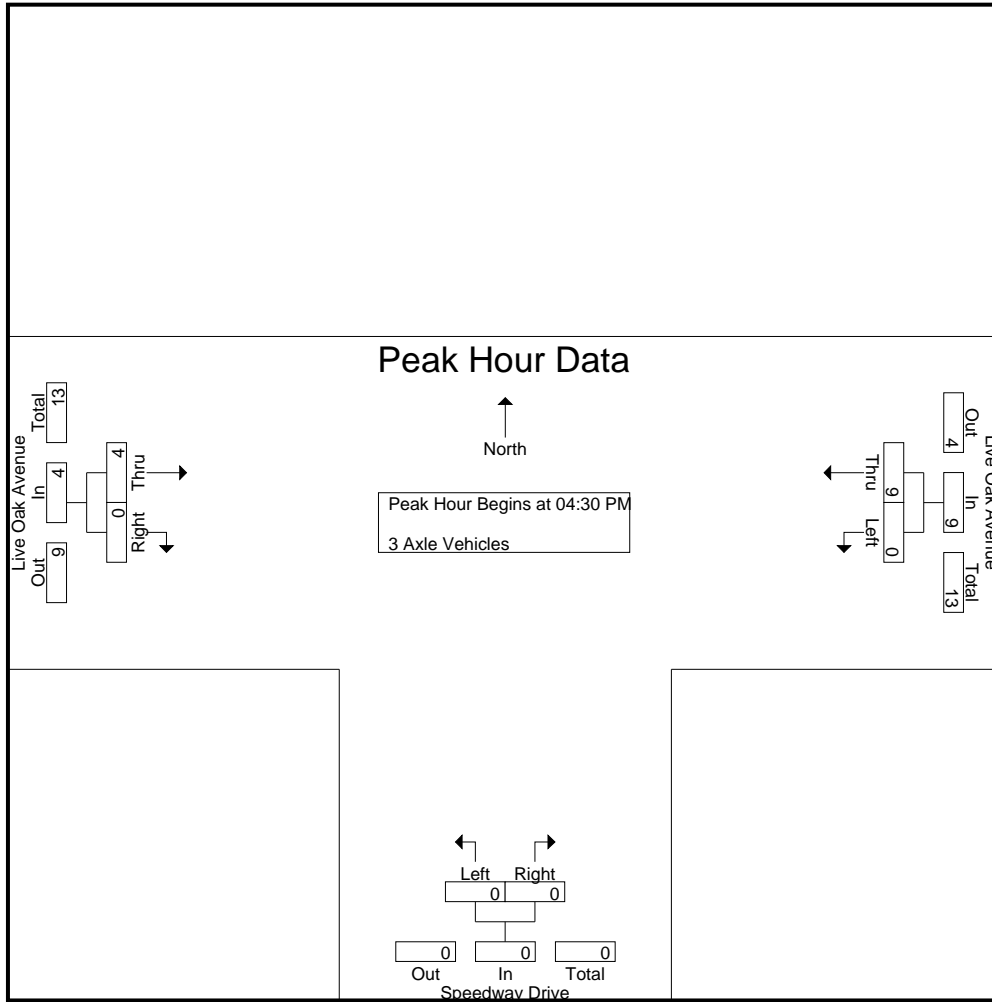
Start Time	Live Oak Avenue Westbound			Speedway Drive Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	0	2	0	2	2
04:15 PM	0	3	3	0	0	0	4	0	4	7
04:30 PM	0	5	5	0	0	0	2	0	2	7
04:45 PM	0	1	1	0	0	0	0	0	0	1
Total	0	9	9	0	0	0	8	0	8	17
05:00 PM	0	1	1	0	0	0	2	0	2	3
05:15 PM	0	2	2	0	0	0	0	0	0	2
05:30 PM	0	2	2	0	0	0	1	0	1	3
05:45 PM	0	1	1	0	0	0	1	0	1	2
Total	0	6	6	0	0	0	4	0	4	10
Grand Total	0	15	15	0	0	0	12	0	12	27
Apprch %	0	100		0	0		100	0		
Total %	0	55.6	55.6	0	0	0	44.4	0	44.4	

Start Time	Live Oak Avenue Westbound			Speedway Drive Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:30 PM	0	5	5	0	0	0	2	0	2	7
04:45 PM	0	1	1	0	0	0	0	0	0	1
05:00 PM	0	1	1	0	0	0	2	0	2	3
05:15 PM	0	2	2	0	0	0	0	0	0	2
Total Volume	0	9	9	0	0	0	4	0	4	13
% App. Total	0	100		0	0		100	0		
PHF	.000	.450	.450	.000	.000	.000	.500	.000	.500	.464

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

City of Irwindale
 N/S: Speedway Drive
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 16_IRW_Speed_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	0	5	5	0	0	0	2	0	2
+15 mins.	0	1	1	0	0	0	0	0	0
+30 mins.	0	1	1	0	0	0	2	0	2
+45 mins.	0	2	2	0	0	0	0	0	0
Total Volume	0	9	9	0	0	0	4	0	4
% App. Total	0	100		0	0		100	0	
PHF	.000	.450	.450	.000	.000	.000	.500	.000	.500

City of Irwindale
 N/S: Speedway Drive
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 16_IRW_Speed_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 4+ Axle Trucks

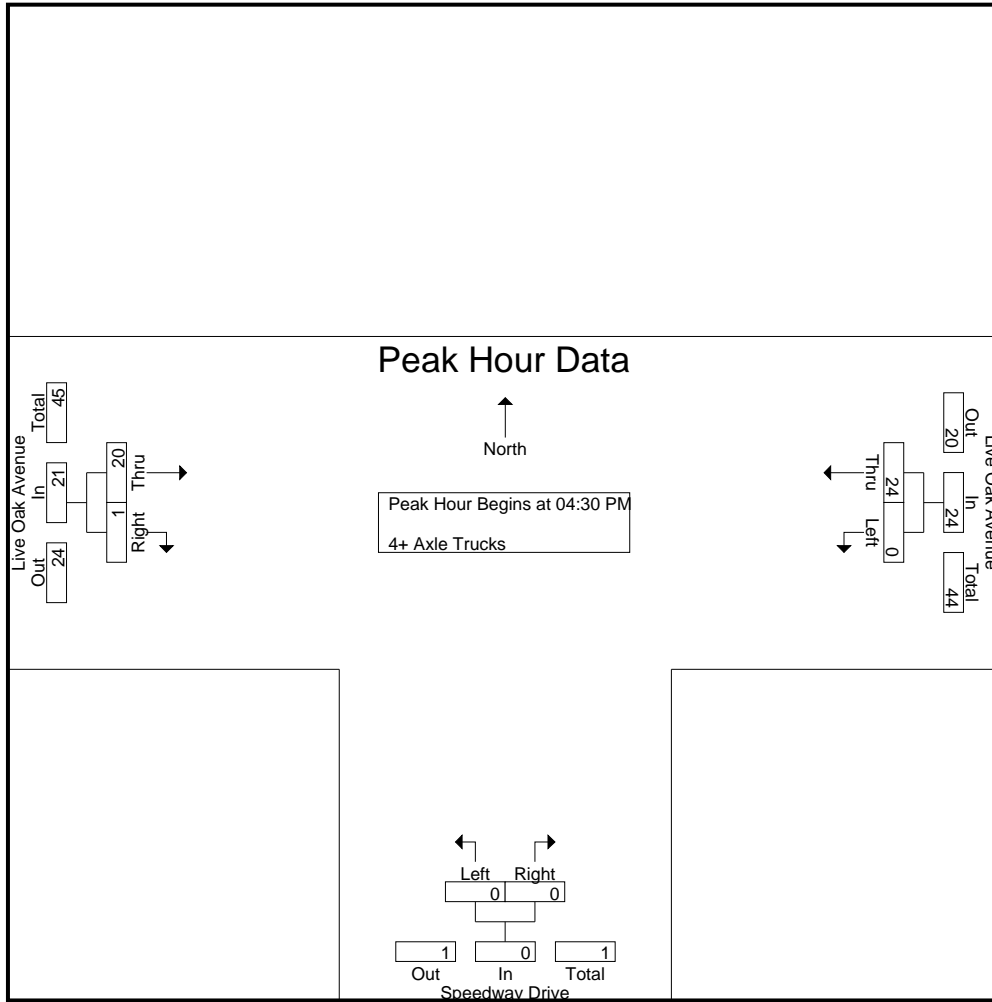
Start Time	Live Oak Avenue Westbound			Speedway Drive Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	0	8	8	0	0	0	4	1	5	13
04:15 PM	0	5	5	0	0	0	4	0	4	9
04:30 PM	0	5	5	0	0	0	6	0	6	11
04:45 PM	0	3	3	0	0	0	5	1	6	9
Total	0	21	21	0	0	0	19	2	21	42
05:00 PM	0	8	8	0	0	0	3	0	3	11
05:15 PM	0	8	8	0	0	0	6	0	6	14
05:30 PM	0	4	4	0	0	0	5	0	5	9
05:45 PM	0	3	3	0	0	0	3	0	3	6
Total	0	23	23	0	0	0	17	0	17	40
Grand Total	0	44	44	0	0	0	36	2	38	82
Apprch %	0	100		0	0		94.7	5.3		
Total %	0	53.7	53.7	0	0	0	43.9	2.4	46.3	

Start Time	Live Oak Avenue Westbound			Speedway Drive Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:30 PM	0	5	5	0	0	0	6	0	6	11
04:45 PM	0	3	3	0	0	0	5	1	6	9
05:00 PM	0	8	8	0	0	0	3	0	3	11
05:15 PM	0	8	8	0	0	0	6	0	6	14
Total Volume	0	24	24	0	0	0	20	1	21	45
% App. Total	0	100		0	0		95.2	4.8		
PHF	.000	.750	.750	.000	.000	.000	.833	.250	.875	.804

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

City of Irwindale
 N/S: Speedway Drive
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 16_IRW_Speed_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
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Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	0	5	5	0	0	0	6	0	6
+15 mins.	0	3	3	0	0	0	5	1	6
+30 mins.	0	8	8	0	0	0	3	0	3
+45 mins.	0	8	8	0	0	0	6	0	6
Total Volume	0	24	24	0	0	0	20	1	21
% App. Total	0	100		0	0		95.2	4.8	
PHF	.000	.750	.750	.000	.000	.000	.833	.250	.875

City of Irwindale
 N/S: Baldwin Park Boulevard
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 17_IRW_Bald_LO AM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

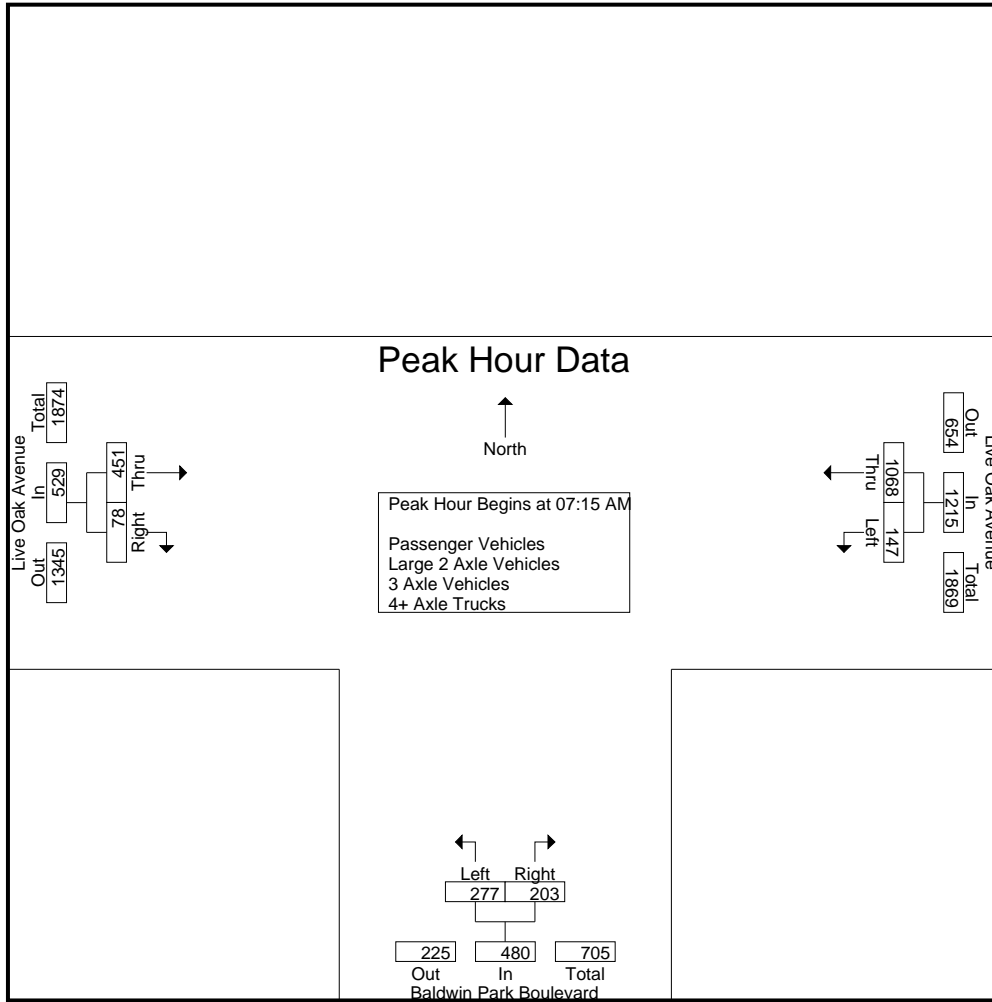
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Live Oak Avenue Westbound			Baldwin Park Boulevard Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	27	240	267	57	39	96	102	13	115	478
07:15 AM	27	244	271	76	43	119	103	18	121	511
07:30 AM	39	305	344	57	53	110	94	17	111	565
07:45 AM	43	263	306	82	59	141	127	24	151	598
Total	136	1052	1188	272	194	466	426	72	498	2152
08:00 AM	38	256	294	62	48	110	127	19	146	550
08:15 AM	36	215	251	48	56	104	116	17	133	488
08:30 AM	32	180	212	61	41	102	126	13	139	453
08:45 AM	51	180	231	34	35	69	133	18	151	451
Total	157	831	988	205	180	385	502	67	569	1942
Grand Total	293	1883	2176	477	374	851	928	139	1067	4094
Apprch %	13.5	86.5		56.1	43.9		87	13		
Total %	7.2	46	53.2	11.7	9.1	20.8	22.7	3.4	26.1	
Passenger Vehicles	281	1794	2075	464	367	831	857	131	988	3894
% Passenger Vehicles	95.9	95.3	95.4	97.3	98.1	97.6	92.3	94.2	92.6	95.1
Large 2 Axle Vehicles	2	47	49	9	3	12	33	3	36	97
% Large 2 Axle Vehicles	0.7	2.5	2.3	1.9	0.8	1.4	3.6	2.2	3.4	2.4
3 Axle Vehicles	4	11	15	3	2	5	9	1	10	30
% 3 Axle Vehicles	1.4	0.6	0.7	0.6	0.5	0.6	1	0.7	0.9	0.7
4+ Axle Trucks	6	31	37	1	2	3	29	4	33	73
% 4+ Axle Trucks	2	1.6	1.7	0.2	0.5	0.4	3.1	2.9	3.1	1.8

Start Time	Live Oak Avenue Westbound			Baldwin Park Boulevard Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	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	27	244	271	76	43	119	103	18	121	511
07:30 AM	39	305	344	57	53	110	94	17	111	565
07:45 AM	43	263	306	82	59	141	127	24	151	598
08:00 AM	38	256	294	62	48	110	127	19	146	550
Total Volume	147	1068	1215	277	203	480	451	78	529	2224
% App. Total	12.1	87.9		57.7	42.3		85.3	14.7		
PHF	.855	.875	.883	.845	.860	.851	.888	.813	.876	.930

City of Irwindale
 N/S: Baldwin Park Boulevard
 E/W: Live Oak Avenue
 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			07:15 AM			07:45 AM		
+0 mins.	27	244	271	76	43	119	127	24	151
+15 mins.	39	305	344	57	53	110	127	19	146
+30 mins.	43	263	306	82	59	141	116	17	133
+45 mins.	38	256	294	62	48	110	126	13	139
Total Volume	147	1068	1215	277	203	480	496	73	569
% App. Total	12.1	87.9		57.7	42.3		87.2	12.8	
PHF	.855	.875	.883	.845	.860	.851	.976	.760	.942

City of Irwindale
 N/S: Baldwin Park Boulevard
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 17_IRW_Bald_LO AM
 Site Code : 04223184
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Groups Printed- Passenger Vehicles

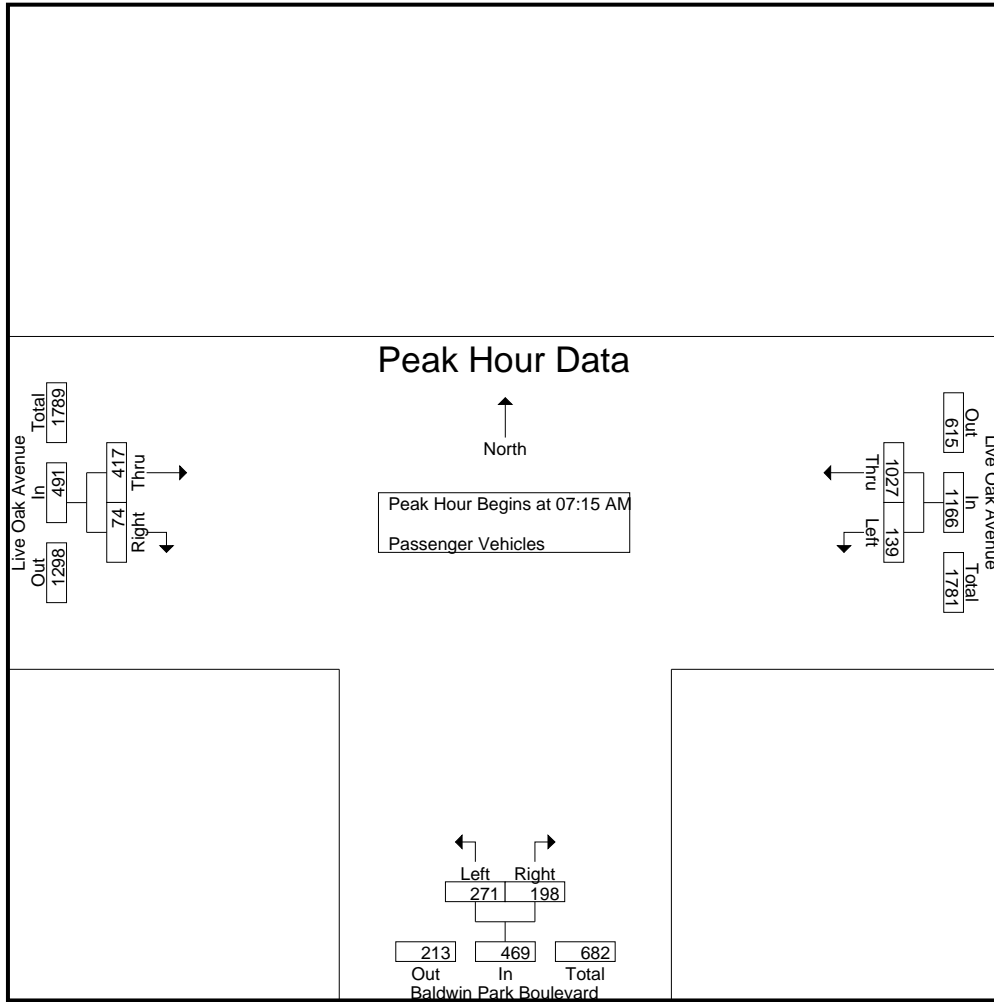
Start Time	Live Oak Avenue Westbound			Baldwin Park Boulevard Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	25	230	255	55	38	93	93	13	106	454
07:15 AM	24	236	260	74	42	116	93	17	110	486
07:30 AM	38	294	332	56	52	108	91	15	106	546
07:45 AM	41	251	292	80	58	138	119	23	142	572
Total	128	1011	1139	265	190	455	396	68	464	2058
08:00 AM	36	246	282	61	46	107	114	19	133	522
08:15 AM	36	206	242	48	55	103	105	17	122	467
08:30 AM	30	166	196	57	41	98	118	12	130	424
08:45 AM	51	165	216	33	35	68	124	15	139	423
Total	153	783	936	199	177	376	461	63	524	1836
Grand Total	281	1794	2075	464	367	831	857	131	988	3894
Apprch %	13.5	86.5		55.8	44.2		86.7	13.3		
Total %	7.2	46.1	53.3	11.9	9.4	21.3	22	3.4	25.4	

Start Time	Live Oak Avenue Westbound			Baldwin Park Boulevard Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:15 AM	24	236	260	74	42	116	93	17	110	486
07:30 AM	38	294	332	56	52	108	91	15	106	546
07:45 AM	41	251	292	80	58	138	119	23	142	572
08:00 AM	36	246	282	61	46	107	114	19	133	522
Total Volume	139	1027	1166	271	198	469	417	74	491	2126
% App. Total	11.9	88.1		57.8	42.2		84.9	15.1		
PHF	.848	.873	.878	.847	.853	.850	.876	.804	.864	.929

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

City of Irwindale
 N/S: Baldwin Park Boulevard
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 17_IRW_Bald_LO AM
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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	24	236	260	74	42	116	93	17	110
+15 mins.	38	294	332	56	52	108	91	15	106
+30 mins.	41	251	292	80	58	138	119	23	142
+45 mins.	36	246	282	61	46	107	114	19	133
Total Volume	139	1027	1166	271	198	469	417	74	491
% App. Total	11.9	88.1		57.8	42.2		84.9	15.1	
PHF	.848	.873	.878	.847	.853	.850	.876	.804	.864

City of Irwindale
 N/S: Baldwin Park Boulevard
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 17_IRW_Bald_LO AM
 Site Code : 04223184
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Groups Printed- Large 2 Axle Vehicles

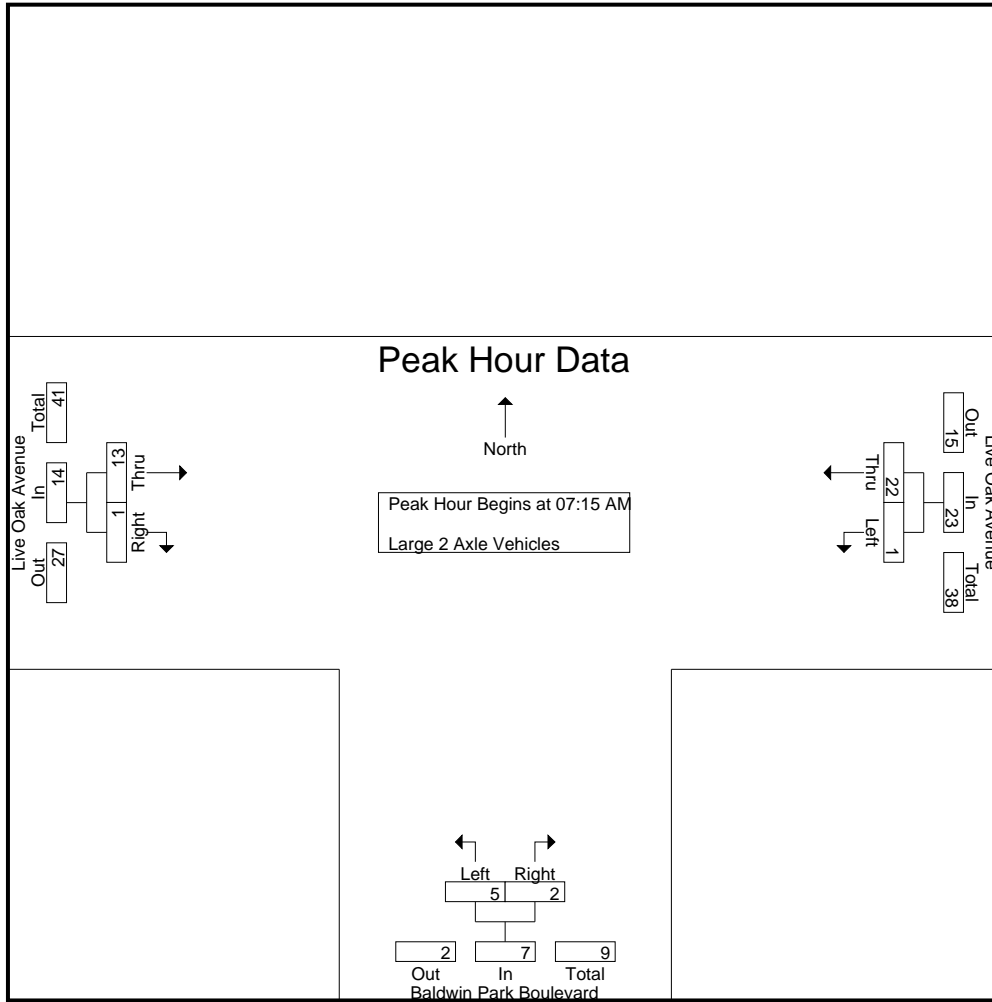
Start Time	Live Oak Avenue Westbound			Baldwin Park Boulevard Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	0	4	4	2	1	3	6	0	6	13
07:15 AM	0	4	4	2	0	2	4	1	5	11
07:30 AM	0	7	7	1	0	1	1	0	1	9
07:45 AM	0	8	8	2	1	3	3	0	3	14
Total	0	23	23	7	2	9	14	1	15	47
08:00 AM	1	3	4	0	1	1	5	0	5	10
08:15 AM	0	8	8	0	0	0	5	0	5	13
08:30 AM	1	6	7	2	0	2	5	0	5	14
08:45 AM	0	7	7	0	0	0	4	2	6	13
Total	2	24	26	2	1	3	19	2	21	50
Grand Total	2	47	49	9	3	12	33	3	36	97
Apprch %	4.1	95.9		75	25		91.7	8.3		
Total %	2.1	48.5	50.5	9.3	3.1	12.4	34	3.1	37.1	

Start Time	Live Oak Avenue Westbound			Baldwin Park Boulevard Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:15 AM	0	4	4	2	0	2	4	1	5	11
07:30 AM	0	7	7	1	0	1	1	0	1	9
07:45 AM	0	8	8	2	1	3	3	0	3	14
08:00 AM	1	3	4	0	1	1	5	0	5	10
Total Volume	1	22	23	5	2	7	13	1	14	44
% App. Total	4.3	95.7		71.4	28.6		92.9	7.1		
PHF	.250	.688	.719	.625	.500	.583	.650	.250	.700	.786

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

City of Irwindale
 N/S: Baldwin Park Boulevard
 E/W: Live Oak Avenue
 Weather: Clear

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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	0	4	4	2	0	2	4	1	5
+15 mins.	0	7	7	1	0	1	1	0	1
+30 mins.	0	8	8	2	1	3	3	0	3
+45 mins.	1	3	4	0	1	1	5	0	5
Total Volume	1	22	23	5	2	7	13	1	14
% App. Total	4.3	95.7		71.4	28.6		92.9	7.1	
PHF	.250	.688	.719	.625	.500	.583	.650	.250	.700

City of Irwindale
 N/S: Baldwin Park Boulevard
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 17_IRW_Bald_LO AM
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Groups Printed- 3 Axle Vehicles

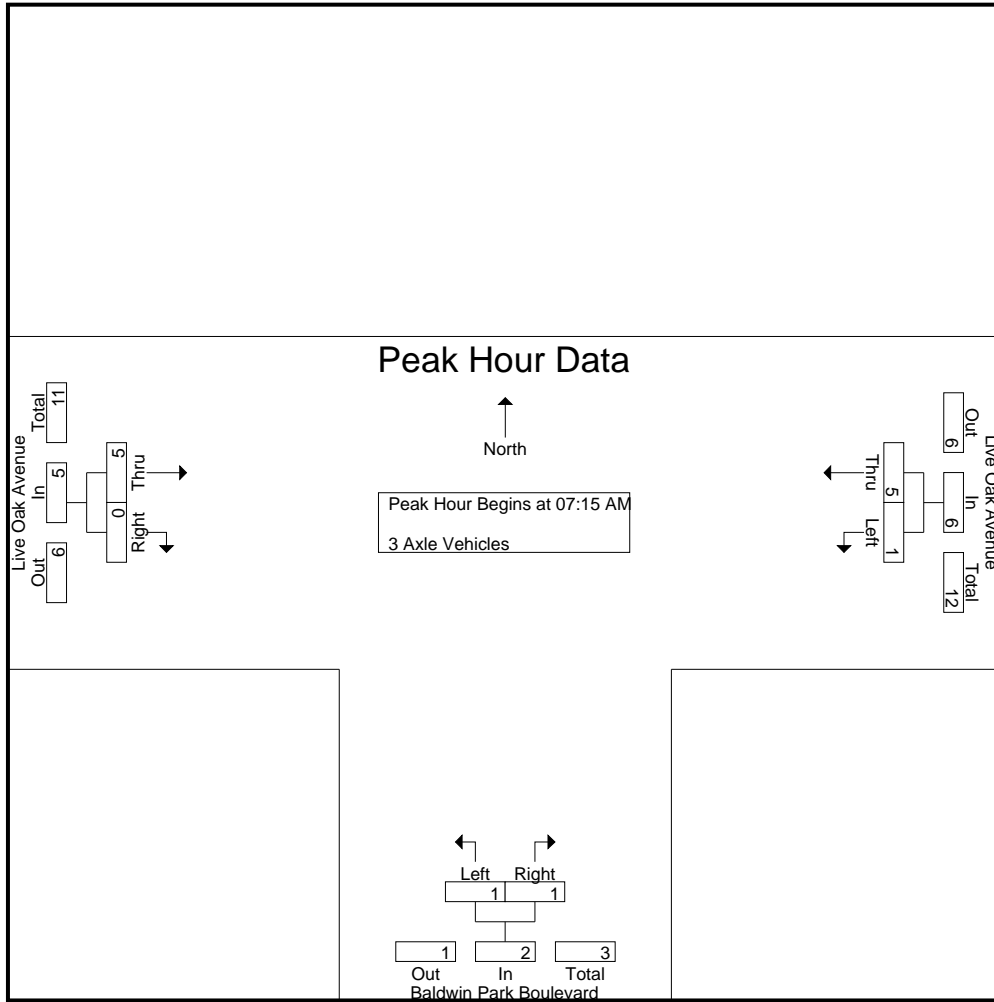
Start Time	Live Oak Avenue Westbound			Baldwin Park Boulevard Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	2	0	2	0	0	0	0	0	0	2
07:15 AM	1	1	2	0	0	0	0	0	0	2
07:30 AM	0	3	3	0	1	1	0	0	0	4
07:45 AM	0	0	0	0	0	0	3	0	3	3
Total	3	4	7	0	1	1	3	0	3	11
08:00 AM	0	1	1	1	0	1	2	0	2	4
08:15 AM	0	0	0	0	1	1	3	0	3	4
08:30 AM	1	4	5	1	0	1	1	0	1	7
08:45 AM	0	2	2	1	0	1	0	1	1	4
Total	1	7	8	3	1	4	6	1	7	19
Grand Total	4	11	15	3	2	5	9	1	10	30
Apprch %	26.7	73.3		60	40		90	10		
Total %	13.3	36.7	50	10	6.7	16.7	30	3.3	33.3	

Start Time	Live Oak Avenue Westbound			Baldwin Park Boulevard Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:15 AM	1	1	2	0	0	0	0	0	0	2
07:30 AM	0	3	3	0	1	1	0	0	0	4
07:45 AM	0	0	0	0	0	0	3	0	3	3
08:00 AM	0	1	1	1	0	1	2	0	2	4
Total Volume	1	5	6	1	1	2	5	0	5	13
% App. Total	16.7	83.3		50	50		100	0		
PHF	.250	.417	.500	.250	.250	.500	.417	.000	.417	.813

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

City of Irwindale
 N/S: Baldwin Park Boulevard
 E/W: Live Oak Avenue
 Weather: Clear

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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	1	1	2	0	0	0	0	0	0
+15 mins.	0	3	3	0	1	1	0	0	0
+30 mins.	0	0	0	0	0	0	3	0	3
+45 mins.	0	1	1	1	0	1	2	0	2
Total Volume	1	5	6	1	1	2	5	0	5
% App. Total	16.7	83.3		50	50		100	0	
PHF	.250	.417	.500	.250	.250	.500	.417	.000	.417

City of Irwindale
 N/S: Baldwin Park Boulevard
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 17_IRW_Bald_LO AM
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Groups Printed- 4+ Axle Trucks

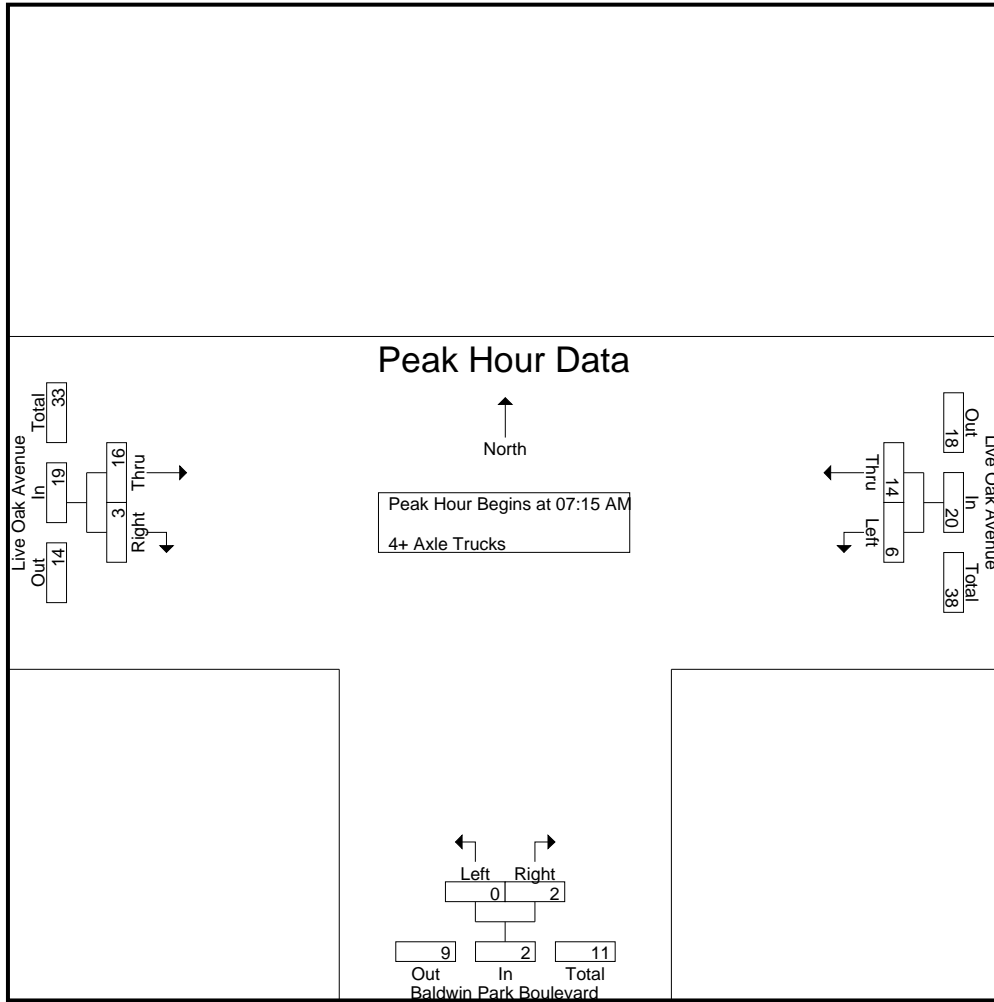
Start Time	Live Oak Avenue Westbound			Baldwin Park Boulevard Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	0	6	6	0	0	0	3	0	3	9
07:15 AM	2	3	5	0	1	1	6	0	6	12
07:30 AM	1	1	2	0	0	0	2	2	4	6
07:45 AM	2	4	6	0	0	0	2	1	3	9
Total	5	14	19	0	1	1	13	3	16	36
08:00 AM	1	6	7	0	1	1	6	0	6	14
08:15 AM	0	1	1	0	0	0	3	0	3	4
08:30 AM	0	4	4	1	0	1	2	1	3	8
08:45 AM	0	6	6	0	0	0	5	0	5	11
Total	1	17	18	1	1	2	16	1	17	37
Grand Total	6	31	37	1	2	3	29	4	33	73
Apprch %	16.2	83.8		33.3	66.7		87.9	12.1		
Total %	8.2	42.5	50.7	1.4	2.7	4.1	39.7	5.5	45.2	

Start Time	Live Oak Avenue Westbound			Baldwin Park Boulevard Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:15 AM	2	3	5	0	1	1	6	0	6	12
07:30 AM	1	1	2	0	0	0	2	2	4	6
07:45 AM	2	4	6	0	0	0	2	1	3	9
08:00 AM	1	6	7	0	1	1	6	0	6	14
Total Volume	6	14	20	0	2	2	16	3	19	41
% App. Total	30	70		0	100		84.2	15.8		
PHF	.750	.583	.714	.000	.500	.500	.667	.375	.792	.732

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

City of Irwindale
 N/S: Baldwin Park Boulevard
 E/W: Live Oak Avenue
 Weather: Clear

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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	2	3	5	0	1	1	6	0	6
+15 mins.	1	1	2	0	0	0	2	2	4
+30 mins.	2	4	6	0	0	0	2	1	3
+45 mins.	1	6	7	0	1	1	6	0	6
Total Volume	6	14	20	0	2	2	16	3	19
% App. Total	30	70		0	100		84.2	15.8	
PHF	.750	.583	.714	.000	.500	.500	.667	.375	.792

City of Irwindale
 N/S: Baldwin Park Boulevard
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 17_IRW_Bald_LO PM
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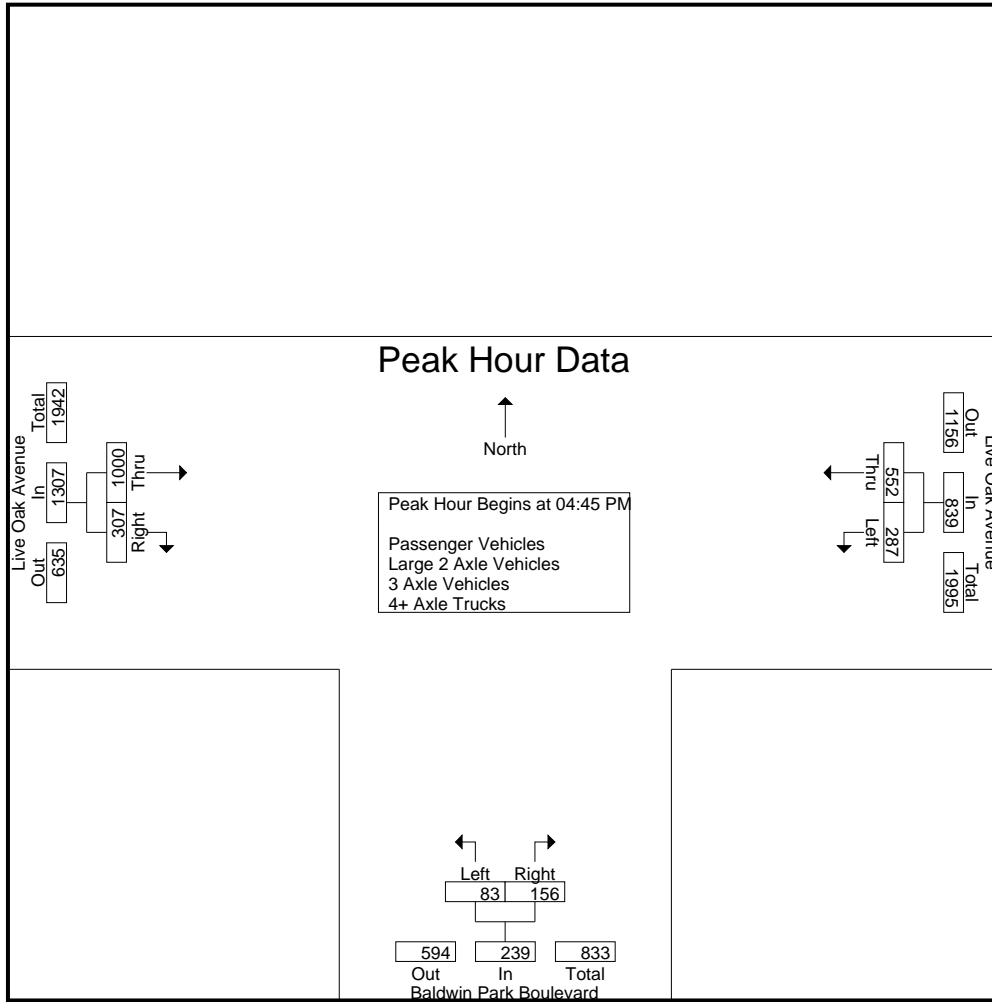
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

Start Time	Live Oak Avenue Westbound			Baldwin Park Boulevard Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	50	131	181	23	47	70	251	59	310	561
04:15 PM	61	115	176	31	20	51	241	48	289	516
04:30 PM	60	143	203	23	28	51	162	77	239	493
04:45 PM	64	113	177	18	48	66	232	68	300	543
Total	235	502	737	95	143	238	886	252	1138	2113
05:00 PM	77	171	248	21	30	51	255	88	343	642
05:15 PM	78	129	207	19	41	60	251	84	335	602
05:30 PM	68	139	207	25	37	62	262	67	329	598
05:45 PM	56	96	152	14	42	56	197	59	256	464
Total	279	535	814	79	150	229	965	298	1263	2306
Grand Total	514	1037	1551	174	293	467	1851	550	2401	4419
Apprch %	33.1	66.9		37.3	62.7		77.1	22.9		
Total %	11.6	23.5	35.1	3.9	6.6	10.6	41.9	12.4	54.3	
Passenger Vehicles	508	986	1494	169	281	450	1784	545	2329	4273
% Passenger Vehicles	98.8	95.1	96.3	97.1	95.9	96.4	96.4	99.1	97	96.7
Large 2 Axle Vehicles	3	19	22	2	7	9	36	4	40	71
% Large 2 Axle Vehicles	0.6	1.8	1.4	1.1	2.4	1.9	1.9	0.7	1.7	1.6
3 Axle Vehicles	0	13	13	2	1	3	8	1	9	25
% 3 Axle Vehicles	0	1.3	0.8	1.1	0.3	0.6	0.4	0.2	0.4	0.6
4+ Axle Trucks	3	19	22	1	4	5	23	0	23	50
% 4+ Axle Trucks	0.6	1.8	1.4	0.6	1.4	1.1	1.2	0	1	1.1

Start Time	Live Oak Avenue Westbound			Baldwin Park Boulevard Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	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	64	113	177	18	48	66	232	68	300	543
05:00 PM	77	171	248	21	30	51	255	88	343	642
05:15 PM	78	129	207	19	41	60	251	84	335	602
05:30 PM	68	139	207	25	37	62	262	67	329	598
Total Volume	287	552	839	83	156	239	1000	307	1307	2385
% App. Total	34.2	65.8		34.7	65.3		76.5	23.5		
PHF	.920	.807	.846	.830	.813	.905	.954	.872	.953	.929

City of Irwindale
 N/S: Baldwin Park Boulevard
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 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:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	64	113	177	18	48	66	232	68	300
+15 mins.	77	171	248	21	30	51	255	88	343
+30 mins.	78	129	207	19	41	60	251	84	335
+45 mins.	68	139	207	25	37	62	262	67	329
Total Volume	287	552	839	83	156	239	1000	307	1307
% App. Total	34.2	65.8		34.7	65.3		76.5	23.5	
PHF	.920	.807	.846	.830	.813	.905	.954	.872	.953

City of Irwindale
 N/S: Baldwin Park Boulevard
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 17_IRW_Bald_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Passenger Vehicles

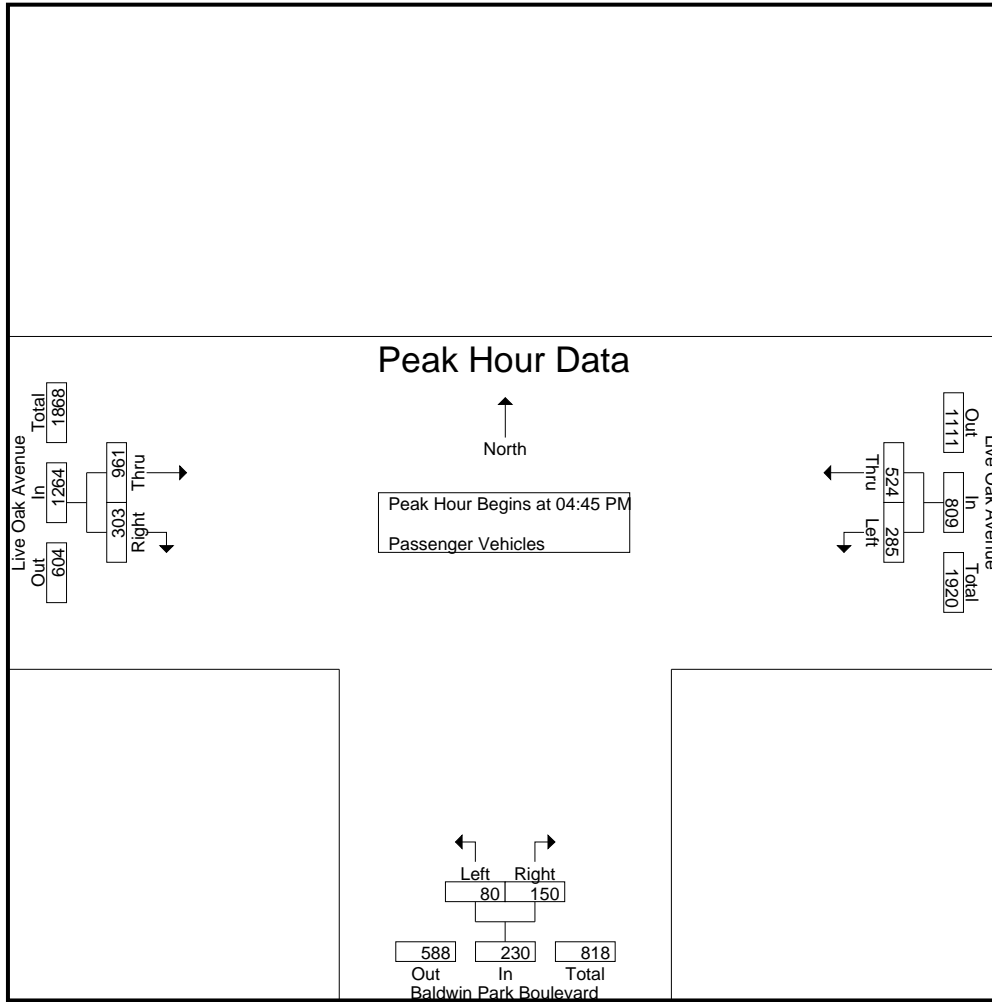
Start Time	Live Oak Avenue Westbound			Baldwin Park Boulevard Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	48	126	174	23	44	67	241	59	300	541
04:15 PM	59	109	168	30	19	49	228	47	275	492
04:30 PM	60	134	194	22	27	49	159	77	236	479
04:45 PM	62	106	168	18	47	65	225	65	290	523
Total	229	475	704	93	137	230	853	248	1101	2035
05:00 PM	77	169	246	21	29	50	240	88	328	624
05:15 PM	78	119	197	19	38	57	239	83	322	576
05:30 PM	68	130	198	22	36	58	257	67	324	580
05:45 PM	56	93	149	14	41	55	195	59	254	458
Total	279	511	790	76	144	220	931	297	1228	2238
Grand Total	508	986	1494	169	281	450	1784	545	2329	4273
Apprch %	34	66		37.6	62.4		76.6	23.4		
Total %	11.9	23.1	35	4	6.6	10.5	41.8	12.8	54.5	

Start Time	Live Oak Avenue Westbound			Baldwin Park Boulevard Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:45 PM	62	106	168	18	47	65	225	65	290	523
05:00 PM	77	169	246	21	29	50	240	88	328	624
05:15 PM	78	119	197	19	38	57	239	83	322	576
05:30 PM	68	130	198	22	36	58	257	67	324	580
Total Volume	285	524	809	80	150	230	961	303	1264	2303
% App. Total	35.2	64.8		34.8	65.2		76	24		
PHF	.913	.775	.822	.909	.798	.885	.935	.861	.963	.923

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

City of Irwindale
 N/S: Baldwin Park Boulevard
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 17_IRW_Bald_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	62	106	168	18	47	65	225	65	290
+15 mins.	77	169	246	21	29	50	240	88	328
+30 mins.	78	119	197	19	38	57	239	83	322
+45 mins.	68	130	198	22	36	58	257	67	324
Total Volume	285	524	809	80	150	230	961	303	1264
% App. Total	35.2	64.8		34.8	65.2		76	24	
PHF	.913	.775	.822	.909	.798	.885	.935	.861	.963

City of Irwindale
 N/S: Baldwin Park Boulevard
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 17_IRW_Bald_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

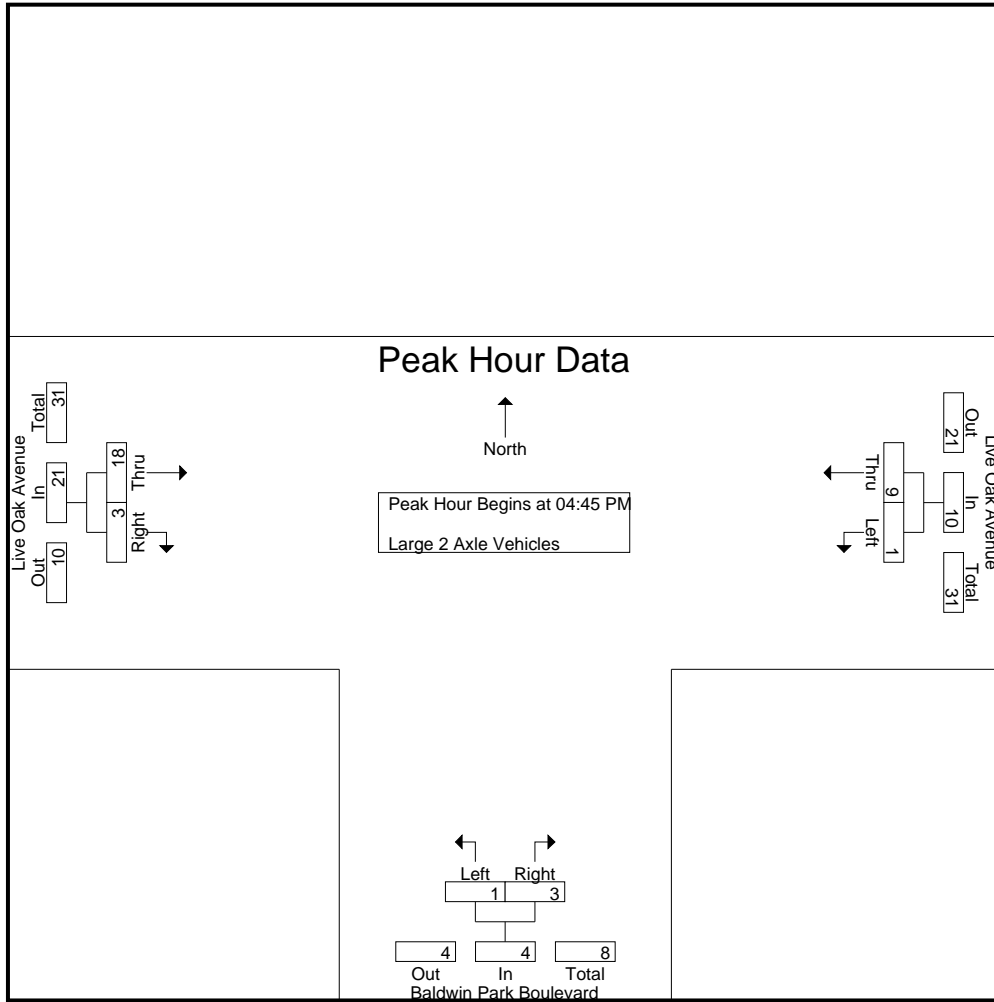
Start Time	Live Oak Avenue Westbound			Baldwin Park Boulevard Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	1	2	3	0	2	2	9	0	9	14
04:15 PM	1	1	2	0	0	0	5	1	6	8
04:30 PM	0	4	4	1	1	2	2	0	2	8
04:45 PM	1	3	4	0	1	1	2	3	5	10
Total	3	10	13	1	4	5	18	4	22	40
05:00 PM	0	1	1	0	1	1	8	0	8	10
05:15 PM	0	2	2	0	1	1	6	0	6	9
05:30 PM	0	3	3	1	0	1	2	0	2	6
05:45 PM	0	3	3	0	1	1	2	0	2	6
Total	0	9	9	1	3	4	18	0	18	31
Grand Total	3	19	22	2	7	9	36	4	40	71
Apprch %	13.6	86.4		22.2	77.8		90	10		
Total %	4.2	26.8	31	2.8	9.9	12.7	50.7	5.6	56.3	

Start Time	Live Oak Avenue Westbound			Baldwin Park Boulevard Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:45 PM	1	3	4	0	1	1	2	3	5	10
05:00 PM	0	1	1	0	1	1	8	0	8	10
05:15 PM	0	2	2	0	1	1	6	0	6	9
05:30 PM	0	3	3	1	0	1	2	0	2	6
Total Volume	1	9	10	1	3	4	18	3	21	35
% App. Total	10	90		25	75		85.7	14.3		
PHF	.250	.750	.625	.250	.750	1.00	.563	.250	.656	.875

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

City of Irwindale
 N/S: Baldwin Park Boulevard
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 17_IRW_Bald_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	1	3	4	0	1	1	2	3	5
+15 mins.	0	1	1	0	1	1	8	0	8
+30 mins.	0	2	2	0	1	1	6	0	6
+45 mins.	0	3	3	1	0	1	2	0	2
Total Volume	1	9	10	1	3	4	18	3	21
% App. Total	10	90		25	75		85.7	14.3	
PHF	.250	.750	.625	.250	.750	1.000	.563	.250	.656

City of Irwindale
 N/S: Baldwin Park Boulevard
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 17_IRW_Bald_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 3 Axle Vehicles

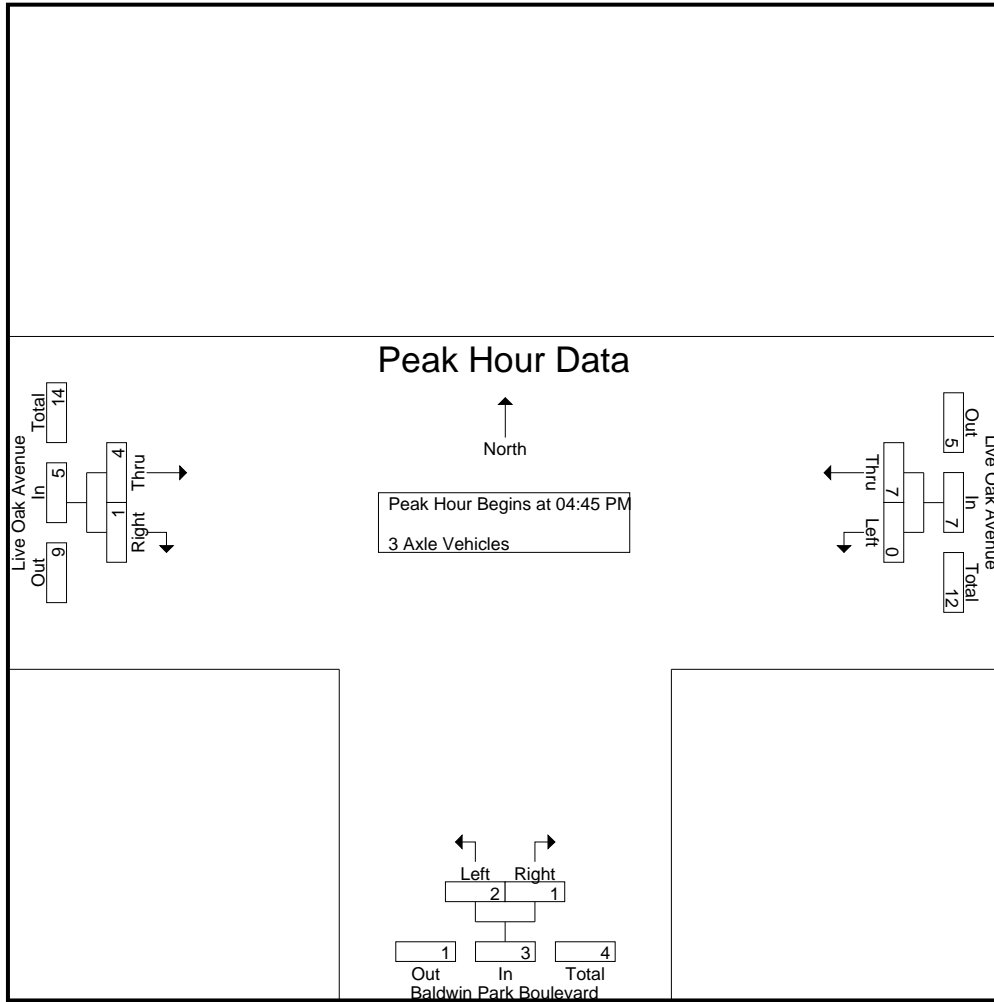
Start Time	Live Oak Avenue Westbound			Baldwin Park Boulevard Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	0	2	2	0	0	0	0	0	0	2
04:15 PM	0	2	2	0	0	0	4	0	4	6
04:30 PM	0	2	2	0	0	0	0	0	0	2
04:45 PM	0	2	2	0	0	0	1	0	1	3
Total	0	8	8	0	0	0	5	0	5	13
05:00 PM	0	0	0	0	0	0	2	0	2	2
05:15 PM	0	2	2	0	0	0	0	1	1	3
05:30 PM	0	3	3	2	1	3	1	0	1	7
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	5	5	2	1	3	3	1	4	12
Grand Total	0	13	13	2	1	3	8	1	9	25
Apprch %	0	100		66.7	33.3		88.9	11.1		
Total %	0	52	52	8	4	12	32	4	36	

Start Time	Live Oak Avenue Westbound			Baldwin Park Boulevard Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:45 PM	0	2	2	0	0	0	1	0	1	3
05:00 PM	0	0	0	0	0	0	2	0	2	2
05:15 PM	0	2	2	0	0	0	0	1	1	3
05:30 PM	0	3	3	2	1	3	1	0	1	7
Total Volume	0	7	7	2	1	3	4	1	5	15
% App. Total	0	100		66.7	33.3		80	20		
PHF	.000	.583	.583	.250	.250	.250	.500	.250	.625	.536

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

City of Irwindale
 N/S: Baldwin Park Boulevard
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 17_IRW_Bald_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	0	2	2	0	0	0	1	0	1
+15 mins.	0	0	0	0	0	0	2	0	2
+30 mins.	0	2	2	0	0	0	0	1	1
+45 mins.	0	3	3	2	1	3	1	0	1
Total Volume	0	7	7	2	1	3	4	1	5
% App. Total	0	100		66.7	33.3		80	20	
PHF	.000	.583	.583	.250	.250	.250	.500	.250	.625

City of Irwindale
 N/S: Baldwin Park Boulevard
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 17_IRW_Bald_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 1

Groups Printed- 4+ Axle Trucks

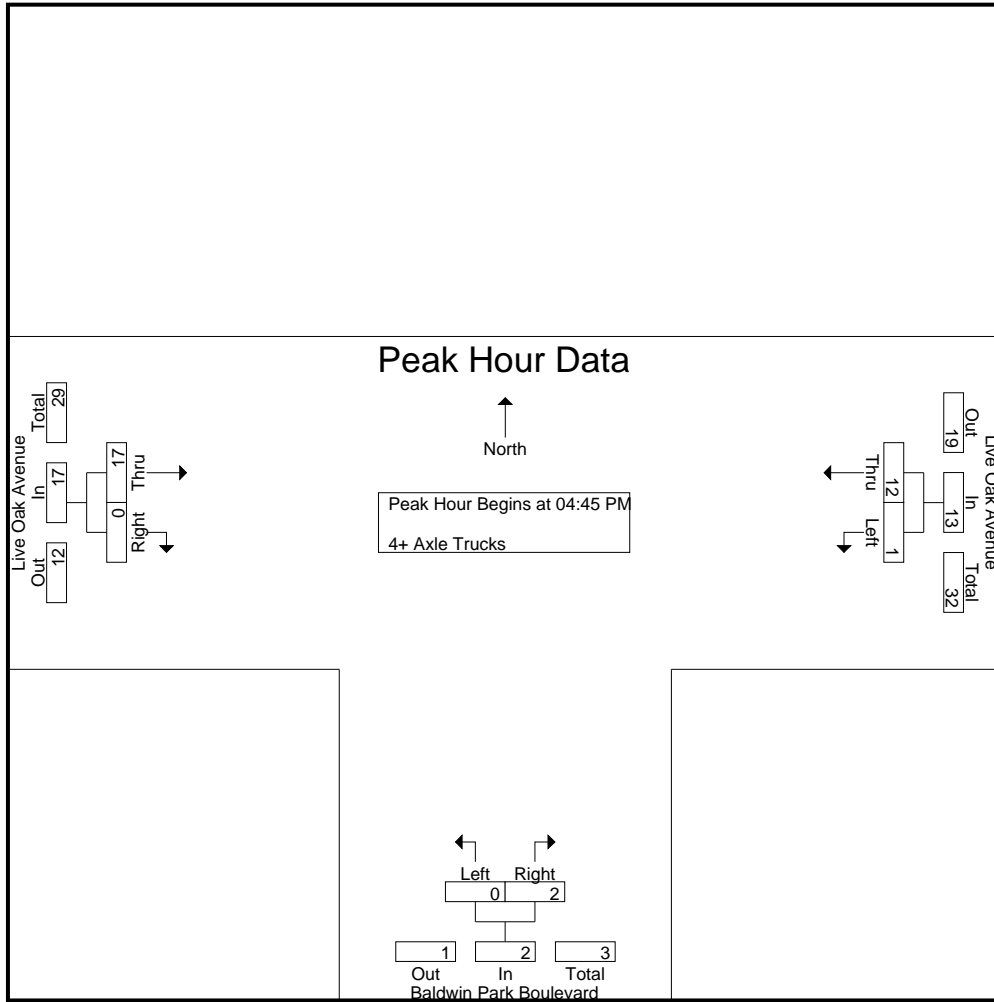
Start Time	Live Oak Avenue Westbound			Baldwin Park Boulevard Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	1	1	2	0	1	1	1	0	1	4
04:15 PM	1	3	4	1	1	2	4	0	4	10
04:30 PM	0	3	3	0	0	0	1	0	1	4
04:45 PM	1	2	3	0	0	0	4	0	4	7
Total	3	9	12	1	2	3	10	0	10	25
05:00 PM	0	1	1	0	0	0	5	0	5	6
05:15 PM	0	6	6	0	2	2	6	0	6	14
05:30 PM	0	3	3	0	0	0	2	0	2	5
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	10	10	0	2	2	13	0	13	25
Grand Total	3	19	22	1	4	5	23	0	23	50
Apprch %	13.6	86.4		20	80		100	0		
Total %	6	38	44	2	8	10	46	0	46	

Start Time	Live Oak Avenue Westbound			Baldwin Park Boulevard Northbound			Live Oak Avenue Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:45 PM	1	2	3	0	0	0	4	0	4	7
05:00 PM	0	1	1	0	0	0	5	0	5	6
05:15 PM	0	6	6	0	2	2	6	0	6	14
05:30 PM	0	3	3	0	0	0	2	0	2	5
Total Volume	1	12	13	0	2	2	17	0	17	32
% App. Total	7.7	92.3		0	100		100	0		
PHF	.250	.500	.542	.000	.250	.250	.708	.000	.708	.571

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

City of Irwindale
 N/S: Baldwin Park Boulevard
 E/W: Live Oak Avenue
 Weather: Clear

File Name : 17_IRW_Bald_LO PM
 Site Code : 04223184
 Start Date : 3/2/2023
 Page No : 2



Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	1	2	3	0	0	0	4	0	4
+15 mins.	0	1	1	0	0	0	5	0	5
+30 mins.	0	6	6	0	2	2	6	0	6
+45 mins.	0	3	3	0	0	0	2	0	2
Total Volume	1	12	13	0	2	2	17	0	17
% App. Total	7.7	92.3		0	100		100	0	
PHF	.250	.500	.542	.000	.250	.250	.708	.000	.708

Counts Unlimited, Inc.

City of Irwindale
 Arrow Highway
 B/ Arrow Highway East - Interstate 605
 24 Hour Directional Classification Count
Eastbound

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

IRW003
 Site Code: 042-23184

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/02/23	0	43	4	0	0	0	0	0	0	0	1	0	0	48
01:00	0	21	2	0	0	0	0	0	2	0	0	0	0	25
02:00	1	22	3	0	0	0	0	0	3	0	1	0	0	30
03:00	0	29	4	0	0	0	0	0	1	0	1	0	0	35
04:00	0	62	13	0	2	1	0	0	6	0	0	0	0	84
05:00	0	123	29	1	3	3	0	0	11	0	4	0	0	174
06:00	0	177	43	3	7	9	0	2	10	0	3	0	0	254
07:00	0	357	61	4	18	26	0	7	26	0	10	0	0	509
08:00	0	408	69	1	17	24	0	5	39	0	10	0	0	573
09:00	0	300	71	2	24	32	2	5	37	1	3	0	0	477
10:00	1	239	67	1	20	32	2	7	35	0	0	0	0	404
11:00	1	242	79	1	18	33	0	3	43	0	7	0	0	427
12 PM	1	342	93	1	21	29	1	5	33	0	5	0	0	531
13:00	2	364	86	1	16	27	3	6	34	0	10	0	0	549
14:00	0	540	123	4	32	26	2	3	23	1	0	0	0	754
15:00	0	724	151	3	28	8	1	4	7	0	0	0	0	926
16:00	2	855	156	4	16	3	0	4	4	0	0	0	0	1044
17:00	4	1048	184	2	25	4	0	0	4	0	0	0	0	1271
18:00	1	757	121	6	15	0	0	2	3	0	0	0	0	905
19:00	0	423	41	2	12	0	0	1	5	0	1	0	0	485
20:00	0	273	23	1	1	0	0	3	5	0	0	0	0	306
21:00	0	178	27	2	3	1	0	0	2	0	1	0	0	214
22:00	0	151	7	2	1	0	0	0	8	0	0	0	0	169
23:00	0	90	5	2	1	1	0	0	1	0	1	0	0	101
Total	13	7768	1462	43	280	259	11	57	342	2	58	0	0	10295
Percent	0.1%	75.5%	14.2%	0.4%	2.7%	2.5%	0.1%	0.6%	3.3%	0.0%	0.6%	0.0%	0.0%	
AM Peak	02:00	08:00	11:00	07:00	09:00	11:00	09:00	07:00	11:00	09:00	07:00			08:00
Vol.	1	408	79	4	24	33	2	7	43	1	10			573
PM Peak	17:00	17:00	17:00	18:00	14:00	12:00	13:00	13:00	13:00	14:00	13:00			17:00
Vol.	4	1048	184	6	32	29	3	6	34	1	10			1271
Grand Total	13	7768	1462	43	280	259	11	57	342	2	58	0	0	10295
Percent	0.1%	75.5%	14.2%	0.4%	2.7%	2.5%	0.1%	0.6%	3.3%	0.0%	0.6%	0.0%	0.0%	

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878

Phone: (951) 268-6268

email: counts@countsunlimited.com

IRW003

Site Code: 042-23184

City of Irwindale
Arrow Highway
B/ Arrow Highway East - Interstate 605
24 Hour Directional Classification Count
Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/02/23	0	21	4	0	1	0	0	1	0	0	0	0	0	27
01:00	0	15	1	0	1	0	0	1	2	0	2	0	0	22
02:00	0	15	3	0	0	0	0	0	1	0	1	0	0	20
03:00	0	34	12	0	2	0	0	0	4	0	0	0	0	52
04:00	0	111	33	4	2	0	0	0	5	0	1	0	0	156
05:00	2	313	97	4	19	28	0	2	7	1	3	0	0	476
06:00	3	791	185	4	31	14	3	7	6	0	3	0	0	1047
07:00	1	1451	256	4	24	13	15	13	28	0	7	0	0	1812
08:00	1	1066	183	2	21	6	25	5	39	0	9	0	0	1357
09:00	0	738	150	4	24	7	22	2	40	0	2	0	0	989
10:00	0	383	102	1	23	7	23	9	42	0	0	0	0	590
11:00	0	358	62	2	15	11	29	2	33	0	8	0	0	520
12 PM	0	353	89	2	17	3	19	6	39	0	5	0	1	534
13:00	1	408	77	1	10	5	24	4	37	0	10	0	0	577
14:00	3	466	90	5	21	6	16	6	31	0	2	0	0	646
15:00	0	428	99	1	14	4	2	2	8	0	0	0	0	558
16:00	1	510	89	4	12	4	0	3	3	0	1	0	0	627
17:00	3	532	85	2	8	1	0	2	5	0	0	0	0	638
18:00	1	385	45	2	3	0	0	1	4	0	0	0	0	441
19:00	0	240	24	1	2	0	0	4	2	0	0	0	0	273
20:00	0	191	23	0	3	0	0	1	2	0	1	1	0	222
21:00	2	146	21	1	0	0	0	0	3	0	1	0	0	174
22:00	0	108	13	0	1	1	0	0	0	0	0	0	0	123
23:00	0	60	2	0	1	1	0	1	1	0	0	0	0	66
Total	18	9123	1745	44	255	111	178	72	342	1	56	1	1	11947
Percent	0.2%	76.4%	14.6%	0.4%	2.1%	0.9%	1.5%	0.6%	2.9%	0.0%	0.5%	0.0%	0.0%	
AM Peak	06:00	07:00	07:00	04:00	06:00	05:00	11:00	07:00	10:00	05:00	08:00			07:00
Vol.	3	1451	256	4	31	28	29	13	42	1	9			1812
PM Peak	14:00	17:00	15:00	14:00	14:00	14:00	13:00	12:00	12:00		13:00	20:00	12:00	14:00
Vol.	3	532	99	5	21	6	24	6	39		10	1	1	646
Grand Total	18	9123	1745	44	255	111	178	72	342	1	56	1	1	11947
Percent	0.2%	76.4%	14.6%	0.4%	2.1%	0.9%	1.5%	0.6%	2.9%	0.0%	0.5%	0.0%	0.0%	

Counts Unlimited, Inc.

City of Irwindale
 Arrow Highway
 B/ Arrow Highway East - Interstate 605
 24 Hour Directional Classification Count
 Eastbound, Westbound

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

IRW003
 Site Code: 042-23184

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/02/23	0	64	8	0	1	0	0	1	0	0	1	0	0	75
01:00	0	36	3	0	1	0	0	1	4	0	2	0	0	47
02:00	1	37	6	0	0	0	0	0	4	0	2	0	0	50
03:00	0	63	16	0	2	0	0	0	5	0	1	0	0	87
04:00	0	173	46	4	4	1	0	0	11	0	1	0	0	240
05:00	2	436	126	5	22	31	0	2	18	1	7	0	0	650
06:00	3	968	228	7	38	23	3	9	16	0	6	0	0	1301
07:00	1	1808	317	8	42	39	15	20	54	0	17	0	0	2321
08:00	1	1474	252	3	38	30	25	10	78	0	19	0	0	1930
09:00	0	1038	221	6	48	39	24	7	77	1	5	0	0	1466
10:00	1	622	169	2	43	39	25	16	77	0	0	0	0	994
11:00	1	600	141	3	33	44	29	5	76	0	15	0	0	947
12 PM	1	695	182	3	38	32	20	11	72	0	10	0	1	1065
13:00	3	772	163	2	26	32	27	10	71	0	20	0	0	1126
14:00	3	1006	213	9	53	32	18	9	54	1	2	0	0	1400
15:00	0	1152	250	4	42	12	3	6	15	0	0	0	0	1484
16:00	3	1365	245	8	28	7	0	7	7	0	1	0	0	1671
17:00	7	1580	269	4	33	5	0	2	9	0	0	0	0	1909
18:00	2	1142	166	8	18	0	0	3	7	0	0	0	0	1346
19:00	0	663	65	3	14	0	0	5	7	0	1	0	0	758
20:00	0	464	46	1	4	0	0	4	7	0	1	1	0	528
21:00	2	324	48	3	3	1	0	0	5	0	2	0	0	388
22:00	0	259	20	2	2	1	0	0	8	0	0	0	0	292
23:00	0	150	7	2	2	2	0	1	2	0	1	0	0	167
Total	31	16891	3207	87	535	370	189	129	684	3	114	1	1	22242
Percent	0.1%	75.9%	14.4%	0.4%	2.4%	1.7%	0.8%	0.6%	3.1%	0.0%	0.5%	0.0%	0.0%	
AM Peak	06:00	07:00	07:00	07:00	09:00	11:00	11:00	07:00	08:00	05:00	08:00			07:00
Vol.	3	1808	317	8	48	44	29	20	78	1	19			2321
PM Peak	17:00	17:00	17:00	14:00	14:00	12:00	13:00	12:00	12:00	14:00	13:00	20:00	12:00	17:00
Vol.	7	1580	269	9	53	32	27	11	72	1	20	1	1	1909
Grand Total	31	16891	3207	87	535	370	189	129	684	3	114	1	1	22242
Percent	0.1%	75.9%	14.4%	0.4%	2.4%	1.7%	0.8%	0.6%	3.1%	0.0%	0.5%	0.0%	0.0%	

Counts Unlimited, Inc.

PO Box 1178
 Corona, CA 92878

Phone: (951) 268-6268

email: counts@countsunlimited.com

IRW005

Site Code: 042-23184

City of Irwindale
 Arrow Highway
 B/ Arrow Highway West - Interstate 605
 24 Hour Directional Classification Count
 Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/02/23	0	30	3	0	0	1	0	1	1	0	7	0	0	43
01:00	0	18	1	0	0	2	0	0	1	0	2	0	0	24
02:00	0	21	1	0	0	0	0	0	3	0	3	0	0	28
03:00	0	19	4	1	0	2	1	1	3	0	8	0	0	39
04:00	0	49	10	9	2	2	0	1	5	0	14	0	0	92
05:00	0	138	31	9	4	4	1	4	8	0	21	0	0	220
06:00	0	257	45	11	13	18	3	9	5	0	23	0	0	384
07:00	0	406	68	4	20	18	1	13	7	0	15	0	0	552
08:00	1	428	67	6	11	16	2	9	3	0	13	0	0	556
09:00	1	291	47	2	24	16	1	11	15	0	23	0	0	431
10:00	0	251	75	3	11	17	2	11	17	0	11	0	0	398
11:00	0	242	74	3	14	9	1	9	6	0	22	0	0	380
12 PM	1	254	69	6	13	10	1	6	8	0	9	0	0	377
13:00	3	326	79	2	16	8	0	5	7	0	12	0	0	458
14:00	1	394	81	5	16	8	1	6	1	0	1	0	0	514
15:00	2	537	131	8	19	5	1	4	6	0	0	0	0	713
16:00	2	699	136	6	14	0	3	3	4	0	1	0	0	868
17:00	1	760	121	0	8	1	1	0	2	0	6	0	0	900
18:00	0	611	71	0	8	1	0	2	3	0	5	0	0	701
19:00	0	302	31	0	5	1	0	0	5	0	6	0	0	350
20:00	1	187	23	0	5	1	0	0	4	0	6	0	0	227
21:00	0	183	27	1	1	0	0	2	2	0	7	0	0	223
22:00	0	148	27	0	2	1	0	0	5	0	11	0	0	194
23:00	0	71	6	0	0	1	0	1	11	0	11	0	0	101
Total	13	6622	1228	76	206	142	19	98	132	0	237	0	0	8773
Percent	0.1%	75.5%	14.0%	0.9%	2.3%	1.6%	0.2%	1.1%	1.5%	0.0%	2.7%	0.0%	0.0%	
AM Peak	08:00	08:00	10:00	06:00	09:00	06:00	06:00	07:00	10:00		06:00			08:00
Vol.	1	428	75	11	24	18	3	13	17		23			556
PM Peak	13:00	17:00	16:00	15:00	15:00	12:00	16:00	12:00	23:00		13:00			17:00
Vol.	3	760	136	8	19	10	3	6	11		12			900
Grand Total	13	6622	1228	76	206	142	19	98	132	0	237	0	0	8773
Percent	0.1%	75.5%	14.0%	0.9%	2.3%	1.6%	0.2%	1.1%	1.5%	0.0%	2.7%	0.0%	0.0%	

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878

Phone: (951) 268-6268

email: counts@countsunlimited.com

IRW005

Site Code: 042-23184

City of Irwindale
Arrow Highway
B/ Arrow Highway West - Interstate 605
24 Hour Directional Classification Count
Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/02/23	0	39	7	3	2	0	0	2	2	0	0	0	0	55
01:00	0	18	0	2	0	0	0	1	3	0	1	0	0	25
02:00	0	31	3	1	1	0	0	0	1	0	4	0	0	41
03:00	0	35	7	0	0	0	1	1	2	0	9	0	0	55
04:00	0	99	20	1	4	1	4	0	7	0	20	0	0	156
05:00	1	239	61	0	11	12	2	2	9	0	19	0	0	356
06:00	0	453	145	0	16	11	4	7	11	0	19	1	0	667
07:00	1	1274	216	3	33	13	0	15	7	0	23	1	0	1586
08:00	1	1027	210	1	24	11	0	8	13	0	20	0	0	1315
09:00	0	700	135	8	32	5	0	8	25	0	21	0	0	934
10:00	0	432	106	5	19	10	1	7	9	1	17	0	0	607
11:00	0	357	79	5	18	12	4	4	14	0	14	0	0	507
12 PM	0	336	76	11	17	7	2	9	14	0	17	0	0	489
13:00	1	376	84	11	13	5	0	4	13	0	9	0	0	516
14:00	2	440	99	15	23	12	0	2	12	0	4	0	0	609
15:00	2	440	92	9	22	15	0	5	15	0	4	0	0	604
16:00	4	567	99	7	20	9	0	5	11	0	3	0	0	725
17:00	4	656	80	5	11	4	0	8	5	0	4	0	0	777
18:00	2	522	54	6	5	1	0	5	6	0	2	0	0	603
19:00	0	302	26	13	5	1	0	0	6	0	3	0	0	356
20:00	0	200	18	10	6	0	0	1	6	0	7	0	0	248
21:00	2	176	7	6	0	1	0	0	1	0	4	0	0	197
22:00	0	105	7	6	2	0	0	1	3	0	4	0	0	128
23:00	0	55	8	8	0	1	0	0	4	0	6	0	0	82
Total	20	8879	1639	136	284	131	18	95	199	1	234	2	0	11638
Percent	0.2%	76.3%	14.1%	1.2%	2.4%	1.1%	0.2%	0.8%	1.7%	0.0%	2.0%	0.0%	0.0%	
AM Peak	05:00	07:00	07:00	09:00	07:00	07:00	04:00	07:00	09:00	10:00	07:00	06:00		07:00
Vol.	1	1274	216	8	33	13	4	15	25	1	23	1		1586
PM Peak	16:00	17:00	14:00	14:00	14:00	15:00	12:00	12:00	15:00		12:00			17:00
Vol.	4	656	99	15	23	15	2	9	15		17			777
Grand Total	20	8879	1639	136	284	131	18	95	199	1	234	2	0	11638
Percent	0.2%	76.3%	14.1%	1.2%	2.4%	1.1%	0.2%	0.8%	1.7%	0.0%	2.0%	0.0%	0.0%	

Counts Unlimited, Inc.

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City of Irwindale
Arrow Highway
B/ Arrow Highway West - Interstate 605
24 Hour Directional Classification Count
Eastbound, Westbound

IRW005
Site Code: 042-23184

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/02/23	0	69	10	3	2	1	0	3	3	0	7	0	0	98
01:00	0	36	1	2	0	2	0	1	4	0	3	0	0	49
02:00	0	52	4	1	1	0	0	0	4	0	7	0	0	69
03:00	0	54	11	1	0	2	2	2	5	0	17	0	0	94
04:00	0	148	30	10	6	3	4	1	12	0	34	0	0	248
05:00	1	377	92	9	15	16	3	6	17	0	40	0	0	576
06:00	0	710	190	11	29	29	7	16	16	0	42	1	0	1051
07:00	1	1680	284	7	53	31	1	28	14	0	38	1	0	2138
08:00	2	1455	277	7	35	27	2	17	16	0	33	0	0	1871
09:00	1	991	182	10	56	21	1	19	40	0	44	0	0	1365
10:00	0	683	181	8	30	27	3	18	26	1	28	0	0	1005
11:00	0	599	153	8	32	21	5	13	20	0	36	0	0	887
12 PM	1	590	145	17	30	17	3	15	22	0	26	0	0	866
13:00	4	702	163	13	29	13	0	9	20	0	21	0	0	974
14:00	3	834	180	20	39	20	1	8	13	0	5	0	0	1123
15:00	4	977	223	17	41	20	1	9	21	0	4	0	0	1317
16:00	6	1266	235	13	34	9	3	8	15	0	4	0	0	1593
17:00	5	1416	201	5	19	5	1	8	7	0	10	0	0	1677
18:00	2	1133	125	6	13	2	0	7	9	0	7	0	0	1304
19:00	0	604	57	13	10	2	0	0	11	0	9	0	0	706
20:00	1	387	41	10	11	1	0	1	10	0	13	0	0	475
21:00	2	359	34	7	1	1	0	2	3	0	11	0	0	420
22:00	0	253	34	6	4	1	0	1	8	0	15	0	0	322
23:00	0	126	14	8	0	2	0	1	15	0	17	0	0	183
Total	33	15501	2867	212	490	273	37	193	331	1	471	2	0	20411
Percent	0.2%	75.9%	14.0%	1.0%	2.4%	1.3%	0.2%	0.9%	1.6%	0.0%	2.3%	0.0%	0.0%	
AM Peak	08:00	07:00	07:00	06:00	09:00	07:00	06:00	07:00	09:00	10:00	09:00	06:00		07:00
Vol.	2	1680	284	11	56	31	7	28	40	1	44	1		2138
PM Peak	16:00	17:00	16:00	14:00	15:00	14:00	12:00	12:00	12:00		12:00			17:00
Vol.	6	1416	235	20	41	20	3	15	22		26			1677
Grand Total	33	15501	2867	212	490	273	37	193	331	1	471	2	0	20411
Percent	0.2%	75.9%	14.0%	1.0%	2.4%	1.3%	0.2%	0.9%	1.6%	0.0%	2.3%	0.0%	0.0%	

Counts Unlimited, Inc.

City of Irwindale
 Arrow Highway
 E/ Live Oak Avenue
 24 Hour Directional Classification Count
 Eastbound

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

IRW001
 Site Code: 042-23184

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/02/23	0	83	5	0	0	2	0	0	3	0	1	0	0	94
01:00	0	59	6	0	0	0	0	0	1	0	0	0	0	66
02:00	0	49	8	0	0	0	0	0	1	0	0	0	0	58
03:00	0	69	15	0	1	0	0	0	4	0	1	0	0	90
04:00	2	208	43	1	6	1	0	0	7	0	0	0	0	268
05:00	0	378	93	2	18	1	0	1	8	0	0	0	0	501
06:00	0	404	98	3	16	10	3	6	17	0	1	0	0	558
07:00	0	585	129	6	28	24	2	7	34	0	1	0	0	816
08:00	0	733	106	5	32	28	0	8	44	1	0	0	0	957
09:00	0	546	127	2	50	32	4	10	52	0	0	0	0	823
10:00	1	507	131	1	43	42	4	4	50	1	0	0	0	784
11:00	1	498	131	3	51	32	3	13	48	0	2	0	0	782
12 PM	3	620	149	4	44	35	3	8	43	0	0	0	0	909
13:00	2	707	181	4	45	33	4	5	51	0	1	0	0	1033
14:00	1	993	226	4	59	36	5	21	37	2	0	0	0	1384
15:00	1	1387	322	4	71	10	1	10	19	0	0	0	0	1825
16:00	2	1429	270	4	39	8	1	7	6	0	0	0	0	1766
17:00	1	1691	274	2	45	4	7	4	8	0	0	0	0	2036
18:00	2	1430	219	4	22	6	0	8	8	0	1	0	0	1700
19:00	1	816	86	3	14	5	0	2	10	0	1	0	0	938
20:00	0	469	55	1	4	2	0	0	4	0	0	0	0	535
21:00	3	318	47	3	7	2	0	0	2	0	1	0	0	383
22:00	0	277	17	3	6	0	0	0	2	0	1	0	0	306
23:00	0	155	15	2	4	0	0	0	2	0	0	0	0	178
Total	20	14411	2753	61	605	313	37	114	461	4	11	0	0	18790
Percent	0.1%	76.7%	14.7%	0.3%	3.2%	1.7%	0.2%	0.6%	2.5%	0.0%	0.1%	0.0%	0.0%	
AM Peak	04:00	08:00	10:00	07:00	11:00	10:00	09:00	11:00	09:00	08:00	11:00			08:00
Vol.	2	733	131	6	51	42	4	13	52	1	2			957
PM Peak	12:00	17:00	15:00	12:00	15:00	14:00	17:00	14:00	13:00	14:00	13:00			17:00
Vol.	3	1691	322	4	71	36	7	21	51	2	1			2036
Grand Total	20	14411	2753	61	605	313	37	114	461	4	11	0	0	18790
Percent	0.1%	76.7%	14.7%	0.3%	3.2%	1.7%	0.2%	0.6%	2.5%	0.0%	0.1%	0.0%	0.0%	

Counts Unlimited, Inc.

City of Irwindale
 Arrow Highway
 E/ Live Oak Avenue
 24 Hour Directional Classification Count
 Westbound

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

IRW001
 Site Code: 042-23184

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/02/23	0	69	8	0	1	1	0	0	5	0	0	0	0	84
01:00	0	42	5	0	2	0	0	0	3	0	0	0	0	52
02:00	1	51	6	1	0	0	0	0	4	0	0	0	0	63
03:00	0	112	18	0	3	1	0	0	3	0	0	0	0	137
04:00	1	262	47	3	11	0	0	0	3	0	0	0	0	327
05:00	0	579	109	6	32	28	2	1	9	1	0	0	0	767
06:00	2	1288	283	7	50	15	5	15	14	0	0	0	0	1679
07:00	1	2208	375	6	69	17	22	11	36	0	0	0	0	2745
08:00	1	1596	329	5	56	13	24	4	46	0	1	0	0	2075
09:00	0	1023	230	9	62	13	18	5	46	0	0	0	0	1406
10:00	0	611	158	2	72	9	27	7	49	0	0	0	0	935
11:00	1	571	127	2	45	20	26	6	49	1	0	0	0	848
12 PM	0	587	147	2	38	11	19	5	48	0	0	0	0	857
13:00	1	692	153	2	23	16	24	2	49	0	2	0	0	964
14:00	3	811	151	8	34	26	16	15	37	1	0	0	0	1102
15:00	0	799	158	2	22	21	1	7	12	0	0	0	0	1022
16:00	5	840	154	6	29	27	0	13	6	0	0	0	0	1080
17:00	3	899	141	6	20	8	0	10	7	0	0	0	0	1094
18:00	1	672	81	3	8	1	0	5	5	1	0	0	0	777
19:00	0	489	44	2	2	0	0	4	5	0	0	0	0	546
20:00	0	367	42	2	3	1	0	0	3	0	0	0	0	418
21:00	0	290	29	2	4	0	0	0	5	0	0	0	0	330
22:00	0	213	17	2	4	1	0	0	3	0	0	0	0	240
23:00	0	163	14	1	3	0	0	0	3	1	0	0	0	185
Total	20	15234	2826	79	593	229	184	110	450	5	3	0	0	19733
Percent	0.1%	77.2%	14.3%	0.4%	3.0%	1.2%	0.9%	0.6%	2.3%	0.0%	0.0%	0.0%	0.0%	
AM Peak	06:00	07:00	07:00	09:00	10:00	05:00	10:00	06:00	10:00	05:00	08:00			07:00
Vol.	2	2208	375	9	72	28	27	15	49	1	1			2745
PM Peak	16:00	17:00	15:00	14:00	12:00	16:00	13:00	14:00	13:00	14:00	13:00			14:00
Vol.	5	899	158	8	38	27	24	15	49	1	2			1102
Grand Total	20	15234	2826	79	593	229	184	110	450	5	3	0	0	19733
Percent	0.1%	77.2%	14.3%	0.4%	3.0%	1.2%	0.9%	0.6%	2.3%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.

City of Irwindale
 Arrow Highway
 E/ Live Oak Avenue
 24 Hour Directional Classification Count
 Eastbound, Westbound

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

IRW001
 Site Code: 042-23184

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/02/23	0	152	13	0	1	3	0	0	8	0	1	0	0	178
01:00	0	101	11	0	2	0	0	0	4	0	0	0	0	118
02:00	1	100	14	1	0	0	0	0	5	0	0	0	0	121
03:00	0	181	33	0	4	1	0	0	7	0	1	0	0	227
04:00	3	470	90	4	17	1	0	0	10	0	0	0	0	595
05:00	0	957	202	8	50	29	2	2	17	1	0	0	0	1268
06:00	2	1692	381	10	66	25	8	21	31	0	1	0	0	2237
07:00	1	2793	504	12	97	41	24	18	70	0	1	0	0	3561
08:00	1	2329	435	10	88	41	24	12	90	1	1	0	0	3032
09:00	0	1569	357	11	112	45	22	15	98	0	0	0	0	2229
10:00	1	1118	289	3	115	51	31	11	99	1	0	0	0	1719
11:00	2	1069	258	5	96	52	29	19	97	1	2	0	0	1630
12 PM	3	1207	296	6	82	46	22	13	91	0	0	0	0	1766
13:00	3	1399	334	6	68	49	28	7	100	0	3	0	0	1997
14:00	4	1804	377	12	93	62	21	36	74	3	0	0	0	2486
15:00	1	2186	480	6	93	31	2	17	31	0	0	0	0	2847
16:00	7	2269	424	10	68	35	1	20	12	0	0	0	0	2846
17:00	4	2590	415	8	65	12	7	14	15	0	0	0	0	3130
18:00	3	2102	300	7	30	7	0	13	13	1	1	0	0	2477
19:00	1	1305	130	5	16	5	0	6	15	0	1	0	0	1484
20:00	0	836	97	3	7	3	0	0	7	0	0	0	0	953
21:00	3	608	76	5	11	2	0	0	7	0	1	0	0	713
22:00	0	490	34	5	10	1	0	0	5	0	1	0	0	546
23:00	0	318	29	3	7	0	0	0	5	1	0	0	0	363
Total	40	29645	5579	140	1198	542	221	224	911	9	14	0	0	38523
Percent	0.1%	77.0%	14.5%	0.4%	3.1%	1.4%	0.6%	0.6%	2.4%	0.0%	0.0%	0.0%	0.0%	
AM Peak	04:00	07:00	07:00	07:00	10:00	11:00	10:00	06:00	10:00	05:00	11:00			07:00
Vol.	3	2793	504	12	115	52	31	21	99	1	2			3561
PM Peak	16:00	17:00	15:00	14:00	14:00	14:00	13:00	14:00	13:00	14:00	13:00			17:00
Vol.	7	2590	480	12	93	62	28	36	100	3	3			3130
Grand Total	40	29645	5579	140	1198	542	221	224	911	9	14	0	0	38523
Percent	0.1%	77.0%	14.5%	0.4%	3.1%	1.4%	0.6%	0.6%	2.4%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.

City of Irwindale
 Arrow Highway
 W/ Live Oak Avenue
 24 Hour Directional Classification Count
Eastbound

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 Phone: (951) 268-6268
 email: counts@countsunlimited.com

IRW006
 Site Code: 042-23184

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/02/23	0	71	2	1	1	2	0	0	2	0	1	0	0	80
01:00	0	61	0	1	0	4	0	0	4	0	0	0	0	70
02:00	0	57	2	0	0	0	0	0	4	0	1	0	0	64
03:00	0	69	1	5	3	2	0	0	0	0	9	0	0	89
04:00	0	135	13	15	6	0	0	1	6	0	11	0	0	187
05:00	0	287	21	18	4	17	2	2	16	4	10	0	0	381
06:00	0	437	67	10	22	18	6	1	12	0	14	1	0	588
07:00	1	729	79	8	36	26	3	5	11	0	8	0	0	906
08:00	1	871	112	6	22	23	3	9	10	0	7	0	0	1064
09:00	1	559	88	3	25	15	1	5	13	0	3	0	0	713
10:00	0	539	131	4	34	27	5	13	14	0	5	0	0	772
11:00	0	596	124	6	32	18	0	7	6	0	1	0	0	790
12 PM	2	650	142	13	24	14	7	7	10	0	0	0	0	869
13:00	3	765	163	8	38	15	0	4	5	0	5	0	0	1006
14:00	2	1004	186	10	50	12	5	7	9	2	3	0	0	1290
15:00	2	1319	278	8	57	12	2	4	5	0	3	0	0	1690
16:00	3	1837	352	6	37	11	0	8	5	1	0	0	0	2260
17:00	2	1977	339	2	27	7	1	3	1	0	0	0	0	2359
18:00	0	1714	179	4	19	2	1	2	3	0	1	0	0	1925
19:00	1	815	59	3	10	0	0	4	9	0	0	0	0	901
20:00	1	471	35	2	3	2	0	0	5	0	0	0	0	519
21:00	0	338	39	6	3	0	0	0	5	0	0	0	0	391
22:00	0	314	16	0	1	1	0	0	3	0	2	0	0	337
23:00	0	163	13	0	0	3	0	0	8	0	2	0	0	189
Total	19	15778	2441	139	454	231	36	82	166	7	86	1	0	19440
Percent	0.1%	81.2%	12.6%	0.7%	2.3%	1.2%	0.2%	0.4%	0.9%	0.0%	0.4%	0.0%	0.0%	
AM Peak	07:00	08:00	10:00	05:00	07:00	10:00	06:00	10:00	05:00	05:00	06:00	06:00		08:00
Vol.	1	871	131	18	36	27	6	13	16	4	14	1		1064
PM Peak	13:00	17:00	16:00	12:00	15:00	13:00	12:00	16:00	12:00	14:00	13:00			17:00
Vol.	3	1977	352	13	57	15	7	8	10	2	5			2359
Grand Total	19	15778	2441	139	454	231	36	82	166	7	86	1	0	19440
Percent	0.1%	81.2%	12.6%	0.7%	2.3%	1.2%	0.2%	0.4%	0.9%	0.0%	0.4%	0.0%	0.0%	

Counts Unlimited, Inc.

City of Irwindale
 Arrow Highway
 W/ Live Oak Avenue
 24 Hour Directional Classification Count
 Westbound

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

IRW006
 Site Code: 042-23184

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/02/23	0	94	6	3	2	0	0	0	3	0	2	0	0	110
01:00	0	61	1	2	1	1	0	0	6	0	0	0	0	72
02:00	0	61	9	3	2	1	0	0	2	0	1	0	0	79
03:00	0	68	13	0	0	0	0	1	2	0	0	0	0	84
04:00	0	137	42	0	1	1	0	0	2	0	0	0	0	183
05:00	1	363	112	2	13	17	0	1	3	0	4	0	0	516
06:00	0	735	223	6	40	12	1	10	7	0	6	0	0	1040
07:00	1	1947	330	6	52	15	0	25	8	1	4	0	0	2389
08:00	1	1708	307	3	52	16	1	14	12	0	7	0	0	2121
09:00	1	1086	238	9	52	13	1	9	22	0	3	0	0	1434
10:00	0	737	158	9	29	15	6	4	14	0	3	0	0	975
11:00	1	630	130	7	31	20	5	3	12	0	5	0	0	844
12 PM	1	585	112	15	20	19	4	4	17	0	7	0	0	784
13:00	1	662	106	12	21	13	0	4	14	0	11	0	0	844
14:00	3	661	121	13	23	15	2	1	8	0	7	0	0	854
15:00	1	714	116	9	24	26	2	5	10	0	10	0	0	917
16:00	6	822	107	10	22	14	7	4	8	0	1	0	0	1001
17:00	4	1014	90	11	12	8	0	10	6	0	0	0	0	1155
18:00	3	866	67	9	6	3	1	8	10	0	0	0	0	973
19:00	3	525	63	11	2	3	0	1	8	0	1	0	0	617
20:00	1	414	34	10	4	1	1	4	3	0	0	0	0	472
21:00	0	385	36	9	0	1	0	0	0	0	0	0	0	431
22:00	0	253	32	11	0	3	0	1	7	0	0	0	0	307
23:00	0	141	15	9	0	0	0	1	4	0	2	0	0	172
Total	28	14669	2468	179	409	217	31	110	188	1	74	0	0	18374
Percent	0.2%	79.8%	13.4%	1.0%	2.2%	1.2%	0.2%	0.6%	1.0%	0.0%	0.4%	0.0%	0.0%	
AM Peak	05:00	07:00	07:00	09:00	07:00	11:00	10:00	07:00	09:00	07:00	08:00			07:00
Vol.	1	1947	330	9	52	20	6	25	22	1	7			2389
PM Peak	16:00	17:00	14:00	12:00	15:00	15:00	16:00	17:00	12:00		13:00			17:00
Vol.	6	1014	121	15	24	26	7	10	17		11			1155
Grand Total	28	14669	2468	179	409	217	31	110	188	1	74	0	0	18374
Percent	0.2%	79.8%	13.4%	1.0%	2.2%	1.2%	0.2%	0.6%	1.0%	0.0%	0.4%	0.0%	0.0%	

Counts Unlimited, Inc.

City of Irwindale
 Arrow Highway
 W/ Live Oak Avenue
 24 Hour Directional Classification Count
 Eastbound, Westbound

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

IRW006
 Site Code: 042-23184

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/02/23	0	165	8	4	3	2	0	0	5	0	3	0	0	190
01:00	0	122	1	3	1	5	0	0	10	0	0	0	0	142
02:00	0	118	11	3	2	1	0	0	6	0	2	0	0	143
03:00	0	137	14	5	3	2	0	1	2	0	9	0	0	173
04:00	0	272	55	15	7	1	0	1	8	0	11	0	0	370
05:00	1	650	133	20	17	34	2	3	19	4	14	0	0	897
06:00	0	1172	290	16	62	30	7	11	19	0	20	1	0	1628
07:00	2	2676	409	14	88	41	3	30	19	1	12	0	0	3295
08:00	2	2579	419	9	74	39	4	23	22	0	14	0	0	3185
09:00	2	1645	326	12	77	28	2	14	35	0	6	0	0	2147
10:00	0	1276	289	13	63	42	11	17	28	0	8	0	0	1747
11:00	1	1226	254	13	63	38	5	10	18	0	6	0	0	1634
12 PM	3	1235	254	28	44	33	11	11	27	0	7	0	0	1653
13:00	4	1427	269	20	59	28	0	8	19	0	16	0	0	1850
14:00	5	1665	307	23	73	27	7	8	17	2	10	0	0	2144
15:00	3	2033	394	17	81	38	4	9	15	0	13	0	0	2607
16:00	9	2659	459	16	59	25	7	12	13	1	1	0	0	3261
17:00	6	2991	429	13	39	15	1	13	7	0	0	0	0	3514
18:00	3	2580	246	13	25	5	2	10	13	0	1	0	0	2898
19:00	4	1340	122	14	12	3	0	5	17	0	1	0	0	1518
20:00	2	885	69	12	7	3	1	4	8	0	0	0	0	991
21:00	0	723	75	15	3	1	0	0	5	0	0	0	0	822
22:00	0	567	48	11	1	4	0	1	10	0	2	0	0	644
23:00	0	304	28	9	0	3	0	1	12	0	4	0	0	361
Total	47	30447	4909	318	863	448	67	192	354	8	160	1	0	37814
Percent	0.1%	80.5%	13.0%	0.8%	2.3%	1.2%	0.2%	0.5%	0.9%	0.0%	0.4%	0.0%	0.0%	
AM Peak	07:00	07:00	08:00	05:00	07:00	10:00	10:00	07:00	09:00	05:00	06:00	06:00		07:00
Vol.	2	2676	419	20	88	42	11	30	35	4	20	1		3295
PM Peak	16:00	17:00	16:00	12:00	15:00	15:00	12:00	17:00	12:00	14:00	13:00			17:00
Vol.	9	2991	459	28	81	38	11	13	27	2	16			3514
Grand Total	47	30447	4909	318	863	448	67	192	354	8	160	1	0	37814
Percent	0.1%	80.5%	13.0%	0.8%	2.3%	1.2%	0.2%	0.5%	0.9%	0.0%	0.4%	0.0%	0.0%	

Counts Unlimited, Inc.

City of Irwindale
 Live Oak Avenue
 B/ Arrow Highway East - Interstate 605
 24 Hour Directional Classification Count

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

IRW002
 Site Code: 042-23184

Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/02/23	0	55	3	0	0	3	0	1	3	0	0	0	0	65
01:00	0	47	7	0	0	0	0	0	1	0	0	0	0	55
02:00	0	42	5	0	0	0	0	0	1	0	0	0	0	48
03:00	0	66	11	0	1	0	0	0	4	0	0	0	0	82
04:00	1	178	37	1	8	1	0	0	4	0	0	0	0	230
05:00	0	305	61	3	10	2	0	2	6	0	0	0	0	389
06:00	0	285	71	2	18	2	2	4	12	0	1	0	0	397
07:00	0	424	75	4	22	5	1	10	11	0	0	0	0	552
08:00	0	528	75	3	23	5	1	6	13	1	3	0	0	658
09:00	0	313	94	2	29	6	2	6	26	0	1	0	0	479
10:00	0	316	68	3	33	13	1	4	18	1	0	0	0	457
11:00	0	339	103	2	38	11	1	10	15	0	2	0	0	521
12 PM	1	384	89	6	41	8	1	4	21	0	0	0	0	555
13:00	0	455	124	4	43	6	2	6	19	0	1	0	0	660
14:00	0	639	150	5	51	7	2	18	19	1	0	0	0	892
15:00	1	946	218	3	60	6	1	10	15	0	0	0	0	1260
16:00	1	1047	218	4	31	7	1	3	6	0	0	0	0	1318
17:00	2	1123	197	2	28	2	0	5	8	0	0	0	0	1367
18:00	1	993	143	3	12	7	0	6	5	0	1	0	0	1171
19:00	1	575	80	3	15	2	0	1	7	0	0	0	0	684
20:00	0	336	43	2	4	4	0	0	2	1	1	1	0	394
21:00	4	261	34	2	7	1	0	0	4	0	0	0	0	313
22:00	0	219	19	0	5	1	0	0	1	0	2	0	0	247
23:00	0	123	20	0	2	0	0	0	2	0	0	0	0	147
Total	12	9999	1945	54	481	99	15	96	223	4	12	1	0	12941
Percent	0.1%	77.3%	15.0%	0.4%	3.7%	0.8%	0.1%	0.7%	1.7%	0.0%	0.1%	0.0%	0.0%	
AM Peak	04:00	08:00	11:00	07:00	11:00	10:00	06:00	07:00	09:00	08:00	08:00			08:00
Vol.	1	528	103	4	38	13	2	10	26	1	3			658
PM Peak	21:00	17:00	15:00	12:00	15:00	12:00	13:00	14:00	12:00	14:00	22:00	20:00		17:00
Vol.	4	1123	218	6	60	8	2	18	21	1	2	1		1367
Grand Total	12	9999	1945	54	481	99	15	96	223	4	12	1	0	12941
Percent	0.1%	77.3%	15.0%	0.4%	3.7%	0.8%	0.1%	0.7%	1.7%	0.0%	0.1%	0.0%	0.0%	

Counts Unlimited, Inc.

City of Irwindale
 Live Oak Avenue
 B/ Arrow Highway East - Interstate 605
 24 Hour Directional Classification Count
 Westbound

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

IRW002
 Site Code: 042-23184

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/02/23	0	53	5	0	2	0	0	0	5	0	0	0	0	65
01:00	0	37	2	0	1	1	0	0	1	0	0	0	0	42
02:00	0	43	6	1	0	0	0	0	2	0	1	0	0	53
03:00	0	80	17	0	2	1	0	0	3	0	0	0	0	103
04:00	1	168	50	2	9	0	0	0	2	0	0	0	0	232
05:00	0	328	99	2	32	17	0	5	5	1	0	0	0	489
06:00	1	692	125	4	31	10	1	13	12	0	0	0	0	889
07:00	0	1055	174	4	41	5	0	6	12	0	0	0	0	1297
08:00	0	770	163	3	41	11	0	4	17	0	2	0	0	1011
09:00	0	480	111	5	40	10	1	10	12	0	0	0	0	669
10:00	0	322	69	3	48	7	0	7	18	0	0	0	0	474
11:00	0	330	72	2	36	11	0	5	27	1	0	0	0	484
12 PM	0	379	78	2	34	3	0	2	15	0	0	0	0	513
13:00	0	409	88	2	19	7	0	3	17	0	0	0	0	545
14:00	0	464	81	4	22	8	0	7	10	1	0	0	0	597
15:00	0	493	77	2	14	8	0	5	8	0	0	0	0	607
16:00	2	522	81	3	14	5	0	5	7	0	0	0	0	639
17:00	5	550	64	4	5	0	0	7	9	0	0	0	0	644
18:00	1	413	53	4	7	1	0	1	4	1	0	0	0	485
19:00	2	267	39	2	6	0	0	1	5	0	0	0	0	322
20:00	0	175	35	2	3	1	0	0	2	0	1	0	0	219
21:00	1	151	25	2	7	0	0	0	3	0	0	0	0	189
22:00	0	115	15	2	4	2	0	0	3	0	0	0	0	141
23:00	0	85	12	0	2	0	0	0	2	1	1	0	0	103
Total	13	8381	1541	55	420	108	2	81	201	5	5	0	0	10812
Percent	0.1%	77.5%	14.3%	0.5%	3.9%	1.0%	0.0%	0.7%	1.9%	0.0%	0.0%	0.0%	0.0%	
AM Peak	04:00	07:00	07:00	09:00	10:00	05:00	06:00	06:00	11:00	05:00	08:00			07:00
Vol.	1	1055	174	5	48	17	1	13	27	1	2			1297
PM Peak	17:00	17:00	13:00	14:00	12:00	14:00		14:00	13:00	14:00	20:00			17:00
Vol.	5	550	88	4	34	8		7	17	1	1			644
Grand Total	13	8381	1541	55	420	108	2	81	201	5	5	0	0	10812
Percent	0.1%	77.5%	14.3%	0.5%	3.9%	1.0%	0.0%	0.7%	1.9%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.

City of Irwindale
 Live Oak Avenue
 B/ Arrow Highway East - Interstate 605
 24 Hour Directional Classification Count
 Eastbound, Westbound

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

IRW002
 Site Code: 042-23184

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/02/23	0	108	8	0	2	3	0	1	8	0	0	0	0	130
01:00	0	84	9	0	1	1	0	0	2	0	0	0	0	97
02:00	0	85	11	1	0	0	0	0	3	0	1	0	0	101
03:00	0	146	28	0	3	1	0	0	7	0	0	0	0	185
04:00	2	346	87	3	17	1	0	0	6	0	0	0	0	462
05:00	0	633	160	5	42	19	0	7	11	1	0	0	0	878
06:00	1	977	196	6	49	12	3	17	24	0	1	0	0	1286
07:00	0	1479	249	8	63	10	1	16	23	0	0	0	0	1849
08:00	0	1298	238	6	64	16	1	10	30	1	5	0	0	1669
09:00	0	793	205	7	69	16	3	16	38	0	1	0	0	1148
10:00	0	638	137	6	81	20	1	11	36	1	0	0	0	931
11:00	0	669	175	4	74	22	1	15	42	1	2	0	0	1005
12 PM	1	763	167	8	75	11	1	6	36	0	0	0	0	1068
13:00	0	864	212	6	62	13	2	9	36	0	1	0	0	1205
14:00	0	1103	231	9	73	15	2	25	29	2	0	0	0	1489
15:00	1	1439	295	5	74	14	1	15	23	0	0	0	0	1867
16:00	3	1569	299	7	45	12	1	8	13	0	0	0	0	1957
17:00	7	1673	261	6	33	2	0	12	17	0	0	0	0	2011
18:00	2	1406	196	7	19	8	0	7	9	1	1	0	0	1656
19:00	3	842	119	5	21	2	0	2	12	0	0	0	0	1006
20:00	0	511	78	4	7	5	0	0	4	1	2	1	0	613
21:00	5	412	59	4	14	1	0	0	7	0	0	0	0	502
22:00	0	334	34	2	9	3	0	0	4	0	2	0	0	388
23:00	0	208	32	0	4	0	0	0	4	1	1	0	0	250
Total	25	18380	3486	109	901	207	17	177	424	9	17	1	0	23753
Percent	0.1%	77.4%	14.7%	0.5%	3.8%	0.9%	0.1%	0.7%	1.8%	0.0%	0.1%	0.0%	0.0%	
AM Peak	04:00	07:00	07:00	07:00	10:00	11:00	06:00	06:00	11:00	05:00	08:00			07:00
Vol.	2	1479	249	8	81	22	3	17	42	1	5			1849
PM Peak	17:00	17:00	16:00	14:00	12:00	14:00	13:00	14:00	12:00	14:00	20:00	20:00		17:00
Vol.	7	1673	299	9	75	15	2	25	36	2	2	1		2011
Grand Total	25	18380	3486	109	901	207	17	177	424	9	17	1	0	23753
Percent	0.1%	77.4%	14.7%	0.5%	3.8%	0.9%	0.1%	0.7%	1.8%	0.0%	0.1%	0.0%	0.0%	

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878

Phone: (951) 268-6268

email: counts@countsunlimited.com

IRW004

Site Code: 042-23184

City of Irwindale
Live Oak Avenue
B/ Arrow Highway West - Interstate 605
24 Hour Directional Classification Count
Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/02/23	0	59	6	1	2	0	0	2	3	0	2	0	0	75
01:00	0	40	9	1	0	3	0	0	3	0	2	0	0	58
02:00	0	42	10	0	1	0	0	2	2	0	1	0	0	58
03:00	0	62	13	4	3	1	1	1	4	0	13	0	0	102
04:00	0	115	35	6	5	2	4	2	9	0	27	0	0	205
05:00	0	210	55	14	17	11	1	5	14	1	27	0	0	355
06:00	0	358	61	4	20	10	3	9	20	1	19	2	0	507
07:00	1	533	70	4	31	14	2	14	19	0	18	0	0	706
08:00	1	635	87	2	22	26	0	12	20	0	19	1	0	825
09:00	0	401	74	4	12	6	2	7	21	0	21	0	0	548
10:00	0	414	94	3	29	18	6	11	17	0	18	0	0	610
11:00	0	451	105	5	40	13	2	9	18	1	15	0	0	659
12 PM	1	546	115	10	27	11	5	13	13	0	20	0	0	761
13:00	1	581	128	6	30	10	0	7	14	0	6	0	0	783
14:00	1	797	164	7	36	13	1	12	18	0	7	0	0	1056
15:00	1	969	189	5	35	10	1	9	7	0	3	0	0	1229
16:00	1	1363	269	5	35	6	1	8	9	1	2	0	0	1700
17:00	2	1459	254	2	32	5	3	8	1	0	4	0	0	1770
18:00	0	1240	170	4	18	2	1	5	3	0	3	0	0	1446
19:00	2	594	72	3	16	0	0	5	9	0	1	0	0	702
20:00	1	396	45	3	4	2	0	2	5	0	6	0	0	464
21:00	4	419	56	5	3	2	0	1	3	0	4	0	0	497
22:00	1	321	30	0	5	1	0	0	1	0	7	0	0	366
23:00	0	119	12	0	3	3	2	2	6	0	10	0	0	157
Total	17	12124	2123	98	426	169	35	146	239	4	255	3	0	15639
Percent	0.1%	77.5%	13.6%	0.6%	2.7%	1.1%	0.2%	0.9%	1.5%	0.0%	1.6%	0.0%	0.0%	
AM Peak	07:00	08:00	11:00	05:00	11:00	08:00	10:00	07:00	09:00	05:00	04:00	06:00		08:00
Vol.	1	635	105	14	40	26	6	14	21	1	27	2		825
PM Peak	21:00	17:00	16:00	12:00	14:00	14:00	12:00	12:00	14:00	16:00	12:00			17:00
Vol.	4	1459	269	10	36	13	5	13	18	1	20			1770
Grand Total	17	12124	2123	98	426	169	35	146	239	4	255	3	0	15639
Percent	0.1%	77.5%	13.6%	0.6%	2.7%	1.1%	0.2%	0.9%	1.5%	0.0%	1.6%	0.0%	0.0%	

Counts Unlimited, Inc.

City of Irwindale
 Live Oak Avenue
 B/ Arrow Highway West - Interstate 605
 24 Hour Directional Classification Count
 Westbound

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

IRW004
 Site Code: 042-23184

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/02/23	0	69	8	1	0	1	0	2	4	0	0	0	0	85
01:00	0	48	2	0	1	1	0	1	3	0	1	0	0	57
02:00	0	48	7	2	1	1	0	0	1	0	0	0	0	60
03:00	0	61	9	0	2	1	0	1	2	0	3	0	0	79
04:00	0	103	24	0	5	2	0	0	3	0	12	0	0	149
05:00	0	283	61	2	13	7	0	1	11	0	12	0	0	390
06:00	0	477	131	6	28	9	4	8	8	0	19	0	0	690
07:00	0	944	166	4	29	6	0	15	15	1	9	0	0	1189
08:00	1	876	147	3	40	8	3	13	9	0	13	0	0	1113
09:00	1	531	129	5	39	18	1	11	22	0	23	0	0	780
10:00	0	414	91	8	23	13	5	6	19	0	13	0	0	592
11:00	1	399	90	2	35	11	5	6	17	1	30	0	0	597
12 PM	0	402	82	4	17	19	4	5	16	0	13	0	0	562
13:00	1	415	71	3	20	15	0	6	15	0	20	0	0	566
14:00	1	412	78	3	21	5	3	3	8	0	6	1	0	541
15:00	0	489	81	5	14	16	1	7	9	0	9	0	0	631
16:00	3	508	87	4	14	9	1	6	10	0	2	0	0	644
17:00	1	672	81	6	14	6	0	12	6	0	6	0	0	804
18:00	4	583	70	5	4	6	0	14	7	0	4	0	0	697
19:00	4	449	42	3	6	2	0	6	7	0	5	0	0	524
20:00	2	318	34	3	2	4	0	3	5	0	10	0	0	381
21:00	0	272	19	5	1	1	0	2	4	0	6	1	0	311
22:00	0	177	21	4	4	3	0	1	10	0	12	0	0	232
23:00	0	121	9	1	1	0	0	2	5	0	4	0	0	143
Total	19	9071	1540	79	334	164	27	131	216	2	232	2	0	11817
Percent	0.2%	76.8%	13.0%	0.7%	2.8%	1.4%	0.2%	1.1%	1.8%	0.0%	2.0%	0.0%	0.0%	
AM Peak	08:00	07:00	07:00	10:00	08:00	09:00	10:00	07:00	09:00	07:00	11:00			07:00
Vol.	1	944	166	8	40	18	5	15	22	1	30			1189
PM Peak	18:00	17:00	16:00	17:00	14:00	12:00	12:00	18:00	12:00		13:00	14:00		17:00
Vol.	4	672	87	6	21	19	4	14	16		20	1		804
Grand Total	19	9071	1540	79	334	164	27	131	216	2	232	2	0	11817
Percent	0.2%	76.8%	13.0%	0.7%	2.8%	1.4%	0.2%	1.1%	1.8%	0.0%	2.0%	0.0%	0.0%	

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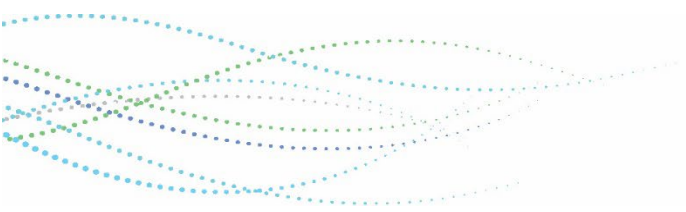
City of Irwindale
Live Oak Avenue
B/ Arrow Highway West - Interstate 605
24 Hour Directional Classification Count
Eastbound, Westbound

IRW004
Site Code: 042-23184

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/02/23	0	128	14	2	2	1	0	4	7	0	2	0	0	160
01:00	0	88	11	1	1	4	0	1	6	0	3	0	0	115
02:00	0	90	17	2	2	1	0	2	3	0	1	0	0	118
03:00	0	123	22	4	5	2	1	2	6	0	16	0	0	181
04:00	0	218	59	6	10	4	4	2	12	0	39	0	0	354
05:00	0	493	116	16	30	18	1	6	25	1	39	0	0	745
06:00	0	835	192	10	48	19	7	17	28	1	38	2	0	1197
07:00	1	1477	236	8	60	20	2	29	34	1	27	0	0	1895
08:00	2	1511	234	5	62	34	3	25	29	0	32	1	0	1938
09:00	1	932	203	9	51	24	3	18	43	0	44	0	0	1328
10:00	0	828	185	11	52	31	11	17	36	0	31	0	0	1202
11:00	1	850	195	7	75	24	7	15	35	2	45	0	0	1256
12 PM	1	948	197	14	44	30	9	18	29	0	33	0	0	1323
13:00	2	996	199	9	50	25	0	13	29	0	26	0	0	1349
14:00	2	1209	242	10	57	18	4	15	26	0	13	1	0	1597
15:00	1	1458	270	10	49	26	2	16	16	0	12	0	0	1860
16:00	4	1871	356	9	49	15	2	14	19	1	4	0	0	2344
17:00	3	2131	335	8	46	11	3	20	7	0	10	0	0	2574
18:00	4	1823	240	9	22	8	1	19	10	0	7	0	0	2143
19:00	6	1043	114	6	22	2	0	11	16	0	6	0	0	1226
20:00	3	714	79	6	6	6	0	5	10	0	16	0	0	845
21:00	4	691	75	10	4	3	0	3	7	0	10	1	0	808
22:00	1	498	51	4	9	4	0	1	11	0	19	0	0	598
23:00	0	240	21	1	4	3	2	4	11	0	14	0	0	300
Total	36	21195	3663	177	760	333	62	277	455	6	487	5	0	27456
Percent	0.1%	77.2%	13.3%	0.6%	2.8%	1.2%	0.2%	1.0%	1.7%	0.0%	1.8%	0.0%	0.0%	
AM Peak	08:00	08:00	07:00	05:00	11:00	08:00	10:00	07:00	09:00	11:00	11:00	06:00		08:00
Vol.	2	1511	236	16	75	34	11	29	43	2	45	2		1938
PM Peak	19:00	17:00	16:00	12:00	14:00	12:00	12:00	17:00	12:00	16:00	12:00	14:00		17:00
Vol.	6	2131	356	14	57	30	9	20	29	1	33	1		2574
Grand Total	36	21195	3663	177	760	333	62	277	455	6	487	5	0	27456
Percent	0.1%	77.2%	13.3%	0.6%	2.8%	1.2%	0.2%	1.0%	1.7%	0.0%	1.8%	0.0%	0.0%	

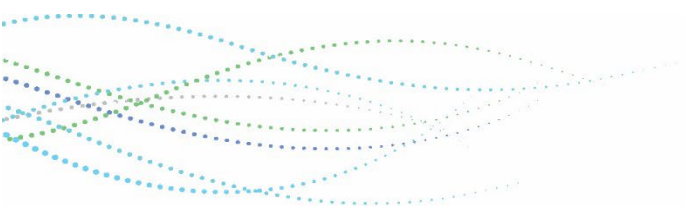


APPENDIX B – LOS CALCULATION SHEETS



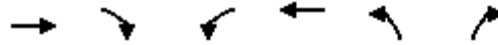


Existing LOS Calculation Sheets



Intersection Capacity Utilization
1: Live Oak Avenue & Arrow Highway (West)

Existing Conditions
AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑↑	↑↑	↑↑	↑
Volume (vph)	414	633	183	1515	1094	219
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right	Yes			No		
Ideal Flow	1600	1600	2500	1600	2500	1600
Lost Time (s)	4.5	4.0	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	4.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	625	422	183	1515	1094	219
Lane Utilization Factor	0.95	1.00	0.97	0.95	0.97	1.00
Turning Factor (vph)	0.95	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	2892	1360	4612	3046	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00		
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	25.9	37.2	4.8	59.7	19.3	
Adj Reference Time (s)	30.4	41.2	9.5	64.2	23.8	
Permitted Option						
Adj Saturation A (vph)	1446	154		1523	154	
Reference Time A (s)	25.9	71.4		59.7	426.9	
Adj Saturation B (vph)	NA	NA		NA	NA	
Reference Time B (s)	NA	NA		NA	NA	
Reference Time (s)	25.9	71.4				
Adj Reference Time (s)	30.4	75.9				
Split Option						
Ref Time Combined (s)	25.9	4.8		59.7	28.5	
Ref Time Seperate (s)	17.2	4.8		59.7	28.5	
Reference Time (s)	25.9	59.7		59.7	28.5	
Adj Reference Time (s)	30.4	64.2		64.2	33.0	
Summary						
	EB WB		NB		Combined	
Protected Option (s)	64.2		NA			
Permitted Option (s)	75.9		Err			
Split Option (s)	94.6		33.0			
Minimum (s)	64.2		33.0		97.1	
Right Turns						
	EBR	NBR				
Adj Reference Time (s)	41.2	23.8				
Cross Thru Ref Time (s)	0.0	30.4				
Oncoming Left Ref Time (s)	0.0	0.0				
Combined (s)	41.2	54.3				

Intersection Summary

Intersection Capacity Utilization 81.0% ICU Level of Service D
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
2: Speedway Drive & Live Oak Ave

Existing Conditions
AM Peak Hour

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↘	↑↑	↘↘	↗
Volume (vph)	984	4	1	1371	2	0
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No			No	
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.0	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	4.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	988	0	1	1371	2	0
Lane Utilization Factor	0.91	1.00	1.00	0.95	0.97	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	4356	0	1520	3046	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	27.2	0.0	0.1	54.0		0.0
Adj Reference Time (s)	31.7	0.0	9.5	58.5		9.5
Permitted Option						
Adj Saturation A (vph)	1452		101	1523	154	
Reference Time A (s)	27.2		1.2	54.0	0.8	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	27.2			54.0		
Adj Reference Time (s)	31.7			58.5		
Split Option						
Ref Time Combined (s)	27.2		0.1	54.0	0.1	
Ref Time Seperate (s)	27.1		0.1	54.0	0.1	
Reference Time (s)	27.2		54.0	54.0	0.1	
Adj Reference Time (s)	31.7		58.5	58.5	9.5	
Summary						
	EB	WB	NB	Combined		
Protected Option (s)	58.5		NA			
Permitted Option (s)	58.5		Err			
Split Option (s)	90.2		9.5			
Minimum (s)	58.5		9.5	68.0		
Right Turns						
	NBR					
Adj Reference Time (s)	9.5					
Cross Thru Ref Time (s)	0.0					
Oncoming Left Ref Time (s)	0.0					
Combined (s)	0.0					
Intersection Summary						
Intersection Capacity Utilization			56.7%	ICU Level of Service		B

Reference Times and Phasing Options do not represent an optimized timing plan.

HCM 6th Signalized Intersection Summary
4: I605 SB On-Ramp & Live Oak Avenue

Existing Conditions
AM Peak Hour















Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑		
Traffic Volume (veh/h)	282	577	474	1456	0	0
Future Volume (veh/h)	282	577	474	1456	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1600	1600	1600	1600		
Adj Flow Rate, veh/h	297	0	499	1533		
Peak Hour Factor	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	0	0	0	0		
Cap, veh/h	905		608	2579		
Arrive On Green	0.30	0.00	0.40	0.85		
Sat Flow, veh/h	3120	1356	1524	3120		
Grp Volume(v), veh/h	297	0	499	1533		
Grp Sat Flow(s),veh/h/ln	1520	1356	1524	1520		
Q Serve(g_s), s	2.3	0.0	8.7	4.6		
Cycle Q Clear(g_c), s	2.3	0.0	8.7	4.6		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	905		608	2579		
V/C Ratio(X)	0.33		0.82	0.59		
Avail Cap(c_a), veh/h	2921		1156	5688		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00		
Uniform Delay (d), s/veh	8.1	0.0	8.0	0.7		
Incr Delay (d2), s/veh	0.2	0.0	2.8	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.5	0.0	2.0	0.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.3	0.0	10.8	0.9		
LnGrp LOS	A		B	A		
Approach Vol, veh/h	297			2032		
Approach Delay, s/veh	8.3			3.3		
Approach LOS	A			A		
Timer - Assigned Phs			3	4		8
Phs Duration (G+Y+Rc), s			16.3	13.3		29.7
Change Period (Y+Rc), s			4.5	4.5		4.5
Max Green Setting (Gmax), s			22.5	28.5		55.5
Max Q Clear Time (g_c+I1), s			10.7	4.3		6.6
Green Ext Time (p_c), s			1.3	1.9		18.6
Intersection Summary						
HCM 6th Ctrl Delay			4.0			
HCM 6th LOS			A			

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
5: I605 NB Off-Ramp & Live Oak Avenue

Existing Conditions
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑				↑↑			↑↑
Traffic Volume (veh/h)	0	273	0	0	1076	0	0	0	471	0	0	752
Future Volume (veh/h)	0	273	0	0	1076	0	0	0	471	0	0	752
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1600	0	0	1600	0	0	0	1600	0	0	1600
Adj Flow Rate, veh/h	0	287	0	0	1133	0	0	0	496	0	0	792
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	2279	0	0	2279	0	0	0	0	0	0	0
Arrive On Green	0.00	0.75	0.00	0.00	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	3200	0	0	3200	0		0			0	
Grp Volume(v), veh/h	0	287	0	0	1133	0		0.0			0.0	
Grp Sat Flow(s),veh/h/ln	0	1520	0	0	1520	0						
Q Serve(g_s), s	0.0	0.5	0.0	0.0	2.7	0.0						
Cycle Q Clear(g_c), s	0.0	0.5	0.0	0.0	2.7	0.0						
Prop In Lane	0.00		0.00	0.00		0.00						
Lane Grp Cap(c), veh/h	0	2279	0	0	2279	0						
V/C Ratio(X)	0.00	0.13	0.00	0.00	0.50	0.00						
Avail Cap(c_a), veh/h	0	4481	0	0	4481	0						
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00						
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00						
Uniform Delay (d), s/veh	0.0	0.6	0.0	0.0	0.9	0.0						
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.2	0.0						
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0						
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.1	0.0						
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.6	0.0	0.0	1.1	0.0						
LnGrp LOS	A	A	A	A	A	A						
Approach Vol, veh/h		287			1133							
Approach Delay, s/veh		0.6			1.1							
Approach LOS		A			A							
Timer - Assigned Phs				4				8				
Phs Duration (G+Y+Rc), s				18.0				18.0				
Change Period (Y+Rc), s				4.5				4.5				
Max Green Setting (Gmax), s				26.5				26.5				
Max Q Clear Time (g_c+I1), s				2.5				4.7				
Green Ext Time (p_c), s				1.8				8.8				
Intersection Summary												
HCM 6th Ctrl Delay				1.0								
HCM 6th LOS				A								

Intersection Capacity Utilization
6: Graham Road & Live Oak Avenue

Existing Conditions
AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	
Volume (vph)	645	82	25	1037	112	28
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No			No	
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	645	82	25	1037	140	0
Lane Utilization Factor	0.95	1.00	1.00	0.95	1.00	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.93	0.85
Saturated Flow (vph)	3046	1360	1520	3046	1490	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	25.4	7.2	2.0	40.8		0.0
Adj Reference Time (s)	29.9	11.7	9.5	45.3		0.0
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	99	
Reference Time A (s)	25.4		29.6	40.8	169.1	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	25.4			40.8		
Adj Reference Time (s)	29.9			45.3		
Split Option						
Ref Time Combined (s)	25.4		2.0	40.8	11.3	
Ref Time Seperate (s)	25.4		2.0	40.8	9.0	
Reference Time (s)	25.4		40.8	40.8	11.3	
Adj Reference Time (s)	29.9		45.3	45.3	15.8	
Summary						
	EB	WB		NB		Combined
Protected Option (s)	45.3			NA		
Permitted Option (s)	45.3			Err		
Split Option (s)	75.3			15.8		
Minimum (s)	45.3			15.8		61.1
Right Turns						
	EBR					
Adj Reference Time (s)	11.7					
Cross Thru Ref Time (s)	0.0					
Oncoming Left Ref Time (s)	9.5					
Combined (s)	21.2					
Intersection Summary						
Intersection Capacity Utilization	50.9%			ICU Level of Service		A

Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	76	588	981	36	3	82
Future Vol, veh/h	76	588	981	36	3	82
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	290	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	83	639	1066	39	3	89

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1105	0	-	0	1552 533
Stage 1	-	-	-	-	1066 -
Stage 2	-	-	-	-	486 -
Critical Hdwy	4.1	-	-	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	639	-	-	-	106 496
Stage 1	-	-	-	-	297 -
Stage 2	-	-	-	-	590 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	639	-	-	-	92 496
Mov Cap-2 Maneuver	-	-	-	-	92 -
Stage 1	-	-	-	-	258 -
Stage 2	-	-	-	-	590 -

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	15.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	639	-	-	-	429
HCM Lane V/C Ratio	0.129	-	-	-	0.215
HCM Control Delay (s)	11.5	-	-	-	15.7
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	0.8























Intersection Capacity Utilization
8: Live Oak Avenue & Rivergrade Road

Existing Conditions
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	11	549	41	419	936	8	38	56	109	11	109	48
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right	No			No			No			No		
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	11	590	0	419	936	8	38	56	109	11	109	48
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Turning Factor (vph)	0.95	0.99	0.85	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1520	3015	0	1520	3046	1360	1520	3046	1360	1520	3046	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00			0.00			0.00		
Protected Option Allowed	Yes			Yes			Yes			Yes		
Reference Time (s)	0.9	23.5	0.0	33.1	36.9	0.7	3.0	2.2	9.6	0.9	4.3	4.2
Adj Reference Time (s)	9.5	28.0	0.0	37.6	41.4	9.5	9.5	9.5	14.1	9.5	9.5	9.5
Permitted Option												
Adj Saturation A (vph)	101	1507		101	1523		101	1523		101	1523	
Reference Time A (s)	13.0	23.5		496.2	36.9		45.0	2.2		13.0	4.3	
Adj Saturation B (vph)	NA	NA		NA	NA		0	3046		0	3046	
Reference Time B (s)	NA	NA		NA	NA		11.0	2.2		8.9	4.3	
Reference Time (s)		23.5			496.2			11.0			8.9	
Adj Reference Time (s)		28.0			500.7			15.5			13.4	
Split Option												
Ref Time Combined (s)	0.9	23.5		33.1	36.9		3.0	2.2		0.9	4.3	
Ref Time Separate (s)	0.9	21.9		33.1	36.9		3.0	2.2		0.9	4.3	
Reference Time (s)	23.5	23.5		36.9	36.9		3.0	3.0		4.3	4.3	
Adj Reference Time (s)	28.0	28.0		41.4	41.4		9.5	9.5		9.5	9.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	65.6		19.0									
Permitted Option (s)	500.7		15.5									
Split Option (s)	69.4		19.0									
Minimum (s)	65.6		15.5		81.1							
Right Turns												
	WBR		NBR		SBR							
Adj Reference Time (s)	9.5		14.1		9.5							
Cross Thru Ref Time (s)	9.5		28.0		41.4							
Oncoming Left Ref Time (s)	9.5		9.5		9.5							
Combined (s)	28.5		51.6		60.4							
Intersection Summary												
Intersection Capacity Utilization			67.6%		ICU Level of Service				C			
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
9: Stewart Avenue & Live Oak Avenue

Existing Conditions
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	530	42	27	1343	21	203	91	33	7	36	35
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	30	530	42	27	1343	21	0	327	0	7	36	35
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	0.95	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1520	3046	1360	1520	3046	1360	0	1527	0	1520	1600	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			No			No	
Reference Time (s)	2.4	20.9	3.7	2.1	52.9	1.9			0.0			3.1
Adj Reference Time (s)	9.5	25.4	9.5	9.5	57.4	9.5			0.0			9.5
Permitted Option												
Adj Saturation A (vph)	101	1523		101	1523		0	145		1045	1600	
Reference Time A (s)	35.5	20.9		32.0	52.9		0.0	269.9		0.8	2.7	
Adj Saturation B (vph)	NA	NA		NA	NA		0	0		NA	NA	
Reference Time B (s)	NA	NA		NA	NA		24.0	33.7		NA	NA	
Reference Time (s)		35.5			52.9			33.7			2.7	
Adj Reference Time (s)		40.0			57.4			38.2			9.5	
Split Option												
Ref Time Combined (s)	2.4	20.9		2.1	52.9		0.0	25.7		0.6	2.7	
Ref Time Seperate (s)	2.4	20.9		2.1	52.9		16.0	7.1		0.6	2.7	
Reference Time (s)	20.9	20.9		52.9	52.9		25.7	25.7		2.7	2.7	
Adj Reference Time (s)	25.4	25.4		57.4	57.4		30.2	30.2		9.5	9.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	66.9		NA									
Permitted Option (s)	57.4		38.2									
Split Option (s)	82.8		39.7									
Minimum (s)	57.4		38.2		95.6							
Right Turns												
	EBR	WBR	SBR									
Adj Reference Time (s)	9.5	9.5	9.5									
Cross Thru Ref Time (s)	9.5	30.2	57.4									
Oncoming Left Ref Time (s)	9.5	9.5	30.2									
Combined (s)	28.5	49.2	97.1									
Intersection Summary												
Intersection Capacity Utilization			80.9%	ICU Level of Service				D				
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
10: Baldwin Park Boulevard & Live Oak Avenue

Existing Conditions
AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑↑	↑
Volume (vph)	495	85	161	1112	281	209
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No			No	
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	495	85	161	1112	281	209
Lane Utilization Factor	0.95	1.00	1.00	0.95	0.97	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	1360	1520	3046	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	19.5	7.5	12.7	43.8		18.4
Adj Reference Time (s)	24.0	12.0	17.2	48.3		22.9
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	154	
Reference Time A (s)	19.5		190.7	43.8	109.7	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	19.5			190.7		
Adj Reference Time (s)	24.0			195.2		
Split Option						
Ref Time Combined (s)	19.5		12.7	43.8	7.3	
Ref Time Seperate (s)	19.5		12.7	43.8	7.3	
Reference Time (s)	19.5		43.8	43.8	7.3	
Adj Reference Time (s)	24.0		48.3	48.3	11.8	
Summary	EB WB		NB		Combined	
Protected Option (s)	48.3		NA			
Permitted Option (s)	195.2		Err			
Split Option (s)	72.3		11.8			
Minimum (s)	48.3		11.8		60.1	
Right Turns	EBR	NBR				
Adj Reference Time (s)	12.0	22.9				
Cross Thru Ref Time (s)	0.0	24.0				
Oncoming Left Ref Time (s)	17.2	0.0				
Combined (s)	29.2	46.9				

Intersection Summary

Intersection Capacity Utilization 50.1% ICU Level of Service A
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
11: Live Oak Avenue (East) & Arrow Highway







Existing Conditions
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	100	606	1214	1594	450	60
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				Yes		No
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.0	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	4.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	100	606	1214	1594	450	60
Lane Utilization Factor	1.00	0.95	0.95	1.00	0.97	1.00
Turning Factor (vph)	0.95	1.00	1.00	0.85	0.95	0.85
Saturated Flow (vph)	1520	3046	3046	1360	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	7.9	23.9	47.8	140.6		5.3
Adj Reference Time (s)	12.4	28.4	52.3	144.6		9.8
Permitted Option						
Adj Saturation A (vph)	101	1523	1523		154	
Reference Time A (s)	118.4	23.9	47.8		175.6	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		118.4	47.8			
Adj Reference Time (s)		122.9	52.3			
Split Option						
Ref Time Combined (s)	7.9	23.9	47.8		11.7	
Ref Time Seperate (s)	7.9	23.9	47.8		11.7	
Reference Time (s)	23.9	23.9	47.8		11.7	
Adj Reference Time (s)	28.4	28.4	52.3		16.2	
Summary						
	EB WB		SB	Combined		
Protected Option (s)	64.7		NA			
Permitted Option (s)	122.9		Err			
Split Option (s)	80.7		16.2			
Minimum (s)	64.7		16.2	80.9		
Right Turns						
	WBR	SBR				
Adj Reference Time (s)	144.6	9.8				
Cross Thru Ref Time (s)	0.0	52.3				
Oncoming Left Ref Time (s)	0.0	0.0				
Combined (s)	144.6	62.1				
Intersection Summary						
Intersection Capacity Utilization			67.4%	ICU Level of Service	C	
Reference Times and Phasing Options do not represent an optimized timing plan.						

Intersection Capacity Utilization
12: Rivergrade Road & Arrow Highway

Existing Conditions
AM Peak Hour

						
Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↑↑	↑	↑	↑↑	↑↑	↑
Volume (vph)	439	204	34	1811	188	11
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No				No
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	439	204	34	1811	188	11
Lane Utilization Factor	0.95	1.00	1.00	0.95	0.97	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	1360	1520	3046	2952	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	17.3	18.0	2.7	71.3		1.0
Adj Reference Time (s)	21.8	22.5	9.5	75.8		9.5
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	98	
Reference Time A (s)	17.3		40.3	71.3	114.6	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	17.3			71.3		
Adj Reference Time (s)	21.8			75.8		
Split Option						
Ref Time Combined (s)	17.3		2.7	71.3	7.6	
Ref Time Seperate (s)	17.3		2.7	71.3	7.6	
Reference Time (s)	17.3		71.3	71.3	7.6	
Adj Reference Time (s)	21.8		75.8	75.8	12.1	
Summary						
	NW	SE	NE	Combined		
Protected Option (s)	75.8		NA			
Permitted Option (s)	75.8		Err			
Split Option (s)	97.6		12.1			
Minimum (s)	75.8		12.1	88.0		
Right Turns						
	SER	NER				
Adj Reference Time (s)	22.5	9.5				
Cross Thru Ref Time (s)	0.0	21.8				
Oncoming Left Ref Time (s)	9.5	0.0				
Combined (s)	32.0	31.3				
Intersection Summary						
Intersection Capacity Utilization			73.3%	ICU Level of Service	D	

Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
13: San Gabriel River Trail & Arrow Highway

Existing Conditions
AM Peak Hour



Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↑↑			↑↑		
Volume (vph)	716	0	0	1932	0	0
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No			No	
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.0	4.0	4.5	4.0	4.0
Minimum Green (s)	5.0	4.0	4.0	5.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	716	0	0	1932	0	0
Lane Utilization Factor	0.95	1.00	1.00	0.95	1.00	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	0	0	3046	0	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	28.2	0.0	0.0	76.1		0.0
Adj Reference Time (s)	32.7	0.0	0.0	80.6		0.0
Permitted Option						
Adj Saturation A (vph)	1523		0	1523	0	
Reference Time A (s)	28.2		0.0	76.1	0.0	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	28.2			76.1		
Adj Reference Time (s)	32.7			80.6		
Split Option						
Ref Time Combined (s)	28.2		0.0	76.1	0.0	
Ref Time Seperate (s)	28.2		0.0	76.1	0.0	
Reference Time (s)	28.2		76.1	76.1	0.0	
Adj Reference Time (s)	32.7		80.6	80.6	0.0	
Summary						
	NW	SE	NE	Combined		
Protected Option (s)	80.6		NA			
Permitted Option (s)	80.6		Err			
Split Option (s)	113.3		0.0			
Minimum (s)	80.6		0.0	80.6		
Right Turns						
Adj Reference Time (s)						
Cross Thru Ref Time (s)						
Oncoming Left Ref Time (s)						
Combined (s)						
Intersection Summary						
Intersection Capacity Utilization			67.2%	ICU Level of Service		C
Reference Times and Phasing Options do not represent an optimized timing plan.						

HCM 6th TWSC
15: Live Oak Lane & Arrow Highway

Existing Conditions
AM Peak Hour

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	669	0	0	0	0	36
Future Vol, veh/h	669	0	0	0	0	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	727	0	0	0	0	39

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	-	-	-	364
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	0	639
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	639
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	11
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	639	-	-	-
HCM Lane V/C Ratio	0.061	-	-	-
HCM Control Delay (s)	11	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-

HCM 6th Signalized Intersection Summary
 17: Arrow Highway & I605 SB Off-Ramp

Existing Conditions
 AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↙	↗
Traffic Volume (veh/h)	0	666	1513	0	329	567
Future Volume (veh/h)	0	666	1513	0	329	567
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1600	1600	0	1600	1600
Adj Flow Rate, veh/h	0	701	1593	0	346	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	0	1735	1735	0	454	
Arrive On Green	0.00	0.57	0.57	0.00	0.30	0.00
Sat Flow, veh/h	0	3200	3200	0	1524	1356
Grp Volume(v), veh/h	0	701	1593	0	346	0
Grp Sat Flow(s),veh/h/ln	0	1520	1520	0	1524	1356
Q Serve(g_s), s	0.0	8.8	32.5	0.0	14.2	0.0
Cycle Q Clear(g_c), s	0.0	8.8	32.5	0.0	14.2	0.0
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1735	1735	0	454	
V/C Ratio(X)	0.00	0.40	0.92	0.00	0.76	
Avail Cap(c_a), veh/h	0	1791	1791	0	454	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	8.2	13.3	0.0	21.9	0.0
Incr Delay (d2), s/veh	0.0	0.2	7.9	0.0	11.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.5	10.8	0.0	6.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	8.4	21.2	0.0	33.3	0.0
LnGrp LOS	A	A	C	A	C	
Approach Vol, veh/h		701	1593		346	
Approach Delay, s/veh		8.4	21.2		33.3	
Approach LOS		A	C		C	
Timer - Assigned Phs				4	6	8
Phs Duration (G+Y+Rc), s				43.7	25.0	43.7
Change Period (Y+Rc), s				4.5	4.5	4.5
Max Green Setting (Gmax), s				40.5	20.5	40.5
Max Q Clear Time (g_c+I1), s				10.8	16.2	34.5
Green Ext Time (p_c), s				5.4	0.5	4.8

Intersection Summary

HCM 6th Ctrl Delay	19.4
HCM 6th LOS	B

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection Capacity Utilization
18: Arrow Highway & Avenida Barbosa

Existing Conditions
AM Peak Hour



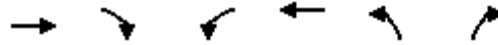
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	190	443	1498	582	220	194
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	190	443	1498	582	220	194
Lane Utilization Factor	1.00	0.95	0.95	1.00	0.97	1.00
Turning Factor (vph)	0.95	1.00	1.00	0.85	0.95	0.85
Saturated Flow (vph)	1520	3046	3046	1360	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	15.0	17.5	59.0	51.4		17.1
Adj Reference Time (s)	19.5	22.0	63.5	55.9		21.6
Permitted Option						
Adj Saturation A (vph)	101	1523	1523		154	
Reference Time A (s)	225.0	17.5	59.0		85.9	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		225.0	59.0			
Adj Reference Time (s)		229.5	63.5			
Split Option						
Ref Time Combined (s)	15.0	17.5	59.0		5.7	
Ref Time Seperate (s)	15.0	17.5	59.0		5.7	
Reference Time (s)	17.5	17.5	59.0		5.7	
Adj Reference Time (s)	22.0	22.0	63.5		10.2	
Summary						
	EB WB		SB		Combined	
Protected Option (s)	83.0		NA			
Permitted Option (s)	229.5		Err			
Split Option (s)	85.5		10.2			
Minimum (s)	83.0		10.2		93.2	
Right Turns						
	WBR	SBR				
Adj Reference Time (s)	55.9	21.6				
Cross Thru Ref Time (s)	0.0	63.5				
Oncoming Left Ref Time (s)	19.5	0.0				
Combined (s)	75.4	85.1				

Intersection Summary

Intersection Capacity Utilization 77.7% ICU Level of Service D
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
1: Live Oak Avenue & Arrow Highway (West)

Existing Conditions
PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑↑	↑↑	↑↑	↑
Volume (vph)	835	1502	294	576	654	90
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right	Yes			No		
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.0	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	4.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1336	1001	294	576	654	90
Lane Utilization Factor	0.95	1.00	0.97	0.95	0.97	1.00
Turning Factor (vph)	0.94	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	2875	1360	2952	3046	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00		
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	55.7	88.4	12.0	22.7	7.9	
Adj Reference Time (s)	60.2	92.4	16.5	27.2	12.4	
Permitted Option						
Adj Saturation A (vph)	1438	98		1523	154	
Reference Time A (s)	55.7	179.3		22.7	255.2	
Adj Saturation B (vph)	NA	NA		NA	NA	
Reference Time B (s)	NA	NA		NA	NA	
Reference Time (s)	55.7	179.3				
Adj Reference Time (s)	60.2	183.8				
Split Option						
Ref Time Combined (s)	55.7	12.0		22.7	17.0	
Ref Time Seperate (s)	34.9	12.0		22.7	17.0	
Reference Time (s)	55.7	22.7		22.7	17.0	
Adj Reference Time (s)	60.2	27.2		27.2	21.5	
Summary						
	EB WB		NB		Combined	
Protected Option (s)	76.7		NA			
Permitted Option (s)	183.8		Err			
Split Option (s)	87.4		21.5			
Minimum (s)	76.7		21.5		98.2	
Right Turns						
	EBR	NBR				
Adj Reference Time (s)	92.4	12.4				
Cross Thru Ref Time (s)	0.0	60.2				
Oncoming Left Ref Time (s)	0.0	0.0				
Combined (s)	92.4	72.7				

Intersection Summary

Intersection Capacity Utilization 81.8% ICU Level of Service D
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
2: Speedway Drive & Live Oak Ave

Existing Conditions
PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑	↵↵	↵
Volume (vph)	1828	55	51	791	3	2
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No			No	
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.0	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	4.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1883	0	51	791	3	2
Lane Utilization Factor	0.91	1.00	1.00	0.95	0.97	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	4339	0	1520	3046	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	52.1	0.0	4.0	31.2		0.2
Adj Reference Time (s)	56.6	0.0	9.5	35.7		9.5
Permitted Option						
Adj Saturation A (vph)	1446		101	1523	154	
Reference Time A (s)	52.1		60.4	31.2	1.2	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	52.1			60.4		
Adj Reference Time (s)	56.6			64.9		
Split Option						
Ref Time Combined (s)	52.1		4.0	31.2	0.1	
Ref Time Seperate (s)	50.6		4.0	31.2	0.1	
Reference Time (s)	52.1		31.2	31.2	0.1	
Adj Reference Time (s)	56.6		35.7	35.7	9.5	
Summary						
	EB WB		NB	Combined		
Protected Option (s)	66.1		NA			
Permitted Option (s)	64.9		Err			
Split Option (s)	92.2		9.5			
Minimum (s)	64.9		9.5	74.4		
Right Turns						
	NBR					
Adj Reference Time (s)	9.5					
Cross Thru Ref Time (s)	56.6					
Oncoming Left Ref Time (s)	0.0					
Combined (s)	66.1					

Intersection Summary

Intersection Capacity Utilization 62.0% ICU Level of Service B
Reference Times and Phasing Options do not represent an optimized timing plan.

HCM 6th Signalized Intersection Summary
4: I605 SB On-Ramp & Live Oak Avenue

Existing Conditions
PM Peak Hour















Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑		
Traffic Volume (veh/h)	686	978	433	862	0	0
Future Volume (veh/h)	686	978	433	862	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1600	1600	1600	1600		
Adj Flow Rate, veh/h	722	0	456	907		
Peak Hour Factor	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	0	0	0	0		
Cap, veh/h	1209		531	2654		
Arrive On Green	0.40	0.00	0.35	0.87		
Sat Flow, veh/h	3120	1356	1524	3120		
Grp Volume(v), veh/h	722	0	456	907		
Grp Sat Flow(s),veh/h/ln	1520	1356	1524	1520		
Q Serve(g_s), s	6.6	0.0	9.9	1.9		
Cycle Q Clear(g_c), s	6.6	0.0	9.9	1.9		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	1209		531	2654		
V/C Ratio(X)	0.60		0.86	0.34		
Avail Cap(c_a), veh/h	3011		684	4761		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00		
Uniform Delay (d), s/veh	8.4	0.0	10.7	0.4		
Incr Delay (d2), s/veh	0.5	0.0	8.7	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.5	0.0	3.6	0.0		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.9	0.0	19.4	0.5		
LnGrp LOS	A		B	A		
Approach Vol, veh/h	722			1363		
Approach Delay, s/veh	8.9			6.8		
Approach LOS	A			A		
Timer - Assigned Phs			3	4		8
Phs Duration (G+Y+Rc), s			16.8	18.6		35.4
Change Period (Y+Rc), s			4.5	4.5		4.5
Max Green Setting (Gmax), s			15.9	35.1		55.5
Max Q Clear Time (g_c+I1), s			11.9	8.6		3.9
Green Ext Time (p_c), s			0.6	5.4		8.2
Intersection Summary						
HCM 6th Ctrl Delay			7.5			
HCM 6th LOS			A			

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

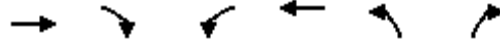
HCM 6th Signalized Intersection Summary
5: I605 NB Off-Ramp & Live Oak Avenue

Existing Conditions
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑				↑↑			↑↑
Traffic Volume (veh/h)	0	667	0	0	726	0	0	0	648	0	0	573
Future Volume (veh/h)	0	667	0	0	726	0	0	0	648	0	0	573
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1600	0	0	1600	0	0	0	1600	0	0	1600
Adj Flow Rate, veh/h	0	702	0	0	764	0	0	0	682	0	0	603
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.92	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	2010	0	0	2010	0	0	0	0	0	0	0
Arrive On Green	0.00	0.66	0.00	0.00	0.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	3200	0	0	3200	0		0			0	
Grp Volume(v), veh/h	0	702	0	0	764	0		0.0			0.0	
Grp Sat Flow(s),veh/h/ln	0	1520	0	0	1520	0						
Q Serve(g_s), s	0.0	1.4	0.0	0.0	1.5	0.0						
Cycle Q Clear(g_c), s	0.0	1.4	0.0	0.0	1.5	0.0						
Prop In Lane	0.00		0.00	0.00		0.00						
Lane Grp Cap(c), veh/h	0	2010	0	0	2010	0						
V/C Ratio(X)	0.00	0.35	0.00	0.00	0.38	0.00						
Avail Cap(c_a), veh/h	0	5376	0	0	5376	0						
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00						
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00						
Uniform Delay (d), s/veh	0.0	1.0	0.0	0.0	1.0	0.0						
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.1	0.0						
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0						
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0						
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	1.1	0.0	0.0	1.1	0.0						
LnGrp LOS	A	A	A	A	A	A						
Approach Vol, veh/h		702			764							
Approach Delay, s/veh		1.1			1.1							
Approach LOS		A			A							
Timer - Assigned Phs				4				8				
Phs Duration (G+Y+Rc), s				13.3				13.3				
Change Period (Y+Rc), s				4.5				4.5				
Max Green Setting (Gmax), s				23.5				23.5				
Max Q Clear Time (g_c+I1), s				3.4				3.5				
Green Ext Time (p_c), s				4.8				5.3				
Intersection Summary												
HCM 6th Ctrl Delay				1.1								
HCM 6th LOS				A								

Intersection Capacity Utilization
6: Graham Road & Live Oak Avenue

Existing Conditions
PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	
Volume (vph)	1278	37	0	706	18	25
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No			No	
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1278	37	0	706	43	0
Lane Utilization Factor	0.95	1.00	1.00	0.95	1.00	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.89	0.85
Saturated Flow (vph)	3046	1360	1520	3046	1430	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	50.3	3.3	0.0	27.8		0.0
Adj Reference Time (s)	54.8	9.5	9.5	32.3		0.0
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	95	
Reference Time A (s)	50.3		0.0	27.8	54.1	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	50.3			27.8		
Adj Reference Time (s)	54.8			32.3		
Split Option						
Ref Time Combined (s)	50.3		0.0	27.8	3.6	
Ref Time Seperate (s)	50.3		0.0	27.8	1.5	
Reference Time (s)	50.3		27.8	27.8	3.6	
Adj Reference Time (s)	54.8		32.3	32.3	9.5	
Summary						
	EB	WB	NB	Combined		
Protected Option (s)	64.3		NA			
Permitted Option (s)	54.8		Err			
Split Option (s)	87.2		9.5			
Minimum (s)	54.8		9.5	64.3		
Right Turns						
	EBR					
Adj Reference Time (s)	9.5					
Cross Thru Ref Time (s)	0.0					
Oncoming Left Ref Time (s)	0.0					
Combined (s)	9.5					
Intersection Summary						
Intersection Capacity Utilization			53.6%	ICU Level of Service		A
Reference Times and Phasing Options do not represent an optimized timing plan.						

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑	↗	↘	
Traffic Vol, veh/h	27	1267	693	7	3	18
Future Vol, veh/h	27	1267	693	7	3	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	290	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	29	1377	753	8	3	20

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	761	0	-	0	1500
Stage 1	-	-	-	-	753
Stage 2	-	-	-	-	747
Critical Hdwy	4.1	-	-	-	6.8
Critical Hdwy Stg 1	-	-	-	-	5.8
Critical Hdwy Stg 2	-	-	-	-	5.8
Follow-up Hdwy	2.2	-	-	-	3.5
Pot Cap-1 Maneuver	860	-	-	-	115
Stage 1	-	-	-	-	431
Stage 2	-	-	-	-	434
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	860	-	-	-	111
Mov Cap-2 Maneuver	-	-	-	-	111
Stage 1	-	-	-	-	416
Stage 2	-	-	-	-	434

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	15.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	860	-	-	-	376
HCM Lane V/C Ratio	0.034	-	-	-	0.061
HCM Control Delay (s)	9.3	-	-	-	15.2
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2























Intersection Capacity Utilization
8: Live Oak Avenue & Rivergrade Road

Existing Conditions
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1	1225	40	109	596	20	58	69	231	15	27	42
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right	No			No			No			No		
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	1	1265	0	109	596	20	58	69	231	15	27	42
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1520	3032	0	1520	3046	1360	1520	3046	1360	1520	3046	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00			0.00			0.00		
Protected Option Allowed	Yes			Yes			Yes			Yes		
Reference Time (s)	0.1	50.1	0.0	8.6	23.5	1.8	4.6	2.7	20.4	1.2	1.1	3.7
Adj Reference Time (s)	9.5	54.6	0.0	13.1	28.0	9.5	9.5	9.5	24.9	9.5	9.5	9.5
Permitted Option												
Adj Saturation A (vph)	101	1516		101	1523		101	1523		101	1523	
Reference Time A (s)	1.2	50.1		129.1	23.5		68.7	2.7		17.8	1.1	
Adj Saturation B (vph)	NA	NA		NA	NA		0	3046		0	3046	
Reference Time B (s)	NA	NA		NA	NA		12.6	2.7		9.2	1.1	
Reference Time (s)		50.1			129.1			12.6			9.2	
Adj Reference Time (s)		54.6			133.6			17.1			13.7	
Split Option												
Ref Time Combined (s)	0.1	50.1		8.6	23.5		4.6	2.7		1.2	1.1	
Ref Time Seperate (s)	0.1	48.5		8.6	23.5		4.6	2.7		1.2	1.1	
Reference Time (s)	50.1	50.1		23.5	23.5		4.6	4.6		1.2	1.2	
Adj Reference Time (s)	54.6	54.6		28.0	28.0		9.5	9.5		9.5	9.5	
Summary	EB WB		NB SB		Combined							
Protected Option (s)	67.7		19.0									
Permitted Option (s)	133.6		17.1									
Split Option (s)	82.5		19.0									
Minimum (s)	67.7		17.1		84.8							
Right Turns	WBR		NBR		SBR							
Adj Reference Time (s)	9.5		24.9		9.5							
Cross Thru Ref Time (s)	9.5		54.6		28.0							
Oncoming Left Ref Time (s)	9.5		9.5		9.5							
Combined (s)	28.5		88.9		47.0							
Intersection Summary												
Intersection Capacity Utilization			74.1%		ICU Level of Service		D					
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
9: Stewart Avenue & Live Oak Avenue

Existing Conditions
PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	53	1232	312	35	627	17	40	36	25	31	147	8	
Pedestrians													
Ped Button													
Pedestrian Timing (s)													
Free Right	No			No			No			No			
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.5	
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	5.0	
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120	
Volume Combined (vph)	53	1232	312	35	627	17	0	101	0	31	147	8	
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	0.94	0.85	0.95	1.00	0.85	
Saturated Flow (vph)	1520	3046	1360	1520	3046	1360	0	1510	0	1520	1600	1360	
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Pedestrian Frequency (%)	0.00		0.00				0.00			0.00			
Protected Option Allowed	Yes			Yes			No			No			
Reference Time (s)	4.2	48.5	27.5	2.8	24.7	1.5			0.0			0.7	
Adj Reference Time (s)	9.5	53.0	32.0	9.5	29.2	9.5			0.0			9.5	
Permitted Option													
Adj Saturation A (vph)	101	1523		101	1523		0	211		703	1600		
Reference Time A (s)	62.8	48.5		41.4	24.7		0.0	57.4		5.3	11.0		
Adj Saturation B (vph)	NA	NA		NA	NA		NA	NA		0	1600		
Reference Time B (s)	NA	NA		NA	NA		NA	NA		10.4	11.0		
Reference Time (s)		62.8			41.4			57.4			11.0		
Adj Reference Time (s)		67.3			45.9			61.9			15.5		
Split Option													
Ref Time Combined (s)	4.2	48.5		2.8	24.7		0.0	8.0		2.4	11.0		
Ref Time Seperate (s)	4.2	48.5		2.8	24.7		3.2	2.9		2.4	11.0		
Reference Time (s)	48.5	48.5		24.7	24.7		8.0	8.0		11.0	11.0		
Adj Reference Time (s)	53.0	53.0		29.2	29.2		12.5	12.5		15.5	15.5		
Summary													
	EB WB		NB SB		Combined								
Protected Option (s)	62.5		NA										
Permitted Option (s)	67.3		61.9										
Split Option (s)	82.2		28.1										
Minimum (s)	62.5		28.1		90.6								
Right Turns													
	EBR		WBR		SBR								
Adj Reference Time (s)	32.0		9.5		9.5								
Cross Thru Ref Time (s)	15.5		12.5		29.2								
Oncoming Left Ref Time (s)	9.5		9.5		12.5								
Combined (s)	57.1		31.5		51.2								
Intersection Summary													
Intersection Capacity Utilization			75.5%		ICU Level of Service				D				
Reference Times and Phasing Options do not represent an optimized timing plan.													

Intersection Capacity Utilization
10: Baldwin Park Boulevard & Live Oak Avenue

Existing Conditions
PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Volume (vph)	1047	310	290	588	86	163
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No			No	
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1047	310	290	588	86	163
Lane Utilization Factor	0.95	1.00	1.00	0.95	0.97	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	1360	1520	3046	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	41.2	27.4	22.9	23.2		14.4
Adj Reference Time (s)	45.7	31.9	27.4	27.7		18.9
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	154	
Reference Time A (s)	41.2		343.4	23.2	33.6	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	41.2			343.4		
Adj Reference Time (s)	45.7			347.9		
Split Option						
Ref Time Combined (s)	41.2		22.9	23.2	2.2	
Ref Time Seperate (s)	41.2		22.9	23.2	2.2	
Reference Time (s)	41.2		23.2	23.2	2.2	
Adj Reference Time (s)	45.7		27.7	27.7	9.5	
Summary						
	EB	WB	NB	Combined		
Protected Option (s)	73.1		NA			
Permitted Option (s)	347.9		Err			
Split Option (s)	73.4		9.5			
Minimum (s)	73.1		9.5	82.6		
Right Turns						
	EBR	NBR				
Adj Reference Time (s)	31.9	18.9				
Cross Thru Ref Time (s)	0.0	45.7				
Oncoming Left Ref Time (s)	27.4	0.0				
Combined (s)	59.2	64.6				
Intersection Summary						
Intersection Capacity Utilization			68.9%	ICU Level of Service		C

Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
11: Live Oak Avenue (East) & Arrow Highway

Existing Conditions
PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	72	1133	721	471	937	153
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				Yes		No
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.0	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	4.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	72	1133	721	471	937	153
Lane Utilization Factor	1.00	0.95	0.95	1.00	0.97	1.00
Turning Factor (vph)	0.95	1.00	1.00	0.85	0.95	0.85
Saturated Flow (vph)	1520	3046	3046	1360	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	5.7	44.6	28.4	41.6		13.5
Adj Reference Time (s)	10.2	49.1	32.9	45.6		18.0
Permitted Option						
Adj Saturation A (vph)	101	1523	1523		154	
Reference Time A (s)	85.3	44.6	28.4		365.7	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		85.3	28.4			
Adj Reference Time (s)		89.8	32.9			
Split Option						
Ref Time Combined (s)	5.7	44.6	28.4		24.4	
Ref Time Seperate (s)	5.7	44.6	28.4		24.4	
Reference Time (s)	44.6	44.6	28.4		24.4	
Adj Reference Time (s)	49.1	49.1	32.9		28.9	
Summary						
	EB WB		SB		Combined	
Protected Option (s)	49.1		NA			
Permitted Option (s)	89.8		Err			
Split Option (s)	82.0		28.9			
Minimum (s)	49.1		28.9		78.0	
Right Turns						
	WBR	SBR				
Adj Reference Time (s)	45.6	18.0				
Cross Thru Ref Time (s)	0.0	32.9				
Oncoming Left Ref Time (s)	0.0	0.0				
Combined (s)	45.6	50.9				

Intersection Summary

Intersection Capacity Utilization 65.0% ICU Level of Service C
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
12: Rivergrade Road & Arrow Highway

Existing Conditions
PM Peak Hour



Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↑↑	↑	↑	↑↑	↑↑	↑
Volume (vph)	1145	143	46	499	157	18
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No				No
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1145	143	46	499	157	18
Lane Utilization Factor	0.95	1.00	1.00	0.95	0.97	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	1360	1520	3046	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	45.1	12.6	3.6	19.7		1.6
Adj Reference Time (s)	49.6	17.1	9.5	24.2		9.5
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	154	
Reference Time A (s)	45.1		54.5	19.7	61.3	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	45.1			54.5		
Adj Reference Time (s)	49.6			59.0		
Split Option						
Ref Time Combined (s)	45.1		3.6	19.7	4.1	
Ref Time Seperate (s)	45.1		3.6	19.7	4.1	
Reference Time (s)	45.1		19.7	19.7	4.1	
Adj Reference Time (s)	49.6		24.2	24.2	9.5	
Summary	NW SE		NE		Combined	
Protected Option (s)	59.1		NA			
Permitted Option (s)	59.0		Err			
Split Option (s)	73.8		9.5			
Minimum (s)	59.0		9.5		68.5	
Right Turns	SER	NER				
Adj Reference Time (s)	17.1	9.5				
Cross Thru Ref Time (s)	0.0	49.6				
Oncoming Left Ref Time (s)	9.5	0.0				
Combined (s)	26.6	59.1				

Intersection Summary

Intersection Capacity Utilization 57.1% ICU Level of Service B
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
13: San Gabriel River Trail & Arrow Highway

Existing Conditions
PM Peak Hour



Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↑↑			↑↑		
Volume (vph)	1293	0	0	654	0	0
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No			No	
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.0	4.0	4.5	4.0	4.0
Minimum Green (s)	5.0	4.0	4.0	5.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1293	0	0	654	0	0
Lane Utilization Factor	0.95	1.00	1.00	0.95	1.00	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	0	0	3046	0	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	50.9	0.0	0.0	25.8		0.0
Adj Reference Time (s)	55.4	0.0	0.0	30.3		0.0
Permitted Option						
Adj Saturation A (vph)	1523		0	1523	0	
Reference Time A (s)	50.9		0.0	25.8	0.0	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	50.9			25.8		
Adj Reference Time (s)	55.4			30.3		
Split Option						
Ref Time Combined (s)	50.9		0.0	25.8	0.0	
Ref Time Seperate (s)	50.9		0.0	25.8	0.0	
Reference Time (s)	50.9		25.8	25.8	0.0	
Adj Reference Time (s)	55.4		30.3	30.3	0.0	
Summary						
	NW	SE	NE	Combined		
Protected Option (s)	55.4		NA			
Permitted Option (s)	55.4		Err			
Split Option (s)	85.7		0.0			
Minimum (s)	55.4		0.0	55.4		
Right Turns						
Adj Reference Time (s)						
Cross Thru Ref Time (s)						
Oncoming Left Ref Time (s)						
Combined (s)						
Intersection Summary						
Intersection Capacity Utilization			46.2%	ICU Level of Service		A

Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	1325	0	0	362	0	27
Future Vol, veh/h	1325	0	0	362	0	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1440	0	0	393	0	29

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	-	-	-	720
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	0	375
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	375
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	15.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	375	-	-	-
HCM Lane V/C Ratio	0.078	-	-	-
HCM Control Delay (s)	15.4	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-

HCM 6th Signalized Intersection Summary
 17: Arrow Highway & I605 SB Off-Ramp

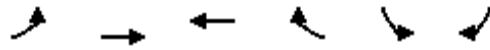
Existing Conditions
 PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↙	↗
Traffic Volume (veh/h)	0	1188	365	0	325	286
Future Volume (veh/h)	0	1188	365	0	325	286
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1600	1600	0	1600	1600
Adj Flow Rate, veh/h	0	1251	384	0	342	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	0	1470	1470	0	547	
Arrive On Green	0.00	0.48	0.48	0.00	0.36	0.00
Sat Flow, veh/h	0	3200	3200	0	1524	1356
Grp Volume(v), veh/h	0	1251	384	0	342	0
Grp Sat Flow(s),veh/h/ln	0	1520	1520	0	1524	1356
Q Serve(g_s), s	0.0	20.6	4.3	0.0	10.6	0.0
Cycle Q Clear(g_c), s	0.0	20.6	4.3	0.0	10.6	0.0
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1470	1470	0	547	
V/C Ratio(X)	0.00	0.85	0.26	0.00	0.63	
Avail Cap(c_a), veh/h	0	1623	1623	0	547	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	12.9	8.7	0.0	15.1	0.0
Incr Delay (d2), s/veh	0.0	4.2	0.1	0.0	5.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.5	1.2	0.0	4.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	17.1	8.8	0.0	20.5	0.0
LnGrp LOS	A	B	A	A	C	
Approach Vol, veh/h		1251	384		342	
Approach Delay, s/veh		17.1	8.8		20.5	
Approach LOS		B	A		C	
Timer - Assigned Phs				4	6	8
Phs Duration (G+Y+Rc), s				32.1	25.0	32.1
Change Period (Y+Rc), s				4.5	4.5	4.5
Max Green Setting (Gmax), s				30.5	20.5	30.5
Max Q Clear Time (g_c+I1), s				22.6	12.6	6.3
Green Ext Time (p_c), s				5.0	0.7	2.6
Intersection Summary						
HCM 6th Ctrl Delay			16.1			
HCM 6th LOS			B			
Notes						
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.						

Intersection Capacity Utilization
18: Arrow Highway & Avenida Barbosa

Existing Conditions
PM Peak Hour



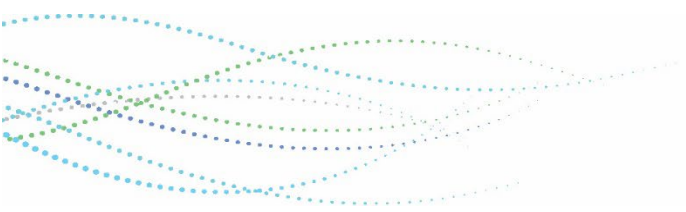
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	231	693	422	228	698	448
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	231	693	422	228	698	448
Lane Utilization Factor	1.00	0.95	0.95	1.00	0.97	1.00
Turning Factor (vph)	0.95	1.00	1.00	0.85	0.95	0.85
Saturated Flow (vph)	1520	3046	3046	1360	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	18.2	27.3	16.6	20.1		39.5
Adj Reference Time (s)	22.7	31.8	21.1	24.6		44.0
Permitted Option						
Adj Saturation A (vph)	101	1523	1523		154	
Reference Time A (s)	273.6	27.3	16.6		272.4	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		273.6	16.6			
Adj Reference Time (s)		278.1	21.1			
Split Option						
Ref Time Combined (s)	18.2	27.3	16.6		18.2	
Ref Time Seperate (s)	18.2	27.3	16.6		18.2	
Reference Time (s)	27.3	27.3	16.6		18.2	
Adj Reference Time (s)	31.8	31.8	21.1		22.7	
Summary						
	EB WB		SB		Combined	
Protected Option (s)	43.9		NA			
Permitted Option (s)	278.1		Err			
Split Option (s)	52.9		22.7			
Minimum (s)	43.9		22.7		66.5	
Right Turns						
	WBR	SBR				
Adj Reference Time (s)	24.6	44.0				
Cross Thru Ref Time (s)	0.0	21.1				
Oncoming Left Ref Time (s)	22.7	0.0				
Combined (s)	47.4	65.2				

Intersection Summary

Intersection Capacity Utilization 55.4% ICU Level of Service B
Reference Times and Phasing Options do not represent an optimized timing plan.

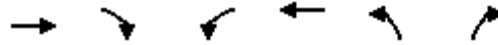


Buildout Year (2028) Without Project LOS Calculation Sheets



Intersection Capacity Utilization
1: Live Oak Avenue & Arrow Highway (West)

Buildout Year (2028) Without Project
AM Peak Hour

























Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↔	↑↑↑	↔	↑
Volume (vph)	484	1071	214	1771	1279	256
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		Yes				No
Ideal Flow	1600	1600	2500	1600	2500	1600
Lost Time (s)	4.5	4.0	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	4.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	841	714	214	1771	1279	256
Lane Utilization Factor	0.91	1.00	0.97	0.91	0.97	1.00
Turning Factor (vph)	0.94	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	4081	1360	4612	4358	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	24.7	63.0	5.6	48.8		22.6
Adj Reference Time (s)	29.2	67.0	10.1	53.3		27.1
Permitted Option						
Adj Saturation A (vph)	1360		154	1453	154	
Reference Time A (s)	24.7		83.5	48.8	499.1	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	24.7			83.5		
Adj Reference Time (s)	29.2			88.0		
Split Option						
Ref Time Combined (s)	24.7		5.6	48.8	33.3	
Ref Time Seperate (s)	14.2		5.6	48.8	33.3	
Reference Time (s)	24.7		48.8	48.8	33.3	
Adj Reference Time (s)	29.2		53.3	53.3	37.8	
Summary						
	EB WB		NB	Combined		
Protected Option (s)	53.3		NA			
Permitted Option (s)	88.0		Err			
Split Option (s)	82.5		37.8			
Minimum (s)	53.3		37.8	91.0		
Right Turns						
	EBR	NBR				
Adj Reference Time (s)	67.0	27.1				
Cross Thru Ref Time (s)	0.0	29.2				
Oncoming Left Ref Time (s)	0.0	0.0				
Combined (s)	67.0	56.3				

Intersection Summary

Intersection Capacity Utilization 75.9% ICU Level of Service D
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
2: Speedway Drive & Live Oak Avenue

Buildout Year (2028) Without Project
AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		 			 								
Volume (vph)	46	1150	88	92	1603	78	32	0	33	52	0	30	
Pedestrians													
Ped Button													
Pedestrian Timing (s)													
Free Right	No			No			No			No			
Ideal Flow	1600	1600	1600	1600	1600	1600	2500	1600	1600	1600	1600	1600	
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.0	4.5	4.5	4.5	4.0	
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0	5.0	5.0	4.0	
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120	
Volume Combined (vph)	46	1238	0	92	1681	0	32	0	33	52	30	0	
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00	
Turning Factor (vph)	0.95	0.99	0.85	0.95	0.99	0.85	0.95	1.00	0.85	0.95	0.85	0.85	
Saturated Flow (vph)	1520	4312	0	1520	4328	0	4612	0	1360	1520	1360	0	
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Pedestrian Frequency (%)	0.00			0.00			0.00			0.00			
Protected Option Allowed	Yes			Yes			Yes			Yes			
Reference Time (s)	3.6	34.5	0.0	7.3	46.6	0.0	0.8	0.0	2.9	4.1	2.6	0.0	
Adj Reference Time (s)	9.5	39.0	0.0	11.8	51.1	0.0	9.5	0.0	9.5	9.5	9.5	0.0	
Permitted Option													
Adj Saturation A (vph)	101	1437		101	1443		154	0		101	1360		
Reference Time A (s)	54.5	34.5		108.9	46.6		12.5	0.0		61.6	2.6		
Adj Saturation B (vph)	NA	NA		NA	NA		0	0		0	1360		
Reference Time B (s)	NA	NA		NA	NA		8.8	0.0		12.1	2.6		
Reference Time (s)		54.5			108.9			8.8			12.1		
Adj Reference Time (s)		59.0			113.4			12.8			16.6		
Split Option													
Ref Time Combined (s)	3.6	34.5		7.3	46.6		0.8	0.0		4.1	2.6		
Ref Time Seperate (s)	3.6	32.0		7.3	44.4		0.8	0.0		4.1	0.0		
Reference Time (s)	34.5	34.5		46.6	46.6		0.8	0.8		4.1	4.1		
Adj Reference Time (s)	39.0	39.0		51.1	51.1		8.0	8.0		9.5	9.5		
Summary													
	EB WB		NB SB		Combined								
Protected Option (s)	60.6		19.0										
Permitted Option (s)	113.4		16.6										
Split Option (s)	90.1		17.5										
Minimum (s)	60.6		16.6		77.2								
Right Turns													
	NBR												
Adj Reference Time (s)	9.5												
Cross Thru Ref Time (s)	39.0												
Oncoming Left Ref Time (s)	9.5												
Combined (s)	58.0												
Intersection Summary													
Intersection Capacity Utilization	64.3%		ICU Level of Service						C				
Reference Times and Phasing Options do not represent an optimized timing plan.													

Intersection Capacity Utilization
3: Live Oak Avenue & Spanish Oak Drive

Buildout Year (2028) Without Project
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶	↑↑↑	↑↑↑		↶	↷
Volume (vph)	6	1150	1702	173	44	2
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.0	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	4.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	6	1150	1875	0	44	2
Lane Utilization Factor	1.00	0.91	0.91	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.99	0.85	0.95	0.85
Saturated Flow (vph)	1520	4358	4298	0	1520	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	0.5	31.7	52.3	0.0		0.2
Adj Reference Time (s)	9.5	36.2	56.8	0.0		9.5
Permitted Option						
Adj Saturation A (vph)	101	1453	1433		101	
Reference Time A (s)	7.1	31.7	52.3		52.1	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		31.7	52.3			
Adj Reference Time (s)		36.2	56.8			
Split Option						
Ref Time Combined (s)	0.5	31.7	52.3		3.5	
Ref Time Seperate (s)	0.5	31.7	47.5		3.5	
Reference Time (s)	31.7	31.7	52.3		3.5	
Adj Reference Time (s)	36.2	36.2	56.8		9.5	
Summary						
	EB WB		SB		Combined	
Protected Option (s)	66.3		NA			
Permitted Option (s)	56.8		Err			
Split Option (s)	93.0		9.5			
Minimum (s)	56.8		9.5		66.3	
Right Turns						
	SBR					
Adj Reference Time (s)	9.5					
Cross Thru Ref Time (s)	56.8					
Oncoming Left Ref Time (s)	0.0					
Combined (s)	66.3					

Intersection Summary

Intersection Capacity Utilization 55.3% ICU Level of Service B
Reference Times and Phasing Options do not represent an optimized timing plan.

HCM 6th Signalized Intersection Summary
4: I605 SB On-Ramp & Live Oak Avenue

Buildout Year (2028) Without Project
AM Peak Hour















Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑		
Traffic Volume (veh/h)	330	593	487	1702	0	0
Future Volume (veh/h)	330	593	487	1702	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1600	1600	1600	1600		
Adj Flow Rate, veh/h	347	0	513	1792		
Peak Hour Factor	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	0	0	0	0		
Cap, veh/h	1135		602	2688		
Arrive On Green	0.37	0.00	0.40	0.88		
Sat Flow, veh/h	3120	1356	1524	3120		
Grp Volume(v), veh/h	347	0	513	1792		
Grp Sat Flow(s),veh/h/ln	1520	1356	1524	1520		
Q Serve(g_s), s	3.1	0.0	11.9	6.5		
Cycle Q Clear(g_c), s	3.1	0.0	11.9	6.5		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	1135		602	2688		
V/C Ratio(X)	0.31		0.85	0.67		
Avail Cap(c_a), veh/h	2539		1116	5117		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00		
Uniform Delay (d), s/veh	8.6	0.0	10.7	0.6		
Incr Delay (d2), s/veh	0.2	0.0	3.5	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.8	0.0	3.4	0.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.8	0.0	14.2	0.9		
LnGrp LOS	A		B	A		
Approach Vol, veh/h	347			2305		
Approach Delay, s/veh	8.8			3.9		
Approach LOS	A			A		
Timer - Assigned Phs			3	4		8
Phs Duration (G+Y+Rc), s			19.9	19.0		38.9
Change Period (Y+Rc), s			4.5	4.5		4.5
Max Green Setting (Gmax), s			28.5	32.5		65.5
Max Q Clear Time (g_c+I1), s			13.9	5.1		8.5
Green Ext Time (p_c), s			1.5	2.4		26.0
Intersection Summary						
HCM 6th Ctrl Delay			4.5			
HCM 6th LOS			A			

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
5: I605 NB Off-Ramp & Live Oak Avenue

Buildout Year (2028) Without Project
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑				↑↑			↑↑
Traffic Volume (veh/h)	0	319	0	0	1258	0	0	0	484	0	0	773
Future Volume (veh/h)	0	319	0	0	1258	0	0	0	484	0	0	773
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1600	0	0	1600	0	0	0	1600	0	0	1600
Adj Flow Rate, veh/h	0	336	0	0	1324	0	0	0	509	0	0	814
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	2386	0	0	2386	0	0	0	0	0	0	0
Arrive On Green	0.00	0.78	0.00	0.00	0.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	3200	0	0	3200	0		0			0	
Grp Volume(v), veh/h	0	336	0	0	1324	0		0.0			0.0	
Grp Sat Flow(s),veh/h/ln	0	1520	0	0	1520	0						
Q Serve(g_s), s	0.0	0.6	0.0	0.0	3.5	0.0						
Cycle Q Clear(g_c), s	0.0	0.6	0.0	0.0	3.5	0.0						
Prop In Lane	0.00		0.00	0.00		0.00						
Lane Grp Cap(c), veh/h	0	2386	0	0	2386	0						
V/C Ratio(X)	0.00	0.14	0.00	0.00	0.55	0.00						
Avail Cap(c_a), veh/h	0	4143	0	0	4143	0						
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00						
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00						
Uniform Delay (d), s/veh	0.0	0.5	0.0	0.0	0.9	0.0						
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.2	0.0						
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0						
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.1	0.0						
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.6	0.0	0.0	1.1	0.0						
LnGrp LOS	A	A	A	A	A	A						
Approach Vol, veh/h		336			1324							
Approach Delay, s/veh		0.6			1.1							
Approach LOS		A			A							
Timer - Assigned Phs				4				8				
Phs Duration (G+Y+Rc), s				20.9				20.9				
Change Period (Y+Rc), s				4.5				4.5				
Max Green Setting (Gmax), s				28.5				28.5				
Max Q Clear Time (g_c+I1), s				2.6				5.5				
Green Ext Time (p_c), s				2.2				10.9				
Intersection Summary												
HCM 6th Ctrl Delay				1.0								
HCM 6th LOS				A								

Intersection Capacity Utilization
6: Graham Road & Live Oak Avenue

Buildout Year (2028) Without Project
AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	
Volume (vph)	754	82	25	1212	112	28
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No			No	
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	754	82	25	1212	140	0
Lane Utilization Factor	0.95	1.00	1.00	0.95	1.00	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.93	0.85
Saturated Flow (vph)	3046	1360	1520	3046	1490	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	29.7	7.2	2.0	47.7		0.0
Adj Reference Time (s)	34.2	11.7	9.5	52.2		0.0
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	99	
Reference Time A (s)	29.7		29.6	47.7	169.1	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	29.7			47.7		
Adj Reference Time (s)	34.2			52.2		
Split Option						
Ref Time Combined (s)	29.7		2.0	47.7	11.3	
Ref Time Seperate (s)	29.7		2.0	47.7	9.0	
Reference Time (s)	29.7		47.7	47.7	11.3	
Adj Reference Time (s)	34.2		52.2	52.2	15.8	
Summary						
	EB	WB		NB		Combined
Protected Option (s)	52.2			NA		
Permitted Option (s)	52.2			Err		
Split Option (s)	86.4			15.8		
Minimum (s)	52.2			15.8		68.0
Right Turns						
	EBR					
Adj Reference Time (s)	11.7					
Cross Thru Ref Time (s)	0.0					
Oncoming Left Ref Time (s)	9.5					
Combined (s)	21.2					
Intersection Summary						
Intersection Capacity Utilization			56.7%	ICU Level of Service		B
Reference Times and Phasing Options do not represent an optimized timing plan.						

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑	↗	↘	
Traffic Vol, veh/h	76	687	1147	36	3	82
Future Vol, veh/h	76	687	1147	36	3	82
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	290	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	83	747	1247	39	3	89
























Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1286	0	-	0	1787 624
Stage 1	-	-	-	-	1247 -
Stage 2	-	-	-	-	540 -
Critical Hdwy	4.1	-	-	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	546	-	-	-	74 433
Stage 1	-	-	-	-	238 -
Stage 2	-	-	-	-	554 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	546	-	-	-	63 433
Mov Cap-2 Maneuver	-	-	-	-	63 -
Stage 1	-	-	-	-	202 -
Stage 2	-	-	-	-	554 -

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	18.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	546	-	-	-	359
HCM Lane V/C Ratio	0.151	-	-	-	0.257
HCM Control Delay (s)	12.8	-	-	-	18.5
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.5	-	-	-	1























Intersection Capacity Utilization
8: Live Oak Avenue & Rivergrade Road

Buildout Year (2028) Without Project
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	11	642	41	419	1094	8	38	56	109	11	109	48
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	11	683	0	419	1094	8	38	56	109	11	109	48
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Turning Factor (vph)	0.95	0.99	0.85	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1520	3019	0	1520	3046	1360	1520	3046	1360	1520	3046	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			Yes			Yes	
Reference Time (s)	0.9	27.1	0.0	33.1	43.1	0.7	3.0	2.2	9.6	0.9	4.3	4.2
Adj Reference Time (s)	9.5	31.6	0.0	37.6	47.6	9.5	9.5	9.5	14.1	9.5	9.5	9.5
Permitted Option												
Adj Saturation A (vph)	101	1509		101	1523		101	1523		101	1523	
Reference Time A (s)	13.0	27.1		496.2	43.1		45.0	2.2		13.0	4.3	
Adj Saturation B (vph)	NA	NA		NA	NA		0	3046		0	3046	
Reference Time B (s)	NA	NA		NA	NA		11.0	2.2		8.9	4.3	
Reference Time (s)		27.1			496.2			11.0			8.9	
Adj Reference Time (s)		31.6			500.7			15.5			13.4	
Split Option												
Ref Time Combined (s)	0.9	27.1		33.1	43.1		3.0	2.2		0.9	4.3	
Ref Time Seperate (s)	0.9	25.5		33.1	43.1		3.0	2.2		0.9	4.3	
Reference Time (s)	27.1	27.1		43.1	43.1		3.0	3.0		4.3	4.3	
Adj Reference Time (s)	31.6	31.6		47.6	47.6		9.5	9.5		9.5	9.5	
Summary	EB WB		NB SB		Combined							
Protected Option (s)	69.2		19.0									
Permitted Option (s)	500.7		15.5									
Split Option (s)	79.2		19.0									
Minimum (s)	69.2		15.5		84.7							
Right Turns	WBR	NBR	SBR									
Adj Reference Time (s)	9.5	14.1	9.5									
Cross Thru Ref Time (s)	9.5	31.6	47.6									
Oncoming Left Ref Time (s)	9.5	9.5	9.5									
Combined (s)	28.5	55.3	66.6									
Intersection Summary												
Intersection Capacity Utilization			70.6%		ICU Level of Service					C		
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
9: Stewart Avenue & Live Oak Avenue

Buildout Year (2028) Without Project
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	620	42	27	1570	21	203	91	33	7	36	35
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	30	620	42	27	1591	0	0	327	0	7	36	35
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	0.95	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1520	3046	1360	1520	4350	0	0	1527	0	1520	1600	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			No			No	
Reference Time (s)	2.4	24.4	3.7	2.1	43.9	0.0			0.0			3.1
Adj Reference Time (s)	9.5	28.9	9.5	9.5	48.4	0.0			0.0			9.5
Permitted Option												
Adj Saturation A (vph)	101	1523		101	1450		0	145		1045	1600	
Reference Time A (s)	35.5	24.4		32.0	43.9		0.0	269.9		0.8	2.7	
Adj Saturation B (vph)	NA	NA		NA	NA		0	0		NA	NA	
Reference Time B (s)	NA	NA		NA	NA		24.0	33.7		NA	NA	
Reference Time (s)		35.5			43.9			33.7			2.7	
Adj Reference Time (s)		40.0			48.4			38.2			9.5	
Split Option												
Ref Time Combined (s)	2.4	24.4		2.1	43.9		0.0	25.7		0.6	2.7	
Ref Time Seperate (s)	2.4	24.4		2.1	43.3		16.0	7.1		0.6	2.7	
Reference Time (s)	24.4	24.4		43.9	43.9		25.7	25.7		2.7	2.7	
Adj Reference Time (s)	28.9	28.9		48.4	48.4		30.2	30.2		9.5	9.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	57.9		NA									
Permitted Option (s)	48.4		38.2									
Split Option (s)	77.3		39.7									
Minimum (s)	48.4		38.2		86.6							
Right Turns												
	EBR		SBR									
Adj Reference Time (s)	9.5		9.5									
Cross Thru Ref Time (s)	9.5		48.4									
Oncoming Left Ref Time (s)	9.5		30.2									
Combined (s)	28.5		88.1									
Intersection Summary												
Intersection Capacity Utilization			73.4%		ICU Level of Service				D			
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
10: Baldwin Park Boulevard & Live Oak Avenue

Buildout Year (2028) Without Project
AM Peak Hour



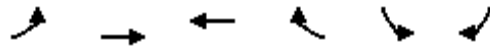
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Volume (vph)	579	99	188	1300	328	244
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No			No	
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	579	99	188	1300	328	244
Lane Utilization Factor	0.95	1.00	1.00	0.95	0.97	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	1360	1520	3046	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	22.8	8.7	14.8	51.2		21.5
Adj Reference Time (s)	27.3	13.2	19.3	55.7		26.0
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	154	
Reference Time A (s)	22.8		222.6	51.2	128.0	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	22.8			222.6		
Adj Reference Time (s)	27.3			227.1		
Split Option						
Ref Time Combined (s)	22.8		14.8	51.2	8.5	
Ref Time Seperate (s)	22.8		14.8	51.2	8.5	
Reference Time (s)	22.8		51.2	51.2	8.5	
Adj Reference Time (s)	27.3		55.7	55.7	13.0	
Summary						
	EB WB		NB		Combined	
Protected Option (s)	55.7		NA			
Permitted Option (s)	227.1		Err			
Split Option (s)	83.0		13.0			
Minimum (s)	55.7		13.0		68.7	
Right Turns						
	EBR		NBR			
Adj Reference Time (s)	13.2		26.0			
Cross Thru Ref Time (s)	0.0		27.3			
Oncoming Left Ref Time (s)	19.3		0.0			
Combined (s)	32.6		53.3			

Intersection Summary

Intersection Capacity Utilization 57.3% ICU Level of Service B
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
11: Live Oak Avenue (East) & Arrow Highway

Buildout Year (2028) Without Project
AM Peak Hour









Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	100	708	1419	1863	526	60
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				Yes		No
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.0	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	4.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	100	708	1419	1863	526	60
Lane Utilization Factor	1.00	0.91	0.95	1.00	0.97	1.00
Turning Factor (vph)	0.95	1.00	1.00	0.85	0.95	0.85
Saturated Flow (vph)	1520	4358	3046	1360	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	7.9	19.5	55.9	164.4		5.3
Adj Reference Time (s)	12.4	24.0	60.4	168.4		9.8
Permitted Option						
Adj Saturation A (vph)	101	1453	1523		154	
Reference Time A (s)	118.4	19.5	55.9		205.3	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		118.4	55.9			
Adj Reference Time (s)		122.9	60.4			
Split Option						
Ref Time Combined (s)	7.9	19.5	55.9		13.7	
Ref Time Seperate (s)	7.9	19.5	55.9		13.7	
Reference Time (s)	19.5	19.5	55.9		13.7	
Adj Reference Time (s)	24.0	24.0	60.4		18.2	
Summary						
	EB WB		SB		Combined	
Protected Option (s)	72.8		NA			
Permitted Option (s)	122.9		Err			
Split Option (s)	84.4		18.2			
Minimum (s)	72.8		18.2		91.0	
Right Turns						
	WBR	SBR				
Adj Reference Time (s)	168.4	9.8				
Cross Thru Ref Time (s)	0.0	60.4				
Oncoming Left Ref Time (s)	0.0	0.0				
Combined (s)	168.4	70.2				

Intersection Summary

Intersection Capacity Utilization 75.8% ICU Level of Service D
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
12: Rivergrade Road & Arrow Highway

Buildout Year (2028) Without Project
AM Peak Hour

						
Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↑↑	↑	↘	↑↑	↘↘	↘
Volume (vph)	513	204	34	2117	188	11
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No				No
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	513	204	34	2117	188	11
Lane Utilization Factor	0.95	1.00	1.00	0.95	0.97	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	1360	1520	3046	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	20.2	18.0	2.7	83.4		1.0
Adj Reference Time (s)	24.7	22.5	9.5	87.9		9.5
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	154	
Reference Time A (s)	20.2		40.3	83.4	73.4	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	20.2			83.4		
Adj Reference Time (s)	24.7			87.9		
Split Option						
Ref Time Combined (s)	20.2		2.7	83.4	4.9	
Ref Time Seperate (s)	20.2		2.7	83.4	4.9	
Reference Time (s)	20.2		83.4	83.4	4.9	
Adj Reference Time (s)	24.7		87.9	87.9	9.5	
Summary						
	NW	SE	NE	Combined		
Protected Option (s)	87.9		NA			
Permitted Option (s)	87.9		Err			
Split Option (s)	112.6		9.5			
Minimum (s)	87.9		9.5	97.4		
Right Turns						
	SER	NER				
Adj Reference Time (s)	22.5	9.5				
Cross Thru Ref Time (s)	0.0	24.7				
Oncoming Left Ref Time (s)	9.5	0.0				
Combined (s)	32.0	34.2				
Intersection Summary						
Intersection Capacity Utilization			81.2%	ICU Level of Service	D	

Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
13: San Gabriel River Trail & Arrow Highway

Buildout Year (2028) Without Project
AM Peak Hour



Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↑↑			↑↑		
Volume (vph)	837	0	0	2259	0	0
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No			No	
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.0	4.0	4.5	4.0	4.0
Minimum Green (s)	5.0	4.0	4.0	5.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	837	0	0	2259	0	0
Lane Utilization Factor	0.95	1.00	1.00	0.95	1.00	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	0	0	3046	0	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	33.0	0.0	0.0	89.0		0.0
Adj Reference Time (s)	37.5	0.0	0.0	93.5		0.0
Permitted Option						
Adj Saturation A (vph)	1523		0	1523	0	
Reference Time A (s)	33.0		0.0	89.0	0.0	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	33.0			89.0		
Adj Reference Time (s)	37.5			93.5		
Split Option						
Ref Time Combined (s)	33.0		0.0	89.0	0.0	
Ref Time Seperate (s)	33.0		0.0	89.0	0.0	
Reference Time (s)	33.0		89.0	89.0	0.0	
Adj Reference Time (s)	37.5		93.5	93.5	0.0	
Summary	NW SE		NE		Combined	
Protected Option (s)	93.5		NA			
Permitted Option (s)	93.5		Err			
Split Option (s)	131.0		0.0			
Minimum (s)	93.5		0.0		93.5	
Right Turns						
Adj Reference Time (s)						
Cross Thru Ref Time (s)						
Oncoming Left Ref Time (s)						
Combined (s)						

Intersection Summary

Intersection Capacity Utilization 77.9% ICU Level of Service D
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	782	0	0	1763	0	36
Future Vol, veh/h	782	0	0	1763	0	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	850	0	0	1916	0	39

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	-	-	-	425
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	0	583
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	583
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	11.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	583	-	-	-
HCM Lane V/C Ratio	0.067	-	-	-
HCM Control Delay (s)	11.6	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-

HCM 6th Signalized Intersection Summary
 17: Arrow Highway & I605 SB Off-Ramp

Buildout Year (2028) Without Project
 AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↙	↘
Traffic Volume (veh/h)	0	778	1769	0	338	583
Future Volume (veh/h)	0	778	1769	0	338	583
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1600	1600	0	1600	1600
Adj Flow Rate, veh/h	0	819	1862	0	356	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	0	1936	1936	0	400	
Arrive On Green	0.00	0.64	0.64	0.00	0.26	0.00
Sat Flow, veh/h	0	3200	3200	0	1524	1356
Grp Volume(v), veh/h	0	819	1862	0	356	0
Grp Sat Flow(s),veh/h/ln	0	1520	1520	0	1524	1356
Q Serve(g_s), s	0.0	12.0	51.4	0.0	20.1	0.0
Cycle Q Clear(g_c), s	0.0	12.0	51.4	0.0	20.1	0.0
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1936	1936	0	400	
V/C Ratio(X)	0.00	0.42	0.96	0.00	0.89	
Avail Cap(c_a), veh/h	0	1953	1953	0	400	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	8.1	15.2	0.0	31.8	0.0
Incr Delay (d2), s/veh	0.0	0.1	12.5	0.0	24.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.5	18.1	0.0	9.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	8.2	27.8	0.0	56.1	0.0
LnGrp LOS	A	A	C	A	E	
Approach Vol, veh/h		819	1862		356	
Approach Delay, s/veh		8.2	27.8		56.1	
Approach LOS		A	C		E	
Timer - Assigned Phs				4	6	8
Phs Duration (G+Y+Rc), s				61.5	28.0	61.5
Change Period (Y+Rc), s				4.5	4.5	4.5
Max Green Setting (Gmax), s				57.5	23.5	57.5
Max Q Clear Time (g_c+I1), s				14.0	22.1	53.4
Green Ext Time (p_c), s				7.0	0.2	3.6

Intersection Summary

HCM 6th Ctrl Delay	25.8
HCM 6th LOS	C

Notes
























Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection Capacity Utilization

Buildout Year (2028) Without Project

18: Spanish Oak Drive/Avenida Barbosa & Arrow Highway

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	349	518	1	307	1751	680	1	3	101	243	9	194
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right	No			No			No			No		
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	2500	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	349	519	0	307	1751	680	1	3	101	243	9	194
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1520	4357	0	1520	4358	1360	1520	1600	1360	4612	1600	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00		0.00			0.00			0.00			
Protected Option Allowed	Yes			Yes			Yes			Yes		
Reference Time (s)	27.6	14.3	0.0	24.2	48.2	60.0	0.1	0.2	8.9	6.3	0.7	17.1
Adj Reference Time (s)	32.1	18.8	0.0	28.7	52.7	64.5	9.5	9.5	13.4	10.8	9.5	21.6
Permitted Option												
Adj Saturation A (vph)	101	1452		101	1453		101	1600		154	1600	
Reference Time A (s)	413.3	14.3		363.6	48.2		1.2	0.2		94.8	0.7	
Adj Saturation B (vph)	NA	NA		NA	NA		0	1600		0	1600	
Reference Time B (s)	NA	NA		NA	NA		8.1	0.2		14.3	0.7	
Reference Time (s)		413.3			363.6			1.2			14.3	
Adj Reference Time (s)		417.8			368.1			9.5			18.8	
Split Option												
Ref Time Combined (s)	27.6	14.3		24.2	48.2		0.1	0.2		6.3	0.7	
Ref Time Seperate (s)	27.6	14.3		24.2	48.2		0.1	0.2		6.3	0.7	
Reference Time (s)	27.6	27.6		48.2	48.2		0.2	0.2		6.3	6.3	
Adj Reference Time (s)	32.1	32.1		52.7	52.7		9.5	9.5		10.8	10.8	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	84.8		20.3									
Permitted Option (s)	417.8		18.8									
Split Option (s)	84.8		20.3									
Minimum (s)	84.8		18.8		103.6							
Right Turns												
	WBR		NBR		SBR							
Adj Reference Time (s)	64.5		13.4		21.6							
Cross Thru Ref Time (s)	9.5		18.8		52.7							
Oncoming Left Ref Time (s)	32.1		10.8		9.5							
Combined (s)	106.1		43.0		83.8							
Intersection Summary												
Intersection Capacity Utilization			88.4%		ICU Level of Service				E			
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
19: Valley Oak Lane & Live Oak Avenue

Buildout Year (2028) Without Project
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↕			↕	
Volume (vph)	0	740	1	48	1978	20	1	0	6	0	0	10
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	741	0	48	1998	0	0	7	0	0	10	0
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	0.87	0.85	0.95	0.85	0.85
Saturated Flow (vph)	1520	4358	0	1520	4352	0	0	1384	0	0	1360	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			No			No	
Reference Time (s)	0.0	20.4	0.0	3.8	55.1	0.0			0.0			0.0
Adj Reference Time (s)	9.5	24.9	0.0	9.5	59.6	0.0			0.0			0.0
Permitted Option												
Adj Saturation A (vph)	101	1453		101	1451		0	441		0	1360	
Reference Time A (s)	0.0	20.4		56.8	55.1		0.0	1.9		0.0	0.9	
Adj Saturation B (vph)	NA	NA		NA	NA		0	0		0	1360	
Reference Time B (s)	NA	NA		NA	NA		8.1	8.6		0.0	0.9	
Reference Time (s)		20.4			56.8			1.9			0.9	
Adj Reference Time (s)		24.9			61.3			9.5			9.5	
Split Option												
Ref Time Combined (s)	0.0	20.4		3.8	55.1		0.0	0.6		0.0	0.9	
Ref Time Seperate (s)	0.0	20.4		3.8	54.5		0.1	0.0		0.0	0.0	
Reference Time (s)	20.4	20.4		55.1	55.1		0.6	0.6		0.9	0.9	
Adj Reference Time (s)	24.9	24.9		59.6	59.6		9.5	9.5		9.5	9.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	69.1		NA									
Permitted Option (s)	61.3		9.5									
Split Option (s)	84.5		19.0									
Minimum (s)	61.3		9.5		70.8							
Right Turns												
Adj Reference Time (s)												
Cross Thru Ref Time (s)												
Oncoming Left Ref Time (s)												
Combined (s)												
Intersection Summary												
Intersection Capacity Utilization			59.0%		ICU Level of Service		B					
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
1: Live Oak Avenue & Arrow Highway (West)

Buildout Year (2028) Without Project
PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↑	↑↑↑	↑↑	↑
Volume (vph)	976	1949	344	673	764	105
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		Yes				No
Ideal Flow	1600	1600	2500	1600	2500	1600
Lost Time (s)	4.5	4.0	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	4.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1626	1299	344	673	764	105
Lane Utilization Factor	0.91	1.00	0.97	0.91	0.97	1.00
Turning Factor (vph)	0.94	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	4097	1360	4612	4358	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	47.6	114.6	9.0	18.5		9.3
Adj Reference Time (s)	52.1	118.6	13.5	23.0		13.8
Permitted Option						
Adj Saturation A (vph)	1366		154	1453	154	
Reference Time A (s)	47.6		134.3	18.5	298.2	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	47.6			134.3		
Adj Reference Time (s)	52.1			138.8		
Split Option						
Ref Time Combined (s)	47.6		9.0	18.5	19.9	
Ref Time Seperate (s)	28.6		9.0	18.5	19.9	
Reference Time (s)	47.6		18.5	18.5	19.9	
Adj Reference Time (s)	52.1		23.0	23.0	24.4	
Summary						
	EB WB		NB		Combined	
Protected Option (s)	65.6		NA			
Permitted Option (s)	138.8		Err			
Split Option (s)	75.1		24.4			
Minimum (s)	65.6		24.4		89.9	
Right Turns						
	EBR	NBR				
Adj Reference Time (s)	118.6	13.8				
Cross Thru Ref Time (s)	0.0	52.1				
Oncoming Left Ref Time (s)	0.0	0.0				
Combined (s)	118.6	65.9				

Intersection Summary

Intersection Capacity Utilization 75.0% ICU Level of Service D
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
2: Speedway Drive & Live Oak Avenue

Buildout Year (2028) Without Project
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑		↗		↘	↖	↑	↘
Volume (vph)	71	2137	86	86	925	85	113	0	112	99	0	58
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.0	4.5	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	71	2223	0	86	1010	0	113	0	112	99	58	0
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.99	0.85	0.95	0.99	0.85	0.95	1.00	0.85	0.95	0.85	0.85
Saturated Flow (vph)	1520	4333	0	1520	4303	0	2952	0	1360	1520	1360	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			Yes			Yes	
Reference Time (s)	5.6	61.6	0.0	6.8	28.2	0.0	4.6	0.0	9.9	7.8	5.1	0.0
Adj Reference Time (s)	10.1	66.1	0.0	11.3	32.7	0.0	9.5	0.0	14.4	12.3	9.6	0.0
Permitted Option												
Adj Saturation A (vph)	101	1444		101	1434		98	0		101	1360	
Reference Time A (s)	84.1	61.6		101.8	28.2		68.9	0.0		117.2	5.1	
Adj Saturation B (vph)	NA	NA		NA	NA		0	0		0	1360	
Reference Time B (s)	NA	NA		NA	NA		12.6	0.0		15.8	5.1	
Reference Time (s)		84.1			101.8			12.6			15.8	
Adj Reference Time (s)		88.6			106.3			16.6			20.3	
Split Option												
Ref Time Combined (s)	5.6	61.6		6.8	28.2		4.6	0.0		7.8	5.1	
Ref Time Seperate (s)	5.6	59.2		6.8	25.8		4.6	0.0		7.8	0.0	
Reference Time (s)	61.6	61.6		28.2	28.2		4.6	4.6		7.8	7.8	
Adj Reference Time (s)	66.1	66.1		32.7	32.7		8.6	8.6		12.3	12.3	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	77.4		19.1									
Permitted Option (s)	106.3		20.3									
Split Option (s)	98.7		20.9									
Minimum (s)	77.4		19.1		96.5							
Right Turns												
	NBR											
Adj Reference Time (s)	14.4											
Cross Thru Ref Time (s)	66.1											
Oncoming Left Ref Time (s)	12.3											
Combined (s)	92.8											
Intersection Summary												
Intersection Capacity Utilization	80.4%		ICU Level of Service		D							
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
3: Live Oak Avenue & Spanish Oak Drive

Buildout Year (2028) Without Project
PM Peak Hour



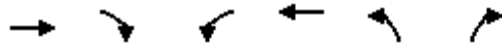
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶	↑↑↑	↑↑↑↶		↶	↷
Volume (vph)	4	2139	1008	130	249	11
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.0	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	4.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	4	2139	1138	0	249	11
Lane Utilization Factor	1.00	0.91	0.91	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.98	0.85	0.95	0.85
Saturated Flow (vph)	1520	4358	4284	0	1520	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	0.3	58.9	31.9	0.0		1.0
Adj Reference Time (s)	9.5	63.4	36.4	0.0		9.5
Permitted Option						
Adj Saturation A (vph)	101	1453	1428		101	
Reference Time A (s)	4.7	58.9	31.9		294.9	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		58.9	31.9			
Adj Reference Time (s)		63.4	36.4			
Split Option						
Ref Time Combined (s)	0.3	58.9	31.9		19.7	
Ref Time Seperate (s)	0.3	58.9	28.2		19.7	
Reference Time (s)	58.9	58.9	31.9		19.7	
Adj Reference Time (s)	63.4	63.4	36.4		24.2	
Summary						
	EB WB		SB		Combined	
Protected Option (s)	63.4		NA			
Permitted Option (s)	63.4		Err			
Split Option (s)	99.8		24.2			
Minimum (s)	63.4		24.2		87.6	
Right Turns						
	SBR					
Adj Reference Time (s)	9.5					
Cross Thru Ref Time (s)	36.4					
Oncoming Left Ref Time (s)	0.0					
Combined (s)	45.9					

Intersection Summary

Intersection Capacity Utilization 73.0% ICU Level of Service C
Reference Times and Phasing Options do not represent an optimized timing plan.

HCM 6th Signalized Intersection Summary
4: I605 SB On-Ramp & Live Oak Avenue

Buildout Year (2028) Without Project
PM Peak Hour















Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↵	↑↑		
Traffic Volume (veh/h)	802	1005	445	1008	0	0
Future Volume (veh/h)	802	1005	445	1008	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1600	1600	1600	1600		
Adj Flow Rate, veh/h	844	0	468	1061		
Peak Hour Factor	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	0	0	0	0		
Cap, veh/h	1318		551	2729		
Arrive On Green	0.43	0.00	0.36	0.90		
Sat Flow, veh/h	3120	1356	1524	3120		
Grp Volume(v), veh/h	844	0	468	1061		
Grp Sat Flow(s),veh/h/ln	1520	1356	1524	1520		
Q Serve(g_s), s	9.6	0.0	12.4	2.4		
Cycle Q Clear(g_c), s	9.6	0.0	12.4	2.4		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	1318		551	2729		
V/C Ratio(X)	0.64		0.85	0.39		
Avail Cap(c_a), veh/h	6808		1472	10057		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00		
Uniform Delay (d), s/veh	9.8	0.0	12.9	0.4		
Incr Delay (d2), s/veh	0.5	0.0	3.7	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.5	0.0	3.9	0.0		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.3	0.0	16.7	0.4		
LnGrp LOS	B		B	A		
Approach Vol, veh/h	844			1529		
Approach Delay, s/veh	10.3			5.4		
Approach LOS	B			A		
Timer - Assigned Phs			3	4		8
Phs Duration (G+Y+Rc), s			20.4	23.6		44.0
Change Period (Y+Rc), s			4.5	4.5		4.5
Max Green Setting (Gmax), s			42.5	98.5		145.5
Max Q Clear Time (g_c+I1), s			14.4	11.6		4.4
Green Ext Time (p_c), s			1.5	7.5		10.6
Intersection Summary						
HCM 6th Ctrl Delay			7.1			
HCM 6th LOS			A			

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

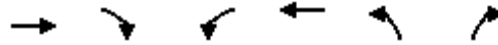
HCM 6th Signalized Intersection Summary
5: I605 NB Off-Ramp & Live Oak Avenue

Buildout Year (2028) Without Project
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑				↑↑			↑↑
Traffic Volume (veh/h)	0	780	0	0	849	0	0	0	666	0	0	589
Future Volume (veh/h)	0	780	0	0	849	0	0	0	666	0	0	589
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1600	0	0	1600	0	0	0	1600	0	0	1600
Adj Flow Rate, veh/h	0	821	0	0	894	0	0	0	701	0	0	620
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	2045	0	0	2045	0	0	0	0	0	0	0
Arrive On Green	0.00	0.67	0.00	0.00	0.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	3200	0	0	3200	0		0			0	
Grp Volume(v), veh/h	0	821	0	0	894	0		0.0			0.0	
Grp Sat Flow(s),veh/h/ln	0	1520	0	0	1520	0						
Q Serve(g_s), s	0.0	1.7	0.0	0.0	1.9	0.0						
Cycle Q Clear(g_c), s	0.0	1.7	0.0	0.0	1.9	0.0						
Prop In Lane	0.00		0.00	0.00		0.00						
Lane Grp Cap(c), veh/h	0	2045	0	0	2045	0						
V/C Ratio(X)	0.00	0.40	0.00	0.00	0.44	0.00						
Avail Cap(c_a), veh/h	0	3978	0	0	3978	0						
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00						
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00						
Uniform Delay (d), s/veh	0.0	1.0	0.0	0.0	1.0	0.0						
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.1	0.0						
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0						
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0						
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	1.1	0.0	0.0	1.2	0.0						
LnGrp LOS	A	A	A	A	A	A						
Approach Vol, veh/h		821			894							
Approach Delay, s/veh		1.1			1.2							
Approach LOS		A			A							
Timer - Assigned Phs				4				8				
Phs Duration (G+Y+Rc), s				13.8				13.8				
Change Period (Y+Rc), s				4.5				4.5				
Max Green Setting (Gmax), s				18.0				18.0				
Max Q Clear Time (g_c+I1), s				3.7				3.9				
Green Ext Time (p_c), s				5.0				5.4				
Intersection Summary												
HCM 6th Ctrl Delay				1.2								
HCM 6th LOS				A								

Intersection Capacity Utilization
6: Graham Road & Live Oak Avenue

Buildout Year (2028) Without Project
PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	
Volume (vph)	1494	37	0	825	18	25
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No			No	
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1494	37	0	825	43	0
Lane Utilization Factor	0.95	1.00	1.00	0.95	1.00	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.89	0.85
Saturated Flow (vph)	3046	1360	1520	3046	1430	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	58.8	3.3	0.0	32.5		0.0
Adj Reference Time (s)	63.3	9.5	9.5	37.0		0.0
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	95	
Reference Time A (s)	58.8		0.0	32.5	54.1	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	58.8			32.5		
Adj Reference Time (s)	63.3			37.0		
Split Option						
Ref Time Combined (s)	58.8		0.0	32.5	3.6	
Ref Time Seperate (s)	58.8		0.0	32.5	1.5	
Reference Time (s)	58.8		32.5	32.5	3.6	
Adj Reference Time (s)	63.3		37.0	37.0	9.5	
Summary						
	EB	WB	NB	Combined		
Protected Option (s)	72.8		NA			
Permitted Option (s)	63.3		Err			
Split Option (s)	100.3		9.5			
Minimum (s)	63.3		9.5	72.8		
Right Turns						
	EBR					
Adj Reference Time (s)	9.5					
Cross Thru Ref Time (s)	0.0					
Oncoming Left Ref Time (s)	0.0					
Combined (s)	9.5					

Intersection Summary
 Intersection Capacity Utilization 60.7% ICU Level of Service B
 Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑	↗	↘	
Traffic Vol, veh/h	27	1481	810	7	3	18
Future Vol, veh/h	27	1481	810	7	3	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	290	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	29	1610	880	8	3	20
























Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	888	0	-	0	1743 440
Stage 1	-	-	-	-	880 -
Stage 2	-	-	-	-	863 -
Critical Hdwy	4.1	-	-	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	771	-	-	-	79 570
Stage 1	-	-	-	-	371 -
Stage 2	-	-	-	-	378 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	771	-	-	-	76 570
Mov Cap-2 Maneuver	-	-	-	-	76 -
Stage 1	-	-	-	-	357 -
Stage 2	-	-	-	-	378 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	18.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	771	-	-	-	296
HCM Lane V/C Ratio	0.038	-	-	-	0.077
HCM Control Delay (s)	9.9	-	-	-	18.2
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

























Intersection Capacity Utilization
8: Live Oak Avenue & Rivergrade Road

Buildout Year (2028) Without Project
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1	1432	40	109	697	20	58	69	231	15	27	42
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right	No			No			No			No		
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	1	1472	0	109	697	20	58	69	231	15	27	42
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1520	3034	0	1520	3046	1360	1520	3046	1360	1520	3046	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00			0.00			0.00		
Protected Option Allowed	Yes			Yes			Yes			Yes		
Reference Time (s)	0.1	58.2	0.0	8.6	27.5	1.8	4.6	2.7	20.4	1.2	1.1	3.7
Adj Reference Time (s)	9.5	62.7	0.0	13.1	32.0	9.5	9.5	9.5	24.9	9.5	9.5	9.5
Permitted Option												
Adj Saturation A (vph)	101	1517		101	1523		101	1523		101	1523	
Reference Time A (s)	1.2	58.2		129.1	27.5		68.7	2.7		17.8	1.1	
Adj Saturation B (vph)	NA	NA		NA	NA		0	3046		0	3046	
Reference Time B (s)	NA	NA		NA	NA		12.6	2.7		9.2	1.1	
Reference Time (s)		58.2			129.1			12.6			9.2	
Adj Reference Time (s)		62.7			133.6			17.1			13.7	
Split Option												
Ref Time Combined (s)	0.1	58.2		8.6	27.5		4.6	2.7		1.2	1.1	
Ref Time Seperate (s)	0.1	56.6		8.6	27.5		4.6	2.7		1.2	1.1	
Reference Time (s)	58.2	58.2		27.5	27.5		4.6	4.6		1.2	1.2	
Adj Reference Time (s)	62.7	62.7		32.0	32.0		9.5	9.5		9.5	9.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	75.8		19.0									
Permitted Option (s)	133.6		17.1									
Split Option (s)	94.7		19.0									
Minimum (s)	75.8		17.1		92.9							
Right Turns												
	WBR		NBR		SBR							
Adj Reference Time (s)	9.5		24.9		9.5							
Cross Thru Ref Time (s)	9.5		62.7		32.0							
Oncoming Left Ref Time (s)	9.5		9.5		9.5							
Combined (s)	28.5		97.1		51.0							
Intersection Summary												
Intersection Capacity Utilization			80.9%		ICU Level of Service				D			
Reference Times and Phasing Options do not represent an optimized timing plan.												

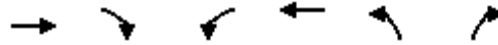
Intersection Capacity Utilization
9: Stewart Avenue & Live Oak Avenue

Buildout Year (2028) Without Project
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	53	1440	312	35	733	17	40	36	25	31	147	8
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right	No			No			No			No		
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	53	1440	312	35	750	0	0	101	0	31	147	8
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	0.94	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1520	3046	1360	1520	4344	0	0	1510	0	1520	1600	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00		0.00			0.00			0.00			
Protected Option Allowed	Yes			Yes			No			No		
Reference Time (s)	4.2	56.7	27.5	2.8	20.7	0.0			0.0			0.7
Adj Reference Time (s)	9.5	61.2	32.0	9.5	25.2	0.0			0.0			9.5
Permitted Option												
Adj Saturation A (vph)	101	1523		101	1448		0	211		703	1600	
Reference Time A (s)	62.8	56.7		41.4	20.7		0.0	57.4		5.3	11.0	
Adj Saturation B (vph)	NA	NA		NA	NA		NA	NA		0	1600	
Reference Time B (s)	NA	NA		NA	NA		NA	NA		10.4	11.0	
Reference Time (s)		62.8			41.4			57.4			11.0	
Adj Reference Time (s)		67.3			45.9			61.9			15.5	
Split Option												
Ref Time Combined (s)	4.2	56.7		2.8	20.7		0.0	8.0		2.4	11.0	
Ref Time Seperate (s)	4.2	56.7		2.8	20.3		3.2	2.9		2.4	11.0	
Reference Time (s)	56.7	56.7		20.7	20.7		8.0	8.0		11.0	11.0	
Adj Reference Time (s)	61.2	61.2		25.2	25.2		12.5	12.5		15.5	15.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	70.7		NA									
Permitted Option (s)	67.3		61.9									
Split Option (s)	86.4		28.1									
Minimum (s)	67.3		28.1		95.3							
Right Turns												
	EBR		SBR									
Adj Reference Time (s)	32.0		9.5									
Cross Thru Ref Time (s)	15.5		25.2									
Oncoming Left Ref Time (s)	9.5		12.5									
Combined (s)	57.1		47.2									
Intersection Summary												
Intersection Capacity Utilization			79.4%		ICU Level of Service				D			
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
10: Baldwin Park Boulevard & Live Oak Avenue

Buildout Year (2028) Without Project
PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↑↓	↑
Volume (vph)	1224	362	339	687	100	190
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No			No	
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1224	362	339	687	100	190
Lane Utilization Factor	0.95	1.00	1.00	0.95	0.97	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	1360	1520	3046	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	48.2	31.9	26.8	27.1		16.8
Adj Reference Time (s)	52.7	36.4	31.3	31.6		21.3
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	154	
Reference Time A (s)	48.2		401.4	27.1	39.0	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	48.2			401.4		
Adj Reference Time (s)	52.7			405.9		
Split Option						
Ref Time Combined (s)	48.2		26.8	27.1	2.6	
Ref Time Seperate (s)	48.2		26.8	27.1	2.6	
Reference Time (s)	48.2		27.1	27.1	2.6	
Adj Reference Time (s)	52.7		31.6	31.6	9.5	
Summary						
	EB WB		NB		Combined	
Protected Option (s)	84.0		NA			
Permitted Option (s)	405.9		Err			
Split Option (s)	84.3		9.5			
Minimum (s)	84.0		9.5		93.5	
Right Turns						
	EBR	NBR				
Adj Reference Time (s)	36.4	21.3				
Cross Thru Ref Time (s)	0.0	52.7				
Oncoming Left Ref Time (s)	31.3	0.0				
Combined (s)	67.7	74.0				

Intersection Summary

Intersection Capacity Utilization 77.9% ICU Level of Service D
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
11: Live Oak Avenue (East) & Arrow Highway

Buildout Year (2028) Without Project
PM Peak Hour









Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗↗↗	↖↖	↗	↖↖	↗
Volume (vph)	72	1324	843	551	1095	153
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	72	1324	843	551	1095	153
Lane Utilization Factor	1.00	0.91	0.95	1.00	0.97	1.00
Turning Factor (vph)	0.95	1.00	1.00	0.85	0.95	0.85
Saturated Flow (vph)	1520	4358	3046	1360	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	5.7	36.5	33.2	48.6		13.5
Adj Reference Time (s)	10.2	41.0	37.7	53.1		18.0
Permitted Option						
Adj Saturation A (vph)	101	1453	1523		154	
Reference Time A (s)	85.3	36.5	33.2		427.3	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		85.3	33.2			
Adj Reference Time (s)		89.8	37.7			
Split Option						
Ref Time Combined (s)	5.7	36.5	33.2		28.5	
Ref Time Seperate (s)	5.7	36.5	33.2		28.5	
Reference Time (s)	36.5	36.5	33.2		28.5	
Adj Reference Time (s)	41.0	41.0	37.7		33.0	
Summary						
	EB WB		SB		Combined	
Protected Option (s)	47.9		NA			
Permitted Option (s)	89.8		Err			
Split Option (s)	78.7		33.0			
Minimum (s)	47.9		33.0		80.9	
Right Turns						
	WBR	SBR				
Adj Reference Time (s)	53.1	18.0				
Cross Thru Ref Time (s)	0.0	37.7				
Oncoming Left Ref Time (s)	10.2	0.0				
Combined (s)	63.3	55.7				

Intersection Summary

Intersection Capacity Utilization 67.4% ICU Level of Service C
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
12: Rivergrade Road & Arrow Highway

Buildout Year (2028) Without Project
PM Peak Hour

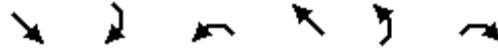
						
Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↑↑	↑	↔	↑↑	↔	↔
Volume (vph)	1339	143	46	583	157	18
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No				No
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1339	143	46	583	157	18
Lane Utilization Factor	0.95	1.00	1.00	0.95	0.97	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	1360	1520	3046	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	52.7	12.6	3.6	23.0		1.6
Adj Reference Time (s)	57.2	17.1	9.5	27.5		9.5
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	154	
Reference Time A (s)	52.7		54.5	23.0	61.3	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	52.7			54.5		
Adj Reference Time (s)	57.2			59.0		
Split Option						
Ref Time Combined (s)	52.7		3.6	23.0	4.1	
Ref Time Seperate (s)	52.7		3.6	23.0	4.1	
Reference Time (s)	52.7		23.0	23.0	4.1	
Adj Reference Time (s)	57.2		27.5	27.5	9.5	
Summary						
	NW	SE	NE	Combined		
Protected Option (s)	66.7		NA			
Permitted Option (s)	59.0		Err			
Split Option (s)	84.7		9.5			
Minimum (s)	59.0		9.5	68.5		
Right Turns						
	SER	NER				
Adj Reference Time (s)	17.1	9.5				
Cross Thru Ref Time (s)	0.0	57.2				
Oncoming Left Ref Time (s)	9.5	0.0				
Combined (s)	26.6	66.7				

Intersection Summary

Intersection Capacity Utilization 57.1% ICU Level of Service B
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
13: San Gabriel River Trail & Arrow Highway

Buildout Year (2028) Without Project
PM Peak Hour



Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↑↑			↑↑		
Volume (vph)	1511	0	0	765	0	0
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No				No
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.0	4.0	4.5	4.0	4.0
Minimum Green (s)	5.0	4.0	4.0	5.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1511	0	0	765	0	0
Lane Utilization Factor	0.95	1.00	1.00	0.95	1.00	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	0	0	3046	0	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	59.5	0.0	0.0	30.1		0.0
Adj Reference Time (s)	64.0	0.0	0.0	34.6		0.0
Permitted Option						
Adj Saturation A (vph)	1523		0	1523	0	
Reference Time A (s)	59.5		0.0	30.1	0.0	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	59.5			30.1		
Adj Reference Time (s)	64.0			34.6		
Split Option						
Ref Time Combined (s)	59.5		0.0	30.1	0.0	
Ref Time Seperate (s)	59.5		0.0	30.1	0.0	
Reference Time (s)	59.5		30.1	30.1	0.0	
Adj Reference Time (s)	64.0		34.6	34.6	0.0	
Summary	NW SE		NE		Combined	
Protected Option (s)	64.0		NA			
Permitted Option (s)	64.0		Err			
Split Option (s)	98.7		0.0			
Minimum (s)	64.0		0.0		64.0	
Right Turns						
Adj Reference Time (s)						
Cross Thru Ref Time (s)						
Oncoming Left Ref Time (s)						
Combined (s)						

Intersection Summary

Intersection Capacity Utilization 53.3% ICU Level of Service A
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	1549	0	0	423	0	27
Future Vol, veh/h	1549	0	0	423	0	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1684	0	0	460	0	29

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	-	-	842
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	312
Stage 1	-	-	0	-	-
Stage 2	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	312
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	17.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	312	-	-	-
HCM Lane V/C Ratio	0.094	-	-	-
HCM Control Delay (s)	17.7	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-

HCM 6th Signalized Intersection Summary
 17: Arrow Highway & I605 SB Off-Ramp

Buildout Year (2028) Without Project
 PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↘	↗
Traffic Volume (veh/h)	0	1389	427	0	334	294
Future Volume (veh/h)	0	1389	427	0	334	294
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1600	1600	0	1600	1600
Adj Flow Rate, veh/h	0	1462	449	0	352	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	0	1618	1618	0	479	
Arrive On Green	0.00	0.53	0.53	0.00	0.31	0.00
Sat Flow, veh/h	0	3200	3200	0	1524	1356
Grp Volume(v), veh/h	0	1462	449	0	352	0
Grp Sat Flow(s),veh/h/ln	0	1520	1520	0	1524	1356
Q Serve(g_s), s	0.0	25.5	4.8	0.0	12.1	0.0
Cycle Q Clear(g_c), s	0.0	25.5	4.8	0.0	12.1	0.0
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1618	1618	0	479	
V/C Ratio(X)	0.00	0.90	0.28	0.00	0.73	
Avail Cap(c_a), veh/h	0	1680	1680	0	479	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	12.4	7.5	0.0	18.0	0.0
Incr Delay (d2), s/veh	0.0	7.1	0.1	0.0	9.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.3	1.3	0.0	5.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	19.5	7.6	0.0	27.6	0.0
LnGrp LOS	A	B	A	A	C	
Approach Vol, veh/h		1462	449		352	
Approach Delay, s/veh		19.5	7.6		27.6	
Approach LOS		B	A		C	
Timer - Assigned Phs				4	6	8
Phs Duration (G+Y+Rc), s				35.8	23.0	35.8
Change Period (Y+Rc), s				4.5	4.5	4.5
Max Green Setting (Gmax), s				32.5	18.5	32.5
Max Q Clear Time (g_c+I1), s				27.5	14.1	6.8
Green Ext Time (p_c), s				3.8	0.5	3.1

Intersection Summary



























HCM 6th Ctrl Delay	18.4
HCM 6th LOS	B

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.























Intersection Capacity Utilization
18: Spanish Oak Drive/Avenida Barbosa & Arrow Highway

Buildout Year (2028) Without Project
PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		 			 					 			
Volume (vph)	271	810	0	225	493	267	6	16	269	717	6	448	
Pedestrians													
Ped Button													
Pedestrian Timing (s)													
Free Right			No			No			No			No	
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	2500	1600	1600	
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120	
Volume Combined (vph)	271	810	0	225	493	267	6	16	269	717	6	448	
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00	
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85	
Saturated Flow (vph)	1520	4358	0	1520	4358	1360	1520	1600	1360	4612	1600	1360	
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00		
Protected Option Allowed		Yes			Yes			Yes			Yes		
Reference Time (s)	21.4	22.3	0.0	17.8	13.6	23.6	0.5	1.2	23.7	18.7	0.5	39.5	
Adj Reference Time (s)	25.9	26.8	0.0	22.3	18.1	28.1	9.5	9.5	28.2	23.2	9.5	44.0	
Permitted Option													
Adj Saturation A (vph)	101	1453		101	1453		101	1600		154	1600		
Reference Time A (s)	320.9	22.3		266.4	13.6		7.1	1.2		279.8	0.5		
Adj Saturation B (vph)	NA	NA		NA	NA		0	1600		0	1600		
Reference Time B (s)	NA	NA		NA	NA		8.5	1.2		26.7	0.5		
Reference Time (s)		320.9			266.4			7.1			26.7		
Adj Reference Time (s)		325.4			270.9			11.6			31.2		
Split Option													
Ref Time Combined (s)	21.4	22.3		17.8	13.6		0.5	1.2		18.7	0.5		
Ref Time Seperate (s)	21.4	22.3		17.8	13.6		0.5	1.2		18.7	0.5		
Reference Time (s)	22.3	22.3		17.8	17.8		1.2	1.2		18.7	18.7		
Adj Reference Time (s)	26.8	26.8		22.3	22.3		9.5	9.5		23.2	23.2		
Summary													
	EB WB		NB SB		Combined								
Protected Option (s)	49.1		32.7										
Permitted Option (s)	325.4		31.2										
Split Option (s)	49.1		32.7										
Minimum (s)	49.1		31.2		80.2								
Right Turns													
	WBR		NBR		SBR								
Adj Reference Time (s)	28.1		28.2		44.0								
Cross Thru Ref Time (s)	9.5		26.8		18.1								
Oncoming Left Ref Time (s)	25.9		23.2		9.5								
Combined (s)	63.5		78.2		71.6								
Intersection Summary													
Intersection Capacity Utilization			66.8%		ICU Level of Service						C		
Reference Times and Phasing Options do not represent an optimized timing plan.													

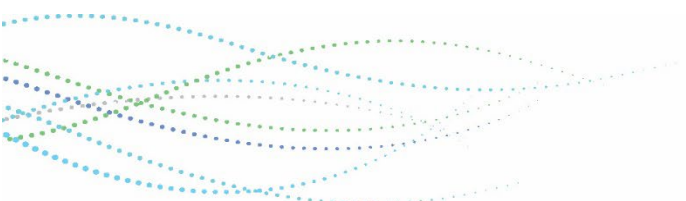
Intersection Capacity Utilization
19: Valley Oak Lane & Live Oak Avenue

Buildout Year (2028) Without Project
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Volume (vph)	0	1081	0	21	1017	1	6	0	32	0	0	1
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	1081	0	21	1018	0	0	38	0	0	1	0
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	0.87	0.85	0.95	0.85	0.85
Saturated Flow (vph)	1520	4358	0	1520	4358	0	0	1387	0	0	1360	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			No			No	
Reference Time (s)	0.0	29.8	0.0	1.7	28.0	0.0			0.0			0.0
Adj Reference Time (s)	9.5	34.3	0.0	9.5	32.5	0.0			0.0			0.0
Permitted Option												
Adj Saturation A (vph)	101	1453		101	1453		0	411		0	1360	
Reference Time A (s)	0.0	29.8		24.9	28.0		0.0	11.1		0.0	0.1	
Adj Saturation B (vph)	NA	NA		NA	NA		0	0		0	1360	
Reference Time B (s)	NA	NA		NA	NA		8.5	11.3		0.0	0.1	
Reference Time (s)		29.8			28.0			11.1			0.1	
Adj Reference Time (s)		34.3			32.5			15.6			9.5	
Split Option												
Ref Time Combined (s)	0.0	29.8		1.7	28.0		0.0	3.3		0.0	0.1	
Ref Time Separate (s)	0.0	29.8		1.7	28.0		0.5	0.0		0.0	0.0	
Reference Time (s)	29.8	29.8		28.0	28.0		3.3	3.3		0.1	0.1	
Adj Reference Time (s)	34.3	34.3		32.5	32.5		9.5	9.5		9.5	9.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	43.8		NA									
Permitted Option (s)	34.3		15.6									
Split Option (s)	66.8		19.0									
Minimum (s)	34.3		15.6		49.9							
Right Turns												
Adj Reference Time (s)												
Cross Thru Ref Time (s)												
Oncoming Left Ref Time (s)												
Combined (s)												
Intersection Summary												
Intersection Capacity Utilization			41.5%		ICU Level of Service		A					
Reference Times and Phasing Options do not represent an optimized timing plan.												



Buildout Year (2028) With Project – Project Option 1 LOS Calculation Sheets



Intersection Capacity Utilization
1: Live Oak Avenue & Arrow Highway

Buildout Year (2028) With Project - Option 1
AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↑	↑↑↑	↑↑	↑
Volume (vph)	495	1116	214	1771	1292	256
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		Yes				No
Ideal Flow	1600	1600	2500	1600	2500	1600
Lost Time (s)	4.5	4.0	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	4.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	867	744	214	1771	1292	256
Lane Utilization Factor	0.91	1.00	0.97	0.91	0.97	1.00
Turning Factor (vph)	0.94	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	4078	1360	4612	4358	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	25.5	65.6	5.6	48.8		22.6
Adj Reference Time (s)	30.0	69.6	10.1	53.3		27.1
Permitted Option						
Adj Saturation A (vph)	1359		154	1453	154	
Reference Time A (s)	25.5		83.5	48.8	504.2	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	25.5			83.5		
Adj Reference Time (s)	30.0			88.0		
Split Option						
Ref Time Combined (s)	25.5		5.6	48.8	33.6	
Ref Time Seperate (s)	14.6		5.6	48.8	33.6	
Reference Time (s)	25.5		48.8	48.8	33.6	
Adj Reference Time (s)	30.0		53.3	53.3	38.1	
Summary	EB WB		NB		Combined	
Protected Option (s)	53.3		NA			
Permitted Option (s)	88.0		Err			
Split Option (s)	83.3		38.1			
Minimum (s)	53.3		38.1		91.4	
Right Turns	EBR	NBR				
Adj Reference Time (s)	69.6	27.1				
Cross Thru Ref Time (s)	0.0	30.0				
Oncoming Left Ref Time (s)	0.0	0.0				
Combined (s)	69.6	57.1				

Intersection Summary

Intersection Capacity Utilization 76.1% ICU Level of Service D
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
2: Speedway Drive & Live Oak Ave

Buildout Year (2028) With Project - Option 1
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗		↗	↗	↗	
Volume (vph)	46	1195	88	92	1616	78	32	0	33	52	0	30
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	2500	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.0	4.5	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	46	1283	0	92	1694	0	32	0	33	52	30	0
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.99	0.85	0.95	0.99	0.85	0.95	1.00	0.85	0.95	0.85	0.85
Saturated Flow (vph)	1520	4314	0	1520	4328	0	4612	0	1360	1520	1360	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			Yes			Yes	
Reference Time (s)	3.6	35.7	0.0	7.3	47.0	0.0	0.8	0.0	2.9	4.1	2.6	0.0
Adj Reference Time (s)	9.5	40.2	0.0	11.8	51.5	0.0	9.5	0.0	9.5	9.5	9.5	0.0
Permitted Option												
Adj Saturation A (vph)	101	1438		101	1443		154	0		101	1360	
Reference Time A (s)	54.5	35.7		108.9	47.0		12.5	0.0		61.6	2.6	
Adj Saturation B (vph)	NA	NA		NA	NA		0	0		0	1360	
Reference Time B (s)	NA	NA		NA	NA		8.8	0.0		12.1	2.6	
Reference Time (s)		54.5			108.9			8.8			12.1	
Adj Reference Time (s)		59.0			113.4			12.8			16.6	
Split Option												
Ref Time Combined (s)	3.6	35.7		7.3	47.0		0.8	0.0		4.1	2.6	
Ref Time Seperate (s)	3.6	33.2		7.3	44.8		0.8	0.0		4.1	0.0	
Reference Time (s)	35.7	35.7		47.0	47.0		0.8	0.8		4.1	4.1	
Adj Reference Time (s)	40.2	40.2		51.5	51.5		8.0	8.0		9.5	9.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	61.0		19.0									
Permitted Option (s)	113.4		16.6									
Split Option (s)	91.7		17.5									
Minimum (s)	61.0		16.6		77.6							
Right Turns												
	NBR											
Adj Reference Time (s)	9.5											
Cross Thru Ref Time (s)	40.2											
Oncoming Left Ref Time (s)	9.5											
Combined (s)	59.2											
Intersection Summary												
Intersection Capacity Utilization	64.6%		ICU Level of Service		C							
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
3: Live Oak Avenue & Spanish Oak Drive

Buildout Year (2028) With Project - Option 1
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↗	↑↑↑	↑↑↑↔		↘	↘
Volume (vph)	6	1195	1715	179	56	2
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.0	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	4.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	6	1195	1894	0	56	2
Lane Utilization Factor	1.00	0.91	0.91	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.99	0.85	0.95	0.85
Saturated Flow (vph)	1520	4358	4297	0	1520	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	0.5	32.9	52.9	0.0		0.2
Adj Reference Time (s)	9.5	37.4	57.4	0.0		9.5
Permitted Option						
Adj Saturation A (vph)	101	1453	1432		101	
Reference Time A (s)	7.1	32.9	52.9		66.3	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		32.9	52.9			
Adj Reference Time (s)		37.4	57.4			
Split Option						
Ref Time Combined (s)	0.5	32.9	52.9		4.4	
Ref Time Seperate (s)	0.5	32.9	47.9		4.4	
Reference Time (s)	32.9	32.9	52.9		4.4	
Adj Reference Time (s)	37.4	37.4	57.4		9.5	
Summary						
	EB WB		SB		Combined	
Protected Option (s)	66.9		NA			
Permitted Option (s)	57.4		Err			
Split Option (s)	94.8		9.5			
Minimum (s)	57.4		9.5		66.9	
Right Turns						
	SBR					
Adj Reference Time (s)	9.5					
Cross Thru Ref Time (s)	57.4					
Oncoming Left Ref Time (s)	0.0					
Combined (s)	66.9					

Intersection Summary

Intersection Capacity Utilization 55.7% ICU Level of Service B
Reference Times and Phasing Options do not represent an optimized timing plan.

HCM 6th Signalized Intersection Summary
4: I605 SB On-Ramp & Live Oak Avenue

Buildout Year (2028) With Project - Option 1
AM Peak Hour















Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑		
Traffic Volume (veh/h)	387	593	506	1720	0	0
Future Volume (veh/h)	387	593	506	1720	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1600	1600	1600	1600		
Adj Flow Rate, veh/h	407	0	533	1811		
Peak Hour Factor	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	0	0	0	0		
Cap, veh/h	1124		621	2702		
Arrive On Green	0.37	0.00	0.41	0.89		
Sat Flow, veh/h	3120	1356	1524	3120		
Grp Volume(v), veh/h	407	0	533	1811		
Grp Sat Flow(s),veh/h/ln	1520	1356	1524	1520		
Q Serve(g_s), s	3.9	0.0	12.9	6.6		
Cycle Q Clear(g_c), s	3.9	0.0	12.9	6.6		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	1124		621	2702		
V/C Ratio(X)	0.36		0.86	0.67		
Avail Cap(c_a), veh/h	2592		1186	5297		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00		
Uniform Delay (d), s/veh	9.3	0.0	10.9	0.6		
Incr Delay (d2), s/veh	0.2	0.0	3.6	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.0	0.0	3.7	0.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.5	0.0	14.5	0.9		
LnGrp LOS	A		B	A		
Approach Vol, veh/h	407			2344		
Approach Delay, s/veh	9.5			4.0		
Approach LOS	A			A		
Timer - Assigned Phs			3	4		8
Phs Duration (G+Y+Rc), s			21.0	19.5		40.5
Change Period (Y+Rc), s			4.5	4.5		4.5
Max Green Setting (Gmax), s			31.5	34.5		70.5
Max Q Clear Time (g_c+I1), s			14.9	5.9		8.6
Green Ext Time (p_c), s			1.6	2.8		27.3
Intersection Summary						
HCM 6th Ctrl Delay			4.8			
HCM 6th LOS			A			

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

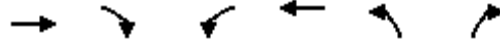
HCM 6th Signalized Intersection Summary
5: I605 NB Off-Ramp & Live Oak Avenue

Buildout Year (2028) With Project - Option 1
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑				↑↑			↑↑
Traffic Volume (veh/h)	0	376	0	0	1296	0	0	0	548	0	0	773
Future Volume (veh/h)	0	376	0	0	1296	0	0	0	548	0	0	773
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1600	0	0	1600	0	0	0	1600	0	0	1600
Adj Flow Rate, veh/h	0	396	0	0	1364	0	0	0	577	0	0	814
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	2441	0	0	2441	0	0	0	0	0	0	0
Arrive On Green	0.00	0.80	0.00	0.00	0.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	3200	0	0	3200	0		0			0	
Grp Volume(v), veh/h	0	396	0	0	1364	0		0.0			0.0	
Grp Sat Flow(s),veh/h/ln	0	1520	0	0	1520	0						
Q Serve(g_s), s	0.0	0.7	0.0	0.0	3.7	0.0						
Cycle Q Clear(g_c), s	0.0	0.7	0.0	0.0	3.7	0.0						
Prop In Lane	0.00		0.00	0.00		0.00						
Lane Grp Cap(c), veh/h	0	2441	0	0	2441	0						
V/C Ratio(X)	0.00	0.16	0.00	0.00	0.56	0.00						
Avail Cap(c_a), veh/h	0	4590	0	0	4590	0						
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00						
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00						
Uniform Delay (d), s/veh	0.0	0.5	0.0	0.0	0.8	0.0						
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.2	0.0						
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0						
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.1	0.0						
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.5	0.0	0.0	1.0	0.0						
LnGrp LOS	A	A	A	A	A	A						
Approach Vol, veh/h		396			1364							
Approach Delay, s/veh		0.5			1.0							
Approach LOS		A			A							
Timer - Assigned Phs				4				8				
Phs Duration (G+Y+Rc), s				22.8				22.8				
Change Period (Y+Rc), s				4.5				4.5				
Max Green Setting (Gmax), s				34.5				34.5				
Max Q Clear Time (g_c+I1), s				2.7				5.7				
Green Ext Time (p_c), s				2.8				12.7				
Intersection Summary												
HCM 6th Ctrl Delay				0.9								
HCM 6th LOS				A								

Intersection Capacity Utilization
6: Graham Road & Live Oak Avenue

Buildout Year (2028) With Project - Option 1
AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	
Volume (vph)	874	82	25	1250	112	28
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No			No	
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	874	82	25	1250	140	0
Lane Utilization Factor	0.95	1.00	1.00	0.95	1.00	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.93	0.85
Saturated Flow (vph)	3046	1360	1520	3046	1490	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	34.4	7.2	2.0	49.2		0.0
Adj Reference Time (s)	38.9	11.7	9.5	53.7		0.0
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	99	
Reference Time A (s)	34.4		29.6	49.2	169.1	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	34.4			49.2		
Adj Reference Time (s)	38.9			53.7		
Split Option						
Ref Time Combined (s)	34.4		2.0	49.2	11.3	
Ref Time Seperate (s)	34.4		2.0	49.2	9.0	
Reference Time (s)	34.4		49.2	49.2	11.3	
Adj Reference Time (s)	38.9		53.7	53.7	15.8	
Summary						
	EB WB		NB		Combined	
Protected Option (s)	53.7		NA			
Permitted Option (s)	53.7		Err			
Split Option (s)	92.7		15.8			
Minimum (s)	53.7		15.8		69.5	
Right Turns						
	EBR					
Adj Reference Time (s)	11.7					
Cross Thru Ref Time (s)	0.0					
Oncoming Left Ref Time (s)	9.5					
Combined (s)	21.2					
Intersection Summary						
Intersection Capacity Utilization		57.9%		ICU Level of Service		B

Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection						
Int Delay, s/veh	9.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	196	687	1147	118	19	120
Future Vol, veh/h	196	687	1147	118	19	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	290	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	213	747	1247	128	21	130
























Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1375	0	-	0	2047 624
Stage 1	-	-	-	-	1247 -
Stage 2	-	-	-	-	800 -
Critical Hdwy	4.1	-	-	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	505	-	-	-	50 433
Stage 1	-	-	-	-	238 -
Stage 2	-	-	-	-	408 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	505	-	-	-	29 433
Mov Cap-2 Maneuver	-	-	-	-	29 -
Stage 1	-	-	-	-	138 -
Stage 2	-	-	-	-	408 -

Approach	EB	WB	SB
HCM Control Delay, s	3.8	0	137.4
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	505	-	-	-	149
HCM Lane V/C Ratio	0.422	-	-	-	1.014
HCM Control Delay (s)	17.2	-	-	-	137.4
HCM Lane LOS	C	-	-	-	F
HCM 95th %tile Q(veh)	2.1	-	-	-	7.7






















Intersection Capacity Utilization
8: Live Oak Avenue & Rivergrade Road

Buildout Year (2028) With Project - Option 1
AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	15	651	44	419	1164	8	50	56	109	11	109	48	
Pedestrians													
Ped Button													
Pedestrian Timing (s)													
Free Right			No			No			No			No	
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	5.0	
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120	
Volume Combined (vph)	15	695	0	419	1164	8	50	56	109	11	109	48	
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Turning Factor (vph)	0.95	0.99	0.85	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85	
Saturated Flow (vph)	1520	3017	0	1520	3046	1360	1520	3046	1360	1520	3046	1360	
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00		
Protected Option Allowed		Yes			Yes			Yes			Yes		
Reference Time (s)	1.2	27.6	0.0	33.1	45.9	0.7	3.9	2.2	9.6	0.9	4.3	4.2	
Adj Reference Time (s)	9.5	32.1	0.0	37.6	50.4	9.5	9.5	9.5	14.1	9.5	9.5	9.5	
Permitted Option													
Adj Saturation A (vph)	101	1509		101	1523		101	1523		101	1523		
Reference Time A (s)	17.8	27.6		496.2	45.9		59.2	2.2		13.0	4.3		
Adj Saturation B (vph)	NA	NA		NA	NA		0	3046		0	3046		
Reference Time B (s)	NA	NA		NA	NA		11.9	2.2		8.9	4.3		
Reference Time (s)		27.6			496.2			11.9			8.9		
Adj Reference Time (s)		32.1			500.7			16.4			13.4		
Split Option													
Ref Time Combined (s)	1.2	27.6		33.1	45.9		3.9	2.2		0.9	4.3		
Ref Time Seperate (s)	1.2	25.9		33.1	45.9		3.9	2.2		0.9	4.3		
Reference Time (s)	27.6	27.6		45.9	45.9		3.9	3.9		4.3	4.3		
Adj Reference Time (s)	32.1	32.1		50.4	50.4		9.5	9.5		9.5	9.5		
Summary													
	EB WB		NB SB		Combined								
Protected Option (s)	69.7		19.0										
Permitted Option (s)	500.7		16.4										
Split Option (s)	82.5		19.0										
Minimum (s)	69.7		16.4		86.2								
Right Turns													
	WBR		NBR		SBR								
Adj Reference Time (s)	9.5		14.1		9.5								
Cross Thru Ref Time (s)	9.5		32.1		50.4								
Oncoming Left Ref Time (s)	9.5		9.5		9.5								
Combined (s)	28.5		55.8		69.4								
Intersection Summary													
Intersection Capacity Utilization			71.8%		ICU Level of Service				C				
Reference Times and Phasing Options do not represent an optimized timing plan.													

Intersection Capacity Utilization
9: Stewart Avenue & Live Oak Avenue

Buildout Year (2028) With Project - Option 1
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	627	44	27	1630	21	214	91	33	7	36	35
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	30	627	44	27	1651	0	0	338	0	7	36	35
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	0.95	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1520	3046	1360	1520	4350	0	0	1527	0	1520	1600	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			No			No	
Reference Time (s)	2.4	24.7	3.9	2.1	45.5	0.0			0.0			3.1
Adj Reference Time (s)	9.5	29.2	9.5	9.5	50.0	0.0			0.0			9.5
Permitted Option												
Adj Saturation A (vph)	101	1523		101	1450		0	143		1064	1600	
Reference Time A (s)	35.5	24.7		32.0	45.5		0.0	283.6		0.8	2.7	
Adj Saturation B (vph)	NA	NA		NA	NA		0	0		NA	NA	
Reference Time B (s)	NA	NA		NA	NA		24.9	34.6		NA	NA	
Reference Time (s)		35.5			45.5			34.6			2.7	
Adj Reference Time (s)		40.0			50.0			39.1			9.5	
Split Option												
Ref Time Combined (s)	2.4	24.7		2.1	45.5		0.0	26.6		0.6	2.7	
Ref Time Separate (s)	2.4	24.7		2.1	45.0		16.9	7.1		0.6	2.7	
Reference Time (s)	24.7	24.7		45.5	45.5		26.6	26.6		2.7	2.7	
Adj Reference Time (s)	29.2	29.2		50.0	50.0		31.1	31.1		9.5	9.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	59.5		NA									
Permitted Option (s)	50.0		39.1									
Split Option (s)	79.2		40.6									
Minimum (s)	50.0		39.1		89.1							
Right Turns												
	EBR		SBR									
Adj Reference Time (s)	9.5		9.5									
Cross Thru Ref Time (s)	9.5		50.0									
Oncoming Left Ref Time (s)	9.5		31.1									
Combined (s)	28.5		90.6									
Intersection Summary												
Intersection Capacity Utilization			75.5%		ICU Level of Service				D			
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
10: Baldwin Park Boulevard & Live Oak Avenue

Buildout Year (2028) With Project - Option 1
AM Peak Hour



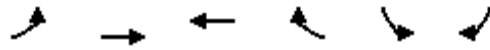
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Volume (vph)	579	106	188	1336	352	244
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No			No	
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	579	106	188	1336	352	244
Lane Utilization Factor	0.95	1.00	1.00	0.95	0.97	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	1360	1520	3046	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	22.8	9.4	14.8	52.6		21.5
Adj Reference Time (s)	27.3	13.9	19.3	57.1		26.0
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	154	
Reference Time A (s)	22.8		222.6	52.6	137.4	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	22.8			222.6		
Adj Reference Time (s)	27.3			227.1		
Split Option						
Ref Time Combined (s)	22.8		14.8	52.6	9.2	
Ref Time Seperate (s)	22.8		14.8	52.6	9.2	
Reference Time (s)	22.8		52.6	52.6	9.2	
Adj Reference Time (s)	27.3		57.1	57.1	13.7	
Summary						
	EB WB		NB		Combined	
Protected Option (s)	57.1		NA			
Permitted Option (s)	227.1		Err			
Split Option (s)	84.4		13.7			
Minimum (s)	57.1		13.7		70.8	
Right Turns						
	EBR	NBR				
Adj Reference Time (s)	13.9	26.0				
Cross Thru Ref Time (s)	0.0	27.3				
Oncoming Left Ref Time (s)	19.3	0.0				
Combined (s)	33.2	53.3				

Intersection Summary

Intersection Capacity Utilization 59.0% ICU Level of Service B
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
11: Live Oak Avenue & Arrow Highway

Buildout Year (2028) With Project - Option 1
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	100	708	1455	1863	535	60
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				Yes		No
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.0	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	4.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	100	708	1455	1863	535	60
Lane Utilization Factor	1.00	0.91	0.95	1.00	0.97	1.00
Turning Factor (vph)	0.95	1.00	1.00	0.85	0.95	0.85
Saturated Flow (vph)	1520	4358	3046	1360	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	7.9	19.5	57.3	164.4		5.3
Adj Reference Time (s)	12.4	24.0	61.8	168.4		9.8
Permitted Option						
Adj Saturation A (vph)	101	1453	1523		154	
Reference Time A (s)	118.4	19.5	57.3		208.8	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		118.4	57.3			
Adj Reference Time (s)		122.9	61.8			
Split Option						
Ref Time Combined (s)	7.9	19.5	57.3		13.9	
Ref Time Seperate (s)	7.9	19.5	57.3		13.9	
Reference Time (s)	19.5	19.5	57.3		13.9	
Adj Reference Time (s)	24.0	24.0	61.8		18.4	
Summary						
	EB WB		SB		Combined	
Protected Option (s)	74.2		NA			
Permitted Option (s)	122.9		Err			
Split Option (s)	85.8		18.4			
Minimum (s)	74.2		18.4		92.6	
Right Turns						
	WBR	SBR				
Adj Reference Time (s)	168.4	9.8				
Cross Thru Ref Time (s)	0.0	61.8				
Oncoming Left Ref Time (s)	0.0	0.0				
Combined (s)	168.4	71.6				

Intersection Summary

Intersection Capacity Utilization 77.2% ICU Level of Service D
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
12: Rivergrade Road & Arrow Highway

Buildout Year (2028) With Project - Option 1
AM Peak Hour



Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↑↑	↑	↑	↑↑	↑↑	↑
Volume (vph)	522	204	34	2117	192	11
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No				No
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	522	204	34	2117	192	11
Lane Utilization Factor	0.95	1.00	1.00	0.95	0.97	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	1360	1520	3046	2952	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	20.6	18.0	2.7	83.4		1.0
Adj Reference Time (s)	25.1	22.5	9.5	87.9		9.5
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	98	
Reference Time A (s)	20.6		40.3	83.4	117.1	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	20.6			83.4		
Adj Reference Time (s)	25.1			87.9		
Split Option						
Ref Time Combined (s)	20.6		2.7	83.4	7.8	
Ref Time Seperate (s)	20.6		2.7	83.4	7.8	
Reference Time (s)	20.6		83.4	83.4	7.8	
Adj Reference Time (s)	25.1		87.9	87.9	12.3	
Summary						
	NW	SE	NE	Combined		
Protected Option (s)	87.9		NA			
Permitted Option (s)	87.9		Err			
Split Option (s)	113.0		12.3			
Minimum (s)	87.9		12.3	100.2		
Right Turns						
	SER	NER				
Adj Reference Time (s)	22.5	9.5				
Cross Thru Ref Time (s)	0.0	25.1				
Oncoming Left Ref Time (s)	9.5	0.0				
Combined (s)	32.0	34.6				

Intersection Summary

Intersection Capacity Utilization 83.5% ICU Level of Service E
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
13: San Gabriel River Trail & Arrow Highway

Buildout Year (2028) With Project - Option 1
AM Peak Hour



Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↑↑			↑↑		
Volume (vph)	846	0	0	2263	0	0
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No				No
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.0	4.0	4.5	4.0	4.0
Minimum Green (s)	5.0	4.0	4.0	5.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	846	0	0	2263	0	0
Lane Utilization Factor	0.95	1.00	1.00	0.95	1.00	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	0	0	3046	0	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	33.3	0.0	0.0	89.1		0.0
Adj Reference Time (s)	37.8	0.0	0.0	93.6		0.0
Permitted Option						
Adj Saturation A (vph)	1523		0	1523	0	
Reference Time A (s)	33.3		0.0	89.1	0.0	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	33.3			89.1		
Adj Reference Time (s)	37.8			93.6		
Split Option						
Ref Time Combined (s)	33.3		0.0	89.1	0.0	
Ref Time Seperate (s)	33.3		0.0	89.1	0.0	
Reference Time (s)	33.3		89.1	89.1	0.0	
Adj Reference Time (s)	37.8		93.6	93.6	0.0	
Summary	NW SE		NE		Combined	
Protected Option (s)	93.6		NA			
Permitted Option (s)	93.6		Err			
Split Option (s)	131.5		0.0			
Minimum (s)	93.6		0.0		93.6	
Right Turns						
Adj Reference Time (s)						
Cross Thru Ref Time (s)						
Oncoming Left Ref Time (s)						
Combined (s)						

Intersection Summary

Intersection Capacity Utilization 78.0% ICU Level of Service D
Reference Times and Phasing Options do not represent an optimized timing plan.

HCM 6th TWSC
15: Live Oak Lane & Arrow Highway

Buildout Year (2028) With Project - Option 1
AM Peak Hour

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	782	36	0	1763	0	45
Future Vol, veh/h	782	36	0	1763	0	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	850	39	0	1916	0	49

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	-	-	-	445
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	0	566
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	566
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	12
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	566	-	-	-
HCM Lane V/C Ratio	0.086	-	-	-
HCM Control Delay (s)	12	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-

HCM 6th Signalized Intersection Summary
 17: Arrow Highway & I605 SB Off-Ramp

Buildout Year (2028) With Project - Option 1
 AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↘	↗
Traffic Volume (veh/h)	0	801	1769	0	351	583
Future Volume (veh/h)	0	801	1769	0	351	583
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1600	1600	0	1600	1600
Adj Flow Rate, veh/h	0	843	1862	0	369	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	0	1899	1899	0	400	
Arrive On Green	0.00	0.62	0.62	0.00	0.26	0.00
Sat Flow, veh/h	0	3200	3200	0	1524	1356
Grp Volume(v), veh/h	0	843	1862	0	369	0
Grp Sat Flow(s),veh/h/ln	0	1520	1520	0	1524	1356
Q Serve(g_s), s	0.0	11.5	47.4	0.0	18.8	0.0
Cycle Q Clear(g_c), s	0.0	11.5	47.4	0.0	18.8	0.0
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1899	1899	0	400	
V/C Ratio(X)	0.00	0.44	0.98	0.00	0.92	
Avail Cap(c_a), veh/h	0	1901	1901	0	400	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	7.8	14.5	0.0	28.7	0.0
Incr Delay (d2), s/veh	0.0	0.2	16.2	0.0	29.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.2	17.3	0.0	9.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	8.0	30.7	0.0	57.8	0.0
LnGrp LOS	A	A	C	A	E	
Approach Vol, veh/h		843	1862		369	
Approach Delay, s/veh		8.0	30.7		57.8	
Approach LOS		A	C		E	
Timer - Assigned Phs				4	6	8
Phs Duration (G+Y+Rc), s				54.5	25.5	54.5
Change Period (Y+Rc), s				4.5	4.5	4.5
Max Green Setting (Gmax), s				50.0	21.0	50.0
Max Q Clear Time (g_c+I1), s				13.5	20.8	49.4
Green Ext Time (p_c), s				7.1	0.0	0.5

Intersection Summary



























HCM 6th Ctrl Delay	27.7
HCM 6th LOS	C

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection Capacity Utilization
18: Arrow Highway & Avenida Barbosa

Buildout Year (2028) With Project - Option 1
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 					 		
Volume (vph)	349	529	1	307	1751	680	1	9	101	255	21	194
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	2500	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	349	530	0	307	1751	680	1	9	101	255	21	194
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1520	4357	0	1520	4358	1360	1520	1600	1360	4612	1600	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			Yes			Yes	
Reference Time (s)	27.6	14.6	0.0	24.2	48.2	60.0	0.1	0.7	8.9	6.6	1.6	17.1
Adj Reference Time (s)	32.1	19.1	0.0	28.7	52.7	64.5	9.5	9.5	13.4	11.1	9.5	21.6
Permitted Option												
Adj Saturation A (vph)	101	1452		101	1453		101	1600		154	1600	
Reference Time A (s)	413.3	14.6		363.6	48.2		1.2	0.7		99.5	1.6	
Adj Saturation B (vph)	NA	NA		NA	NA		0	1600		0	1600	
Reference Time B (s)	NA	NA		NA	NA		8.1	0.7		14.6	1.6	
Reference Time (s)		413.3			363.6			1.2			14.6	
Adj Reference Time (s)		417.8			368.1			9.5			19.1	
Split Option												
Ref Time Combined (s)	27.6	14.6		24.2	48.2		0.1	0.7		6.6	1.6	
Ref Time Seperate (s)	27.6	14.6		24.2	48.2		0.1	0.7		6.6	1.6	
Reference Time (s)	27.6	27.6		48.2	48.2		0.7	0.7		6.6	6.6	
Adj Reference Time (s)	32.1	32.1		52.7	52.7		9.5	9.5		11.1	11.1	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	84.8		20.6									
Permitted Option (s)	417.8		19.1									
Split Option (s)	84.8		20.6									
Minimum (s)	84.8		19.1		103.9							
Right Turns												
	WBR	NBR	SBR									
Adj Reference Time (s)	64.5	13.4	21.6									
Cross Thru Ref Time (s)	9.5	19.1	52.7									
Oncoming Left Ref Time (s)	32.1	11.1	9.5									
Combined (s)	106.1	43.6	83.8									
Intersection Summary												
Intersection Capacity Utilization	88.4%		ICU Level of Service		E							
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
19: Valley Oak Lane & Arrow Highway

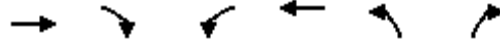
Buildout Year (2028) With Project - Option 1
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↕			↕	
Volume (vph)	0	751	1	48	1978	20	1	0	6	0	0	10
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	752	0	48	1998	0	0	7	0	0	10	0
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	0.87	0.85	0.95	0.85	0.85
Saturated Flow (vph)	1520	4358	0	1520	4352	0	0	1384	0	0	1360	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			No			No	
Reference Time (s)	0.0	20.7	0.0	3.8	55.1	0.0			0.0			0.0
Adj Reference Time (s)	9.5	25.2	0.0	9.5	59.6	0.0			0.0			0.0
Permitted Option												
Adj Saturation A (vph)	101	1453		101	1451		0	441		0	1360	
Reference Time A (s)	0.0	20.7		56.8	55.1		0.0	1.9		0.0	0.9	
Adj Saturation B (vph)	NA	NA		NA	NA		0	0		0	1360	
Reference Time B (s)	NA	NA		NA	NA		8.1	8.6		0.0	0.9	
Reference Time (s)		20.7			56.8			1.9			0.9	
Adj Reference Time (s)		25.2			61.3			9.5			9.5	
Split Option												
Ref Time Combined (s)	0.0	20.7		3.8	55.1		0.0	0.6		0.0	0.9	
Ref Time Seperate (s)	0.0	20.7		3.8	54.5		0.1	0.0		0.0	0.0	
Reference Time (s)	20.7	20.7		55.1	55.1		0.6	0.6		0.9	0.9	
Adj Reference Time (s)	25.2	25.2		59.6	59.6		9.5	9.5		9.5	9.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	69.1		NA									
Permitted Option (s)	61.3		9.5									
Split Option (s)	84.8		19.0									
Minimum (s)	61.3		9.5		70.8							
Right Turns												
Adj Reference Time (s)												
Cross Thru Ref Time (s)												
Oncoming Left Ref Time (s)												
Combined (s)												
Intersection Summary												
Intersection Capacity Utilization			59.0%		ICU Level of Service		B					
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
1: Live Oak Avenue & Arrow Highway

Buildout Year (2028) With Project - Option 1
PM Peak Hour

























Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↑	↑↑↑	↑↑	↑
Volume (vph)	980	1961	344	673	811	105
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		Yes				No
Ideal Flow	1600	1600	2500	1600	2500	1600
Lost Time (s)	4.5	4.0	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	4.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1634	1307	344	673	811	105
Lane Utilization Factor	0.91	1.00	0.97	0.91	0.97	1.00
Turning Factor (vph)	0.94	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	4097	1360	4612	4358	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	47.9	115.4	9.0	18.5		9.3
Adj Reference Time (s)	52.4	119.4	13.5	23.0		13.8
Permitted Option						
Adj Saturation A (vph)	1366		154	1453	154	
Reference Time A (s)	47.9		134.3	18.5	316.5	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	47.9			134.3		
Adj Reference Time (s)	52.4			138.8		
Split Option						
Ref Time Combined (s)	47.9		9.0	18.5	21.1	
Ref Time Seperate (s)	28.7		9.0	18.5	21.1	
Reference Time (s)	47.9		18.5	18.5	21.1	
Adj Reference Time (s)	52.4		23.0	23.0	25.6	
Summary	EB WB		NB		Combined	
Protected Option (s)	65.8		NA			
Permitted Option (s)	138.8		Err			
Split Option (s)	75.4		25.6			
Minimum (s)	65.8		25.6		91.4	
Right Turns	EBR	NBR				
Adj Reference Time (s)	119.4	13.8				
Cross Thru Ref Time (s)	0.0	52.4				
Oncoming Left Ref Time (s)	0.0	0.0				
Combined (s)	119.4	66.1				

Intersection Summary

Intersection Capacity Utilization 76.2% ICU Level of Service D
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
2: Speedway Drive & Live Oak Ave

Buildout Year (2028) With Project - Option 1
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Volume (vph)	71	2149	86	86	972	85	113	0	112	99	0	58
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right	No			No			No			No		
Ideal Flow	1600	1600	1600	1600	1600	1600	2500	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.0	4.5	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	71	2235	0	86	1057	0	113	0	112	99	58	0
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.99	0.85	0.95	0.99	0.85	0.95	1.00	0.85	0.95	0.85	0.85
Saturated Flow (vph)	1520	4333	0	1520	4306	0	4612	0	1360	1520	1360	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00			0.00			0.00		
Protected Option Allowed	Yes			Yes			Yes			Yes		
Reference Time (s)	5.6	61.9	0.0	6.8	29.5	0.0	2.9	0.0	9.9	7.8	5.1	0.0
Adj Reference Time (s)	10.1	66.4	0.0	11.3	34.0	0.0	9.5	0.0	14.4	12.3	9.6	0.0
Permitted Option												
Adj Saturation A (vph)	101	1444		101	1435		154	0		101	1360	
Reference Time A (s)	84.1	61.9		101.8	29.5		44.1	0.0		117.2	5.1	
Adj Saturation B (vph)	NA	NA		NA	NA		0	0		0	1360	
Reference Time B (s)	NA	NA		NA	NA		10.9	0.0		15.8	5.1	
Reference Time (s)		84.1			101.8			10.9			15.8	
Adj Reference Time (s)		88.6			106.3			14.9			20.3	
Split Option												
Ref Time Combined (s)	5.6	61.9		6.8	29.5		2.9	0.0		7.8	5.1	
Ref Time Seperate (s)	5.6	59.5		6.8	27.1		2.9	0.0		7.8	0.0	
Reference Time (s)	61.9	61.9		29.5	29.5		2.9	2.9		7.8	7.8	
Adj Reference Time (s)	66.4	66.4		34.0	34.0		8.0	8.0		12.3	12.3	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	77.7		19.1									
Permitted Option (s)	106.3		20.3									
Split Option (s)	100.4		20.3									
Minimum (s)	77.7		19.1		96.8							
Right Turns												
	NBR											
Adj Reference Time (s)	14.4											
Cross Thru Ref Time (s)	66.4											
Oncoming Left Ref Time (s)	12.3											
Combined (s)	93.1											
Intersection Summary												
Intersection Capacity Utilization	80.7%		ICU Level of Service						D			
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
3: Live Oak Avenue & Spanish Oak Drive

Buildout Year (2028) With Project - Option 1
PM Peak Hour



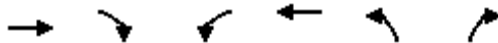
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑↑	↑↑↑↗		↙	↘
Volume (vph)	4	2151	1055	150	253	11
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.0	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	4.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	4	2151	1205	0	253	11
Lane Utilization Factor	1.00	0.91	0.91	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.98	0.85	0.95	0.85
Saturated Flow (vph)	1520	4358	4277	0	1520	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	0.3	59.2	33.8	0.0		1.0
Adj Reference Time (s)	9.5	63.7	38.3	0.0		9.5
Permitted Option						
Adj Saturation A (vph)	101	1453	1426		101	
Reference Time A (s)	4.7	59.2	33.8		299.6	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		59.2	33.8			
Adj Reference Time (s)		63.7	38.3			
Split Option						
Ref Time Combined (s)	0.3	59.2	33.8		20.0	
Ref Time Seperate (s)	0.3	59.2	29.6		20.0	
Reference Time (s)	59.2	59.2	33.8		20.0	
Adj Reference Time (s)	63.7	63.7	38.3		24.5	
Summary	EB WB		SB		Combined	
Protected Option (s)	63.7		NA			
Permitted Option (s)	63.7		Err			
Split Option (s)	102.0		24.5			
Minimum (s)	63.7		24.5		88.2	
Right Turns	SBR					
Adj Reference Time (s)	9.5					
Cross Thru Ref Time (s)	38.3					
Oncoming Left Ref Time (s)	0.0					
Combined (s)	47.8					

Intersection Summary

Intersection Capacity Utilization 73.5% ICU Level of Service D
Reference Times and Phasing Options do not represent an optimized timing plan.

HCM 6th Signalized Intersection Summary
4: I605 SB On-Ramp & Live Oak Avenue

Buildout Year (2028) With Project - Option 1
PM Peak Hour















Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑		
Traffic Volume (veh/h)	818	1005	504	1076	0	0
Future Volume (veh/h)	818	1005	504	1076	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1600	1600	1600	1600		
Adj Flow Rate, veh/h	861	0	531	1133		
Peak Hour Factor	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	0	0	0	0		
Cap, veh/h	1284		605	2765		
Arrive On Green	0.42	0.00	0.40	0.91		
Sat Flow, veh/h	3120	1356	1524	3120		
Grp Volume(v), veh/h	861	0	531	1133		
Grp Sat Flow(s),veh/h/ln	1520	1356	1524	1520		
Q Serve(g_s), s	11.4	0.0	16.0	2.7		
Cycle Q Clear(g_c), s	11.4	0.0	16.0	2.7		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	1284		605	2765		
V/C Ratio(X)	0.67		0.88	0.41		
Avail Cap(c_a), veh/h	4554		1118	7060		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00		
Uniform Delay (d), s/veh	11.6	0.0	13.9	0.3		
Incr Delay (d2), s/veh	0.6	0.0	4.3	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.2	0.0	5.2	0.0		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.2	0.0	18.2	0.4		
LnGrp LOS	B		B	A		
Approach Vol, veh/h	861			1664		
Approach Delay, s/veh	12.2			6.1		
Approach LOS	B			A		
Timer - Assigned Phs			3	4		8
Phs Duration (G+Y+Rc), s			24.2	25.5		49.7
Change Period (Y+Rc), s			4.5	4.5		4.5
Max Green Setting (Gmax), s			36.5	74.5		115.5
Max Q Clear Time (g_c+I1), s			18.0	13.4		4.7
Green Ext Time (p_c), s			1.7	7.6		11.8
Intersection Summary						
HCM 6th Ctrl Delay			8.2			
HCM 6th LOS			A			

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
5: I605 NB Off-Ramp & Live Oak Avenue

Buildout Year (2028) With Project - Option 1
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑				↑↑			↑↑
Traffic Volume (veh/h)	0	796	0	0	975	0	0	0	692	0	0	589
Future Volume (veh/h)	0	796	0	0	975	0	0	0	692	0	0	589
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1600	0	0	1600	0	0	0	1600	0	0	1600
Adj Flow Rate, veh/h	0	838	0	0	1026	0	0	0	728	0	0	620
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	2132	0	0	2132	0	0	0	0	0	0	0
Arrive On Green	0.00	0.70	0.00	0.00	0.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	3200	0	0	3200	0		0			0	
Grp Volume(v), veh/h	0	838	0	0	1026	0		0.0			0.0	
Grp Sat Flow(s),veh/h/ln	0	1520	0	0	1520	0						
Q Serve(g_s), s	0.0	1.7	0.0	0.0	2.3	0.0						
Cycle Q Clear(g_c), s	0.0	1.7	0.0	0.0	2.3	0.0						
Prop In Lane	0.00		0.00	0.00		0.00						
Lane Grp Cap(c), veh/h	0	2132	0	0	2132	0						
V/C Ratio(X)	0.00	0.39	0.00	0.00	0.48	0.00						
Avail Cap(c_a), veh/h	0	3733	0	0	3733	0						
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00						
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00						
Uniform Delay (d), s/veh	0.0	0.9	0.0	0.0	1.0	0.0						
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.2	0.0						
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0						
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.1	0.0						
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	1.0	0.0	0.0	1.2	0.0						
LnGrp LOS	A	A	A	A	A	A						
Approach Vol, veh/h		838			1026							
Approach Delay, s/veh		1.0			1.2							
Approach LOS		A			A							
Timer - Assigned Phs				4				8				
Phs Duration (G+Y+Rc), s				15.1				15.1				
Change Period (Y+Rc), s				4.5				4.5				
Max Green Setting (Gmax), s				18.5				18.5				
Max Q Clear Time (g_c+I1), s				3.7				4.3				
Green Ext Time (p_c), s				5.1				6.3				
Intersection Summary												
HCM 6th Ctrl Delay				1.1								
HCM 6th LOS				A								

Intersection Capacity Utilization
6: Graham Road & Live Oak Avenue

Buildout Year (2028) With Project - Option 1
PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	
Volume (vph)	1536	37	0	951	18	25
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No				No
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1536	37	0	951	43	0
Lane Utilization Factor	0.95	1.00	1.00	0.95	1.00	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.89	0.85
Saturated Flow (vph)	3046	1360	1520	3046	1430	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	60.5	3.3	0.0	37.5		0.0
Adj Reference Time (s)	65.0	9.5	9.5	42.0		0.0
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	95	
Reference Time A (s)	60.5		0.0	37.5	54.1	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	60.5			37.5		
Adj Reference Time (s)	65.0			42.0		
Split Option						
Ref Time Combined (s)	60.5		0.0	37.5	3.6	
Ref Time Seperate (s)	60.5		0.0	37.5	1.5	
Reference Time (s)	60.5		37.5	37.5	3.6	
Adj Reference Time (s)	65.0		42.0	42.0	9.5	
Summary	EB WB		NB		Combined	
Protected Option (s)	74.5		NA			
Permitted Option (s)	65.0		Err			
Split Option (s)	107.0		9.5			
Minimum (s)	65.0		9.5		74.5	
Right Turns	EBR					
Adj Reference Time (s)	9.5					
Cross Thru Ref Time (s)	0.0					
Oncoming Left Ref Time (s)	0.0					
Combined (s)	9.5					

Intersection Summary

Intersection Capacity Utilization 62.1% ICU Level of Service B
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection						
Int Delay, s/veh	16.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	69	1481	810	34	56	144
Future Vol, veh/h	69	1481	810	34	56	144
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	290	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	75	1610	880	37	61	157
























Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	917	0	-	0	1835 440
Stage 1	-	-	-	-	880 -
Stage 2	-	-	-	-	955 -
Critical Hdwy	4.1	-	-	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	752	-	-	-	69 570
Stage 1	-	-	-	-	371 -
Stage 2	-	-	-	-	339 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	752	-	-	-	62 570
Mov Cap-2 Maneuver	-	-	-	-	62 -
Stage 1	-	-	-	-	334 -
Stage 2	-	-	-	-	339 -

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	206.4
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	752	-	-	-	173
HCM Lane V/C Ratio	0.1	-	-	-	1.257
HCM Control Delay (s)	10.3	-	-	-	206.4
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	0.3	-	-	-	12.2






















Intersection Capacity Utilization
8: Live Oak Avenue & Rivergrade Road

Buildout Year (2028) With Project - Option 1
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	13	1462	51	109	720	20	62	69	231	15	27	42
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	13	1513	0	109	720	20	62	69	231	15	27	42
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Turning Factor (vph)	0.95	0.99	0.85	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1520	3031	0	1520	3046	1360	1520	3046	1360	1520	3046	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			Yes			Yes	
Reference Time (s)	1.0	59.9	0.0	8.6	28.4	1.8	4.9	2.7	20.4	1.2	1.1	3.7
Adj Reference Time (s)	9.5	64.4	0.0	13.1	32.9	9.5	9.5	9.5	24.9	9.5	9.5	9.5
Permitted Option												
Adj Saturation A (vph)	101	1515		101	1523		101	1523		101	1523	
Reference Time A (s)	15.4	59.9		129.1	28.4		73.4	2.7		17.8	1.1	
Adj Saturation B (vph)	NA	NA		NA	NA		0	3046		0	3046	
Reference Time B (s)	NA	NA		NA	NA		12.9	2.7		9.2	1.1	
Reference Time (s)		59.9			129.1			12.9			9.2	
Adj Reference Time (s)		64.4			133.6			17.4			13.7	
Split Option												
Ref Time Combined (s)	1.0	59.9		8.6	28.4		4.9	2.7		1.2	1.1	
Ref Time Seperate (s)	1.0	57.9		8.6	28.4		4.9	2.7		1.2	1.1	
Reference Time (s)	59.9	59.9		28.4	28.4		4.9	4.9		1.2	1.2	
Adj Reference Time (s)	64.4	64.4		32.9	32.9		9.5	9.5		9.5	9.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	77.5		19.0									
Permitted Option (s)	133.6		17.4									
Split Option (s)	97.3		19.0									
Minimum (s)	77.5		17.4		94.9							
Right Turns												
	WBR		NBR		SBR							
Adj Reference Time (s)	9.5		24.9		9.5							
Cross Thru Ref Time (s)	9.5		64.4		32.9							
Oncoming Left Ref Time (s)	9.5		9.5		9.5							
Combined (s)	28.5		98.8		51.9							
Intersection Summary												
Intersection Capacity Utilization			82.3%		ICU Level of Service		E					
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
9: Stewart Avenue & Live Oak Avenue

Buildout Year (2028) With Project - Option 1
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	53	1461	321	35	753	17	43	36	25	31	147	8
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	53	1461	321	35	770	0	0	104	0	31	147	8
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	0.94	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1520	3046	1360	1520	4344	0	0	1510	0	1520	1600	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			No			No	
Reference Time (s)	4.2	57.5	28.3	2.8	21.3	0.0			0.0			0.7
Adj Reference Time (s)	9.5	62.0	32.8	9.5	25.8	0.0			0.0			9.5
Permitted Option												
Adj Saturation A (vph)	101	1523		101	1448		0	203		730	1600	
Reference Time A (s)	62.8	57.5		41.4	21.3		0.0	61.4		5.1	11.0	
Adj Saturation B (vph)	NA	NA		NA	NA		NA	NA		0	1600	
Reference Time B (s)	NA	NA		NA	NA		NA	NA		10.4	11.0	
Reference Time (s)		62.8			41.4			61.4			11.0	
Adj Reference Time (s)		67.3			45.9			65.9			15.5	
Split Option												
Ref Time Combined (s)	4.2	57.5		2.8	21.3		0.0	8.3		2.4	11.0	
Ref Time Seperate (s)	4.2	57.5		2.8	20.8		3.4	2.9		2.4	11.0	
Reference Time (s)	57.5	57.5		21.3	21.3		8.3	8.3		11.0	11.0	
Adj Reference Time (s)	62.0	62.0		25.8	25.8		12.8	12.8		15.5	15.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	71.5		NA									
Permitted Option (s)	67.3		65.9									
Split Option (s)	87.8		28.3									
Minimum (s)	67.3		28.3		95.6							
Right Turns												
	EBR		SBR									
Adj Reference Time (s)	32.8		9.5									
Cross Thru Ref Time (s)	15.5		25.8									
Oncoming Left Ref Time (s)	9.5		12.8									
Combined (s)	57.8		48.0									
Intersection Summary												
Intersection Capacity Utilization			79.6%		ICU Level of Service				D			
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
10: Baldwin Park Boulevard & Live Oak Avenue

Buildout Year (2028) With Project - Option 1
PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Volume (vph)	1224	383	339	699	108	190
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No			No	
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1224	383	339	699	108	190
Lane Utilization Factor	0.95	1.00	1.00	0.95	0.97	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	1360	1520	3046	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	48.2	33.8	26.8	27.5		16.8
Adj Reference Time (s)	52.7	38.3	31.3	32.0		21.3
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	154	
Reference Time A (s)	48.2		401.4	27.5	42.1	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	48.2			401.4		
Adj Reference Time (s)	52.7			405.9		
Split Option						
Ref Time Combined (s)	48.2		26.8	27.5	2.8	
Ref Time Seperate (s)	48.2		26.8	27.5	2.8	
Reference Time (s)	48.2		27.5	27.5	2.8	
Adj Reference Time (s)	52.7		32.0	32.0	9.5	
Summary						
	EB WB		NB		Combined	
Protected Option (s)	84.0		NA			
Permitted Option (s)	405.9		Err			
Split Option (s)	84.7		9.5			
Minimum (s)	84.0		9.5		93.5	
Right Turns						
	EBR	NBR				
Adj Reference Time (s)	38.3	21.3				
Cross Thru Ref Time (s)	0.0	52.7				
Oncoming Left Ref Time (s)	31.3	0.0				
Combined (s)	69.6	74.0				

Intersection Summary

Intersection Capacity Utilization 77.9% ICU Level of Service D
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
11: Live Oak Avenue & Arrow Highway

Buildout Year (2028) With Project - Option 1
PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↵	↑↑↑	↑↑	↵	↵↵	↵
Volume (vph)	72	1324	855	551	1127	153
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				Yes		No
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.0	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	4.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	72	1324	855	551	1127	153
Lane Utilization Factor	1.00	0.91	0.95	1.00	0.97	1.00
Turning Factor (vph)	0.95	1.00	1.00	0.85	0.95	0.85
Saturated Flow (vph)	1520	4358	3046	1360	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	5.7	36.5	33.7	48.6		13.5
Adj Reference Time (s)	10.2	41.0	38.2	52.6		18.0
Permitted Option						
Adj Saturation A (vph)	101	1453	1523		154	
Reference Time A (s)	85.3	36.5	33.7		439.8	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		85.3	33.7			
Adj Reference Time (s)		89.8	38.2			
Split Option						
Ref Time Combined (s)	5.7	36.5	33.7		29.3	
Ref Time Seperate (s)	5.7	36.5	33.7		29.3	
Reference Time (s)	36.5	36.5	33.7		29.3	
Adj Reference Time (s)	41.0	41.0	38.2		33.8	
Summary						
	EB WB		SB		Combined	
Protected Option (s)	48.4		NA			
Permitted Option (s)	89.8		Err			
Split Option (s)	79.1		33.8			
Minimum (s)	48.4		33.8		82.2	
Right Turns						
	WBR	SBR				
Adj Reference Time (s)	52.6	18.0				
Cross Thru Ref Time (s)	0.0	38.2				
Oncoming Left Ref Time (s)	0.0	0.0				
Combined (s)	52.6	56.2				

Intersection Summary

Intersection Capacity Utilization 68.5% ICU Level of Service C
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
12: Rivergrade Road & Arrow Highway

Buildout Year (2028) With Project - Option 1
PM Peak Hour



Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↑↑	↑	↵	↑↑	↵↵	↵
Volume (vph)	1371	143	46	583	169	18
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No				No
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1371	143	46	583	169	18
Lane Utilization Factor	0.95	1.00	1.00	0.95	0.97	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	1360	1520	3046	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	54.0	12.6	3.6	23.0		1.6
Adj Reference Time (s)	58.5	17.1	9.5	27.5		9.5
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	154	
Reference Time A (s)	54.0		54.5	23.0	66.0	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	54.0			54.5		
Adj Reference Time (s)	58.5			59.0		
Split Option						
Ref Time Combined (s)	54.0		3.6	23.0	4.4	
Ref Time Seperate (s)	54.0		3.6	23.0	4.4	
Reference Time (s)	54.0		23.0	23.0	4.4	
Adj Reference Time (s)	58.5		27.5	27.5	9.5	
Summary						
	NW	SE	NE	Combined		
Protected Option (s)	68.0		NA			
Permitted Option (s)	59.0		Err			
Split Option (s)	86.0		9.5			
Minimum (s)	59.0		9.5	68.5		
Right Turns						
	SER	NER				
Adj Reference Time (s)	17.1	9.5				
Cross Thru Ref Time (s)	0.0	58.5				
Oncoming Left Ref Time (s)	9.5	0.0				
Combined (s)	26.6	68.0				

Intersection Summary

Intersection Capacity Utilization 57.1% ICU Level of Service B
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
13: San Gabriel River Trail & Arrow Highway

Buildout Year (2028) With Project - Option 1
PM Peak Hour



Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↑↑			↑↑		
Volume (vph)	1543	0	0	777	0	0
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No				No
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.0	4.0	4.5	4.0	4.0
Minimum Green (s)	5.0	4.0	4.0	5.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1543	0	0	777	0	0
Lane Utilization Factor	0.95	1.00	1.00	0.95	1.00	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	0	0	3046	0	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	60.8	0.0	0.0	30.6		0.0
Adj Reference Time (s)	65.3	0.0	0.0	35.1		0.0
Permitted Option						
Adj Saturation A (vph)	1523		0	1523	0	
Reference Time A (s)	60.8		0.0	30.6	0.0	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	60.8			30.6		
Adj Reference Time (s)	65.3			35.1		
Split Option						
Ref Time Combined (s)	60.8		0.0	30.6	0.0	
Ref Time Seperate (s)	60.8		0.0	30.6	0.0	
Reference Time (s)	60.8		30.6	30.6	0.0	
Adj Reference Time (s)	65.3		35.1	35.1	0.0	
Summary	NW SE		NE		Combined	
Protected Option (s)	65.3		NA			
Permitted Option (s)	65.3		Err			
Split Option (s)	100.4		0.0			
Minimum (s)	65.3		0.0		65.3	
Right Turns						
Adj Reference Time (s)						
Cross Thru Ref Time (s)						
Oncoming Left Ref Time (s)						
Combined (s)						

Intersection Summary
 Intersection Capacity Utilization 54.4% ICU Level of Service A
 Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	1549	12	0	423	0	59
Future Vol, veh/h	1549	12	0	423	0	59
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1684	13	0	460	0	64

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	-	-	-	849
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	0	308
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	308
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	19.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	308	-	-	-
HCM Lane V/C Ratio	0.208	-	-	-
HCM Control Delay (s)	19.7	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.8	-	-	-

HCM 6th Signalized Intersection Summary
 17: Arrow Highway & I605 SB Off-Ramp

Buildout Year (2028) With Project - Option 1
 PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↘	↗
Traffic Volume (veh/h)	0	1396	427	0	340	294
Future Volume (veh/h)	0	1396	427	0	340	294
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1600	1600	0	1600	1600
Adj Flow Rate, veh/h	0	1469	449	0	358	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	0	1621	1621	0	479	
Arrive On Green	0.00	0.53	0.53	0.00	0.31	0.00
Sat Flow, veh/h	0	3200	3200	0	1524	1356
Grp Volume(v), veh/h	0	1469	449	0	358	0
Grp Sat Flow(s),veh/h/ln	0	1520	1520	0	1524	1356
Q Serve(g_s), s	0.0	25.7	4.8	0.0	12.4	0.0
Cycle Q Clear(g_c), s	0.0	25.7	4.8	0.0	12.4	0.0
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1621	1621	0	479	
V/C Ratio(X)	0.00	0.91	0.28	0.00	0.75	
Avail Cap(c_a), veh/h	0	1678	1678	0	479	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	12.4	7.5	0.0	18.1	0.0
Incr Delay (d2), s/veh	0.0	7.4	0.1	0.0	10.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.4	1.3	0.0	5.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	19.8	7.6	0.0	28.3	0.0
LnGrp LOS	A	B	A	A	C	
Approach Vol, veh/h		1469	449		358	
Approach Delay, s/veh		19.8	7.6		28.3	
Approach LOS		B	A		C	
Timer - Assigned Phs				4	6	8
Phs Duration (G+Y+Rc), s				35.9	23.0	35.9
Change Period (Y+Rc), s				4.5	4.5	4.5
Max Green Setting (Gmax), s				32.5	18.5	32.5
Max Q Clear Time (g_c+I1), s				27.7	14.4	6.8
Green Ext Time (p_c), s				3.7	0.5	3.1

Intersection Summary




























HCM 6th Ctrl Delay	18.7
HCM 6th LOS	B

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection Capacity Utilization
18: Arrow Highway & Avenida Barbosa

Buildout Year (2028) With Project - Option 1
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 					 		 
Volume (vph)	271	814	0	225	493	267	6	36	269	721	10	448
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right	No			No			No			No		
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	2500	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	271	814	0	225	493	267	6	36	269	721	10	448
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1520	4358	0	1520	4358	1360	1520	1600	1360	4612	1600	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00		0.00			0.00			0.00			
Protected Option Allowed	Yes			Yes			Yes			Yes		
Reference Time (s)	21.4	22.4	0.0	17.8	13.6	23.6	0.5	2.7	23.7	18.8	0.8	39.5
Adj Reference Time (s)	25.9	26.9	0.0	22.3	18.1	28.1	9.5	9.5	28.2	23.3	9.5	44.0
Permitted Option												
Adj Saturation A (vph)	101	1453		101	1453		101	1600		154	1600	
Reference Time A (s)	320.9	22.4		266.4	13.6		7.1	2.7		281.4	0.8	
Adj Saturation B (vph)	NA	NA		NA	NA		0	1600		0	1600	
Reference Time B (s)	NA	NA		NA	NA		8.5	2.7		26.8	0.8	
Reference Time (s)		320.9			266.4			7.1			26.8	
Adj Reference Time (s)		325.4			270.9			11.6			31.3	
Split Option												
Ref Time Combined (s)	21.4	22.4		17.8	13.6		0.5	2.7		18.8	0.8	
Ref Time Seperate (s)	21.4	22.4		17.8	13.6		0.5	2.7		18.8	0.8	
Reference Time (s)	22.4	22.4		17.8	17.8		2.7	2.7		18.8	18.8	
Adj Reference Time (s)	26.9	26.9		22.3	22.3		9.5	9.5		23.3	23.3	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	49.2		32.8									
Permitted Option (s)	325.4		31.3									
Split Option (s)	49.2		32.8									
Minimum (s)	49.2		31.3		80.4							
Right Turns												
	WBR	NBR	SBR									
Adj Reference Time (s)	28.1	28.2	44.0									
Cross Thru Ref Time (s)	9.5	26.9	18.1									
Oncoming Left Ref Time (s)	25.9	23.3	9.5									
Combined (s)	63.5	78.4	71.6									
Intersection Summary												
Intersection Capacity Utilization			67.0%	ICU Level of Service				C				
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
19: Valley Oak Lane & Arrow Highway

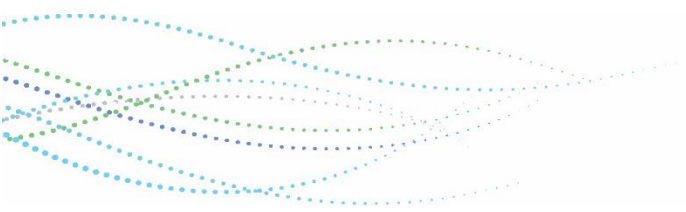
Buildout Year (2028) With Project - Option 1
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↕			↕	
Volume (vph)	0	1085	0	21	1017	1	6	0	32	0	0	1
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	1085	0	21	1018	0	0	38	0	0	1	0
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	0.87	0.85	0.95	0.85	0.85
Saturated Flow (vph)	1520	4358	0	1520	4358	0	0	1387	0	0	1360	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			No			No	
Reference Time (s)	0.0	29.9	0.0	1.7	28.0	0.0			0.0			0.0
Adj Reference Time (s)	9.5	34.4	0.0	9.5	32.5	0.0			0.0			0.0
Permitted Option												
Adj Saturation A (vph)	101	1453		101	1453		0	411		0	1360	
Reference Time A (s)	0.0	29.9		24.9	28.0		0.0	11.1		0.0	0.1	
Adj Saturation B (vph)	NA	NA		NA	NA		0	0		0	1360	
Reference Time B (s)	NA	NA		NA	NA		8.5	11.3		0.0	0.1	
Reference Time (s)		29.9			28.0			11.1			0.1	
Adj Reference Time (s)		34.4			32.5			15.6			9.5	
Split Option												
Ref Time Combined (s)	0.0	29.9		1.7	28.0		0.0	3.3		0.0	0.1	
Ref Time Seperate (s)	0.0	29.9		1.7	28.0		0.5	0.0		0.0	0.0	
Reference Time (s)	29.9	29.9		28.0	28.0		3.3	3.3		0.1	0.1	
Adj Reference Time (s)	34.4	34.4		32.5	32.5		9.5	9.5		9.5	9.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	43.9		NA									
Permitted Option (s)	34.4		15.6									
Split Option (s)	66.9		19.0									
Minimum (s)	34.4		15.6		50.0							
Right Turns												
Adj Reference Time (s)												
Cross Thru Ref Time (s)												
Oncoming Left Ref Time (s)												
Combined (s)												
Intersection Summary												
Intersection Capacity Utilization			41.6%		ICU Level of Service		A					
Reference Times and Phasing Options do not represent an optimized timing plan.												



Buildout Year (2028) With Project – Project Option 2 LOS Calculation Sheets



Intersection Capacity Utilization
1: Live Oak Avenue & Arrow Highway

Buildout Year (2028) With Project - Option 2
AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↑	↑↑↑	↑↑	↑
Volume (vph)	491	1098	214	1771	1288	256
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		Yes				No
Ideal Flow	1600	1600	2500	1600	2500	1600
Lost Time (s)	4.5	4.0	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	4.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	857	732	214	1771	1288	256
Lane Utilization Factor	0.91	1.00	0.97	0.91	0.97	1.00
Turning Factor (vph)	0.94	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	4079	1360	4612	4358	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	25.2	64.6	5.6	48.8		22.6
Adj Reference Time (s)	29.7	68.6	10.1	53.3		27.1
Permitted Option						
Adj Saturation A (vph)	1360		154	1453	154	
Reference Time A (s)	25.2		83.5	48.8	502.7	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	25.2			83.5		
Adj Reference Time (s)	29.7			88.0		
Split Option						
Ref Time Combined (s)	25.2		5.6	48.8	33.5	
Ref Time Seperate (s)	14.4		5.6	48.8	33.5	
Reference Time (s)	25.2		48.8	48.8	33.5	
Adj Reference Time (s)	29.7		53.3	53.3	38.0	
Summary	EB WB		NB		Combined	
Protected Option (s)	53.3		NA			
Permitted Option (s)	88.0		Err			
Split Option (s)	83.0		38.0			
Minimum (s)	53.3		38.0		91.3	
Right Turns	EBR	NBR				
Adj Reference Time (s)	68.6	27.1				
Cross Thru Ref Time (s)	0.0	29.7				
Oncoming Left Ref Time (s)	0.0	0.0				
Combined (s)	68.6	56.8				

Intersection Summary

Intersection Capacity Utilization 76.1% ICU Level of Service D
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
2: Speedway Drive & Live Oak Ave

Buildout Year (2028) With Project - Option 2
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↗	↑↑↑		↖	↑↑↑		↗		↘	↖	↑	↘	
Volume (vph)	46	1177	88	92	1612	78	32	0	33	52	0	30	
Pedestrians													
Ped Button													
Pedestrian Timing (s)													
Free Right			No			No			No			No	
Ideal Flow	1600	1600	1600	1600	1600	1600	2500	1600	1600	1600	1600	1600	
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.0	4.5	4.5	4.5	4.0	
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0	5.0	5.0	4.0	
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120	
Volume Combined (vph)	46	1265	0	92	1690	0	32	0	33	52	30	0	
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00	
Turning Factor (vph)	0.95	0.99	0.85	0.95	0.99	0.85	0.95	1.00	0.85	0.95	0.85	0.85	
Saturated Flow (vph)	1520	4313	0	1520	4328	0	4612	0	1360	1520	1360	0	
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00		
Protected Option Allowed		Yes			Yes			Yes			Yes		
Reference Time (s)	3.6	35.2	0.0	7.3	46.9	0.0	0.8	0.0	2.9	4.1	2.6	0.0	
Adj Reference Time (s)	9.5	39.7	0.0	11.8	51.4	0.0	9.5	0.0	9.5	9.5	9.5	0.0	
Permitted Option													
Adj Saturation A (vph)	101	1438		101	1443		154	0		101	1360		
Reference Time A (s)	54.5	35.2		108.9	46.9		12.5	0.0		61.6	2.6		
Adj Saturation B (vph)	NA	NA		NA	NA		0	0		0	1360		
Reference Time B (s)	NA	NA		NA	NA		8.8	0.0		12.1	2.6		
Reference Time (s)		54.5			108.9			8.8			12.1		
Adj Reference Time (s)		59.0			113.4			12.8			16.6		
Split Option													
Ref Time Combined (s)	3.6	35.2		7.3	46.9		0.8	0.0		4.1	2.6		
Ref Time Seperate (s)	3.6	32.7		7.3	44.7		0.8	0.0		4.1	0.0		
Reference Time (s)	35.2	35.2		46.9	46.9		0.8	0.8		4.1	4.1		
Adj Reference Time (s)	39.7	39.7		51.4	51.4		8.0	8.0		9.5	9.5		
Summary													
	EB WB		NB SB		Combined								
Protected Option (s)	60.9		19.0										
Permitted Option (s)	113.4		16.6										
Split Option (s)	91.1		17.5										
Minimum (s)	60.9		16.6		77.5								
Right Turns													
	NBR												
Adj Reference Time (s)	9.5												
Cross Thru Ref Time (s)	39.7												
Oncoming Left Ref Time (s)	9.5												
Combined (s)	58.7												
Intersection Summary													
Intersection Capacity Utilization	64.6%		ICU Level of Service						C				
Reference Times and Phasing Options do not represent an optimized timing plan.													

Intersection Capacity Utilization
3: Live Oak Avenue & Spanish Oak Drive

Buildout Year (2028) With Project - Option 2
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	6	1177	1711	177	52	2
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.0	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	4.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	6	1177	1888	0	52	2
Lane Utilization Factor	1.00	0.91	0.91	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.99	0.85	0.95	0.85
Saturated Flow (vph)	1520	4358	4297	0	1520	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	0.5	32.4	52.7	0.0		0.2
Adj Reference Time (s)	9.5	36.9	57.2	0.0		9.5
Permitted Option						
Adj Saturation A (vph)	101	1453	1432		101	
Reference Time A (s)	7.1	32.4	52.7		61.6	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		32.4	52.7			
Adj Reference Time (s)		36.9	57.2			
Split Option						
Ref Time Combined (s)	0.5	32.4	52.7		4.1	
Ref Time Seperate (s)	0.5	32.4	47.8		4.1	
Reference Time (s)	32.4	32.4	52.7		4.1	
Adj Reference Time (s)	36.9	36.9	57.2		9.5	
Summary						
	EB WB		SB		Combined	
Protected Option (s)	66.7		NA			
Permitted Option (s)	57.2		Err			
Split Option (s)	94.1		9.5			
Minimum (s)	57.2		9.5		66.7	
Right Turns						
	SBR					
Adj Reference Time (s)	9.5					
Cross Thru Ref Time (s)	57.2					
Oncoming Left Ref Time (s)	0.0					
Combined (s)	66.7					

Intersection Summary

Intersection Capacity Utilization 55.6% ICU Level of Service B
Reference Times and Phasing Options do not represent an optimized timing plan.

HCM 6th Signalized Intersection Summary
4: I605 SB On-Ramp & Live Oak Avenue

Buildout Year (2028) With Project - Option 2
AM Peak Hour















Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑		
Traffic Volume (veh/h)	364	593	500	1715	0	0
Future Volume (veh/h)	364	593	500	1715	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1600	1600	1600	1600		
Adj Flow Rate, veh/h	383	0	526	1805		
Peak Hour Factor	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	0	0	0	0		
Cap, veh/h	1080		613	2672		
Arrive On Green	0.36	0.00	0.40	0.88		
Sat Flow, veh/h	3120	1356	1524	3120		
Grp Volume(v), veh/h	383	0	526	1805		
Grp Sat Flow(s),veh/h/ln	1520	1356	1524	1520		
Q Serve(g_s), s	3.5	0.0	11.7	6.6		
Cycle Q Clear(g_c), s	3.5	0.0	11.7	6.6		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	1080		613	2672		
V/C Ratio(X)	0.35		0.86	0.68		
Avail Cap(c_a), veh/h	2248		963	4538		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00		
Uniform Delay (d), s/veh	8.8	0.0	10.1	0.7		
Incr Delay (d2), s/veh	0.2	0.0	4.7	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.9	0.0	3.5	0.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.0	0.0	14.9	1.0		
LnGrp LOS	A		B	A		
Approach Vol, veh/h	383			2331		
Approach Delay, s/veh	9.0			4.1		
Approach LOS	A			A		
Timer - Assigned Phs			3	4		8
Phs Duration (G+Y+Rc), s			19.5	17.7		37.2
Change Period (Y+Rc), s			4.5	4.5		4.5
Max Green Setting (Gmax), s			23.5	27.5		55.5
Max Q Clear Time (g_c+I1), s			13.7	5.5		8.6
Green Ext Time (p_c), s			1.3	2.5		24.1
Intersection Summary						
HCM 6th Ctrl Delay			4.8			
HCM 6th LOS			A			

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

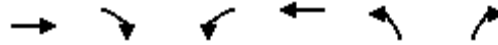
HCM 6th Signalized Intersection Summary
5: I605 NB Off-Ramp & Live Oak Avenue

Buildout Year (2028) With Project - Option 2
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑				↑↑			↑↑
Traffic Volume (veh/h)	0	353	0	0	1283	0	0	0	524	0	0	773
Future Volume (veh/h)	0	353	0	0	1283	0	0	0	524	0	0	773
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1600	0	0	1600	0	0	0	1600	0	0	1600
Adj Flow Rate, veh/h	0	372	0	0	1351	0	0	0	552	0	0	814
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	2389	0	0	2389	0	0	0	0	0	0	0
Arrive On Green	0.00	0.79	0.00	0.00	0.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	3200	0	0	3200	0		0			0	
Grp Volume(v), veh/h	0	372	0	0	1351	0		0.0			0.0	
Grp Sat Flow(s),veh/h/ln	0	1520	0	0	1520	0						
Q Serve(g_s), s	0.0	0.6	0.0	0.0	3.6	0.0						
Cycle Q Clear(g_c), s	0.0	0.6	0.0	0.0	3.6	0.0						
Prop In Lane	0.00		0.00	0.00		0.00						
Lane Grp Cap(c), veh/h	0	2389	0	0	2389	0						
V/C Ratio(X)	0.00	0.16	0.00	0.00	0.57	0.00						
Avail Cap(c_a), veh/h	0	3979	0	0	3979	0						
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00						
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00						
Uniform Delay (d), s/veh	0.0	0.5	0.0	0.0	0.9	0.0						
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.2	0.0						
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0						
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.1	0.0						
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.6	0.0	0.0	1.1	0.0						
LnGrp LOS	A	A	A	A	A	A						
Approach Vol, veh/h		372			1351							
Approach Delay, s/veh		0.6			1.1							
Approach LOS		A			A							
Timer - Assigned Phs				4				8				
Phs Duration (G+Y+Rc), s				21.0				21.0				
Change Period (Y+Rc), s				4.5				4.5				
Max Green Setting (Gmax), s				27.5				27.5				
Max Q Clear Time (g_c+I1), s				2.6				5.6				
Green Ext Time (p_c), s				2.5				10.9				
Intersection Summary												
HCM 6th Ctrl Delay				1.0								
HCM 6th LOS				A								

Intersection Capacity Utilization
6: Graham Road & Live Oak Avenue

Buildout Year (2028) With Project - Option 2
AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	
Volume (vph)	829	82	25	1237	112	28
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No			No	
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	829	82	25	1237	140	0
Lane Utilization Factor	0.95	1.00	1.00	0.95	1.00	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.93	0.85
Saturated Flow (vph)	3046	1360	1520	3046	1490	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	32.7	7.2	2.0	48.7		0.0
Adj Reference Time (s)	37.2	11.7	9.5	53.2		0.0
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	99	
Reference Time A (s)	32.7		29.6	48.7	169.1	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	32.7			48.7		
Adj Reference Time (s)	37.2			53.2		
Split Option						
Ref Time Combined (s)	32.7		2.0	48.7	11.3	
Ref Time Seperate (s)	32.7		2.0	48.7	9.0	
Reference Time (s)	32.7		48.7	48.7	11.3	
Adj Reference Time (s)	37.2		53.2	53.2	15.8	
Summary						
	EB	WB	NB	Combined		
Protected Option (s)	53.2		NA			
Permitted Option (s)	53.2		Err			
Split Option (s)	90.4		15.8			
Minimum (s)	53.2		15.8	69.0		
Right Turns						
	EBR					
Adj Reference Time (s)	11.7					
Cross Thru Ref Time (s)	0.0					
Oncoming Left Ref Time (s)	9.5					
Combined (s)	21.2					
Intersection Summary						
Intersection Capacity Utilization			57.5%	ICU Level of Service		B

Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection						
Int Delay, s/veh	4.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	151	687	1147	87	14	107
Future Vol, veh/h	151	687	1147	87	14	107
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	290	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	164	747	1247	95	15	116
























Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1342	0	-	0	1949 624
Stage 1	-	-	-	-	1247 -
Stage 2	-	-	-	-	702 -
Critical Hdwy	4.14	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	2.22	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	509	-	-	-	56 428
Stage 1	-	-	-	-	234 -
Stage 2	-	-	-	-	453 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	509	-	-	-	38 428
Mov Cap-2 Maneuver	-	-	-	-	38 -
Stage 1	-	-	-	-	159 -
Stage 2	-	-	-	-	453 -

Approach	EB	WB	SB
HCM Control Delay, s	2.8	0	54.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	509	-	-	-	196
HCM Lane V/C Ratio	0.322	-	-	-	0.671
HCM Control Delay (s)	15.4	-	-	-	54.3
HCM Lane LOS	C	-	-	-	F
HCM 95th %tile Q(veh)	1.4	-	-	-	4.1






















Intersection Capacity Utilization
8: Live Oak Avenue & Rivergrade Road

Buildout Year (2028) With Project - Option 2
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	14	648	44	419	1138	8	46	56	109	11	109	48
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right	No			No			No			No		
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	14	692	0	419	1138	8	46	56	109	11	109	48
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Turning Factor (vph)	0.95	0.99	0.85	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1520	3017	0	1520	3046	1360	1520	3046	1360	1520	3046	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00			0.00			0.00		
Protected Option Allowed	Yes			Yes			Yes			Yes		
Reference Time (s)	1.1	27.5	0.0	33.1	44.8	0.7	3.6	2.2	9.6	0.9	4.3	4.2
Adj Reference Time (s)	9.5	32.0	0.0	37.6	49.3	9.5	9.5	9.5	14.1	9.5	9.5	9.5
Permitted Option												
Adj Saturation A (vph)	101	1509		101	1523		101	1523		101	1523	
Reference Time A (s)	16.6	27.5		496.2	44.8		54.5	2.2		13.0	4.3	
Adj Saturation B (vph)	NA	NA		NA	NA		0	3046		0	3046	
Reference Time B (s)	NA	NA		NA	NA		11.6	2.2		8.9	4.3	
Reference Time (s)		27.5			496.2			11.6			8.9	
Adj Reference Time (s)		32.0			500.7			16.1			13.4	
Split Option												
Ref Time Combined (s)	1.1	27.5		33.1	44.8		3.6	2.2		0.9	4.3	
Ref Time Seperate (s)	1.1	25.8		33.1	44.8		3.6	2.2		0.9	4.3	
Reference Time (s)	27.5	27.5		44.8	44.8		3.6	3.6		4.3	4.3	
Adj Reference Time (s)	32.0	32.0		49.3	49.3		9.5	9.5		9.5	9.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	69.6		19.0									
Permitted Option (s)	500.7		16.1									
Split Option (s)	81.3		19.0									
Minimum (s)	69.6		16.1		85.7							
Right Turns												
	WBR		NBR		SBR							
Adj Reference Time (s)	9.5		14.1		9.5							
Cross Thru Ref Time (s)	9.5		32.0		49.3							
Oncoming Left Ref Time (s)	9.5		9.5		9.5							
Combined (s)	28.5		55.6		68.3							
Intersection Summary												
Intersection Capacity Utilization			71.4%		ICU Level of Service				C			
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
9: Stewart Avenue & Live Oak Avenue

Buildout Year (2028) With Project - Option 2
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	624	44	27	1607	21	210	91	33	7	36	35
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	30	624	44	27	1628	0	0	334	0	7	36	35
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	0.95	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1520	3046	1360	1520	4350	0	0	1527	0	1520	1600	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			No			No	
Reference Time (s)	2.4	24.6	3.9	2.1	44.9	0.0			0.0			3.1
Adj Reference Time (s)	9.5	29.1	9.5	9.5	49.4	0.0			0.0			9.5
Permitted Option												
Adj Saturation A (vph)	101	1523		101	1450		0	144		1057	1600	
Reference Time A (s)	35.5	24.6		32.0	44.9		0.0	278.6		0.8	2.7	
Adj Saturation B (vph)	NA	NA		NA	NA		0	0		NA	NA	
Reference Time B (s)	NA	NA		NA	NA		24.6	34.3		NA	NA	
Reference Time (s)		35.5			44.9			34.3			2.7	
Adj Reference Time (s)		40.0			49.4			38.8			9.5	
Split Option												
Ref Time Combined (s)	2.4	24.6		2.1	44.9		0.0	26.3		0.6	2.7	
Ref Time Seperate (s)	2.4	24.6		2.1	44.3		16.6	7.1		0.6	2.7	
Reference Time (s)	24.6	24.6		44.9	44.9		26.3	26.3		2.7	2.7	
Adj Reference Time (s)	29.1	29.1		49.4	49.4		30.8	30.8		9.5	9.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	58.9		NA									
Permitted Option (s)	49.4		38.8									
Split Option (s)	78.5		40.3									
Minimum (s)	49.4		38.8		88.2							
Right Turns												
	EBR		SBR									
Adj Reference Time (s)	9.5		9.5									
Cross Thru Ref Time (s)	9.5		49.4									
Oncoming Left Ref Time (s)	9.5		30.8									
Combined (s)	28.5		89.7									
Intersection Summary												
Intersection Capacity Utilization			74.7%		ICU Level of Service				D			
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
10: Baldwin Park Boulevard & Live Oak Avenue

Buildout Year (2028) With Project - Option 2
AM Peak Hour



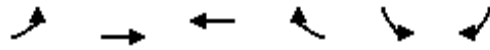
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Volume (vph)	579	103	188	1322	343	244
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No			No	
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	579	103	188	1322	343	244
Lane Utilization Factor	0.95	1.00	1.00	0.95	0.97	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	1360	1520	3046	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	22.8	9.1	14.8	52.1		21.5
Adj Reference Time (s)	27.3	13.6	19.3	56.6		26.0
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	154	
Reference Time A (s)	22.8		222.6	52.1	133.9	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	22.8			222.6		
Adj Reference Time (s)	27.3			227.1		
Split Option						
Ref Time Combined (s)	22.8		14.8	52.1	8.9	
Ref Time Seperate (s)	22.8		14.8	52.1	8.9	
Reference Time (s)	22.8		52.1	52.1	8.9	
Adj Reference Time (s)	27.3		56.6	56.6	13.4	
Summary						
	EB	WB		NB		Combined
Protected Option (s)	56.6			NA		
Permitted Option (s)	227.1			Err		
Split Option (s)	83.9			13.4		
Minimum (s)	56.6			13.4		70.0
Right Turns						
	EBR			NBR		
Adj Reference Time (s)	13.6			26.0		
Cross Thru Ref Time (s)	0.0			27.3		
Oncoming Left Ref Time (s)	19.3			0.0		
Combined (s)	32.9			53.3		

Intersection Summary

Intersection Capacity Utilization 58.3% ICU Level of Service B
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
11: Live Oak Avenue & Arrow Highway

Buildout Year (2028) With Project - Option 2
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	100	708	1441	1863	533	60
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				Yes		No
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.0	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	4.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	100	708	1441	1863	533	60
Lane Utilization Factor	1.00	0.91	0.95	1.00	0.97	1.00
Turning Factor (vph)	0.95	1.00	1.00	0.85	0.95	0.85
Saturated Flow (vph)	1520	4358	3046	1360	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	7.9	19.5	56.8	164.4		5.3
Adj Reference Time (s)	12.4	24.0	61.3	168.4		9.8
Permitted Option						
Adj Saturation A (vph)	101	1453	1523		154	
Reference Time A (s)	118.4	19.5	56.8		208.0	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		118.4	56.8			
Adj Reference Time (s)		122.9	61.3			
Split Option						
Ref Time Combined (s)	7.9	19.5	56.8		13.9	
Ref Time Seperate (s)	7.9	19.5	56.8		13.9	
Reference Time (s)	19.5	19.5	56.8		13.9	
Adj Reference Time (s)	24.0	24.0	61.3		18.4	
Summary						
	EB WB		SB		Combined	
Protected Option (s)	73.7		NA			
Permitted Option (s)	122.9		Err			
Split Option (s)	85.3		18.4			
Minimum (s)	73.7		18.4		92.0	
Right Turns						
	WBR	SBR				
Adj Reference Time (s)	168.4	9.8				
Cross Thru Ref Time (s)	0.0	61.3				
Oncoming Left Ref Time (s)	0.0	0.0				
Combined (s)	168.4	71.1				

Intersection Summary

Intersection Capacity Utilization 76.7% ICU Level of Service D
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
12: Rivergrade Road & Arrow Highway

Buildout Year (2028) With Project - Option 2
AM Peak Hour



Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↑↑	↑	↶	↑↑	↶↶	↶
Volume (vph)	520	204	34	2117	191	11
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No				No
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	520	204	34	2117	191	11
Lane Utilization Factor	0.95	1.00	1.00	0.95	0.97	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	1360	1520	3046	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	20.5	18.0	2.7	83.4		1.0
Adj Reference Time (s)	25.0	22.5	9.5	87.9		9.5
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	154	
Reference Time A (s)	20.5		40.3	83.4	74.5	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	20.5			83.4		
Adj Reference Time (s)	25.0			87.9		
Split Option						
Ref Time Combined (s)	20.5		2.7	83.4	5.0	
Ref Time Seperate (s)	20.5		2.7	83.4	5.0	
Reference Time (s)	20.5		83.4	83.4	5.0	
Adj Reference Time (s)	25.0		87.9	87.9	9.5	
Summary						
	NW	SE	NE	Combined		
Protected Option (s)	87.9		NA			
Permitted Option (s)	87.9		Err			
Split Option (s)	112.9		9.5			
Minimum (s)	87.9		9.5	97.4		
Right Turns						
	SER	NER				
Adj Reference Time (s)	22.5	9.5				
Cross Thru Ref Time (s)	0.0	25.0				
Oncoming Left Ref Time (s)	9.5	0.0				
Combined (s)	32.0	34.5				

Intersection Summary

Intersection Capacity Utilization 81.2% ICU Level of Service D
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
13: San Gabriel River Trail & Arrow Highway

Buildout Year (2028) With Project - Option 2
AM Peak Hour



Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↑↑			↑↑		
Volume (vph)	844	0	0	2262	0	0
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No			No	
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.0	4.0	4.5	4.0	4.0
Minimum Green (s)	5.0	4.0	4.0	5.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	844	0	0	2262	0	0
Lane Utilization Factor	0.95	1.00	1.00	0.95	1.00	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	0	0	3046	0	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	33.2	0.0	0.0	89.1		0.0
Adj Reference Time (s)	37.7	0.0	0.0	93.6		0.0
Permitted Option						
Adj Saturation A (vph)	1523		0	1523	0	
Reference Time A (s)	33.2		0.0	89.1	0.0	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	33.2			89.1		
Adj Reference Time (s)	37.7			93.6		
Split Option						
Ref Time Combined (s)	33.2		0.0	89.1	0.0	
Ref Time Seperate (s)	33.2		0.0	89.1	0.0	
Reference Time (s)	33.2		89.1	89.1	0.0	
Adj Reference Time (s)	37.7		93.6	93.6	0.0	
Summary						
	NW	SE	NE	Combined		
Protected Option (s)	93.6		NA			
Permitted Option (s)	93.6		Err			
Split Option (s)	131.3		0.0			
Minimum (s)	93.6		0.0	93.6		
Right Turns						
Adj Reference Time (s)						
Cross Thru Ref Time (s)						
Oncoming Left Ref Time (s)						
Combined (s)						
Intersection Summary						
Intersection Capacity Utilization	78.0%		ICU Level of Service		D	

Reference Times and Phasing Options do not represent an optimized timing plan.

HCM 6th TWSC
15: Live Oak Lane & Arrow Highway

Buildout Year (2028) With Project - Option 2
AM Peak Hour

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	782	23	0	1763	0	43
Future Vol, veh/h	782	23	0	1763	0	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	850	25	0	1916	0	47

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	-	-	438
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	567
Stage 1	-	-	0	-	-
Stage 2	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	567
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	11.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	567	-	-	-
HCM Lane V/C Ratio	0.082	-	-	-
HCM Control Delay (s)	11.9	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-

HCM 6th Signalized Intersection Summary
 17: Arrow Highway & I605 SB Off-Ramp
























Buildout Year (2028) With Project - Option 2
 AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↙	↗
Traffic Volume (veh/h)	0	792	1769	0	347	583
Future Volume (veh/h)	0	792	1769	0	347	583
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1600	1600	0	1600	1600
Adj Flow Rate, veh/h	0	834	1862	0	365	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	0	1900	1900	0	388	
Arrive On Green	0.00	0.63	0.63	0.00	0.25	0.00
Sat Flow, veh/h	0	3200	3200	0	1524	1356
Grp Volume(v), veh/h	0	834	1862	0	365	0
Grp Sat Flow(s),veh/h/ln	0	1520	1520	0	1524	1356
Q Serve(g_s), s	0.0	10.6	44.4	0.0	17.6	0.0
Cycle Q Clear(g_c), s	0.0	10.6	44.4	0.0	17.6	0.0
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1900	1900	0	388	
V/C Ratio(X)	0.00	0.44	0.98	0.00	0.94	
Avail Cap(c_a), veh/h	0	1902	1902	0	388	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	7.3	13.6	0.0	27.4	0.0
Incr Delay (d2), s/veh	0.0	0.2	16.1	0.0	32.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.9	16.0	0.0	9.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	7.4	29.6	0.0	60.2	0.0
LnGrp LOS	A	A	C	A	E	
Approach Vol, veh/h		834	1862		365	
Approach Delay, s/veh		7.4	29.6		60.2	
Approach LOS		A	C		E	
Timer - Assigned Phs				4	6	8
Phs Duration (G+Y+Rc), s				51.4	23.6	51.4
Change Period (Y+Rc), s				4.5	4.5	4.5
Max Green Setting (Gmax), s				46.9	19.1	46.9
Max Q Clear Time (g_c+I1), s				12.6	19.6	46.4
Green Ext Time (p_c), s				6.9	0.0	0.4
Intersection Summary						
HCM 6th Ctrl Delay			27.2			
HCM 6th LOS			C			
Notes						
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.						

Intersection Capacity Utilization
18: Arrow Highway & Avenida Barbosa

Buildout Year (2028) With Project - Option 2
AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	349	525	1	307	1751	680	1	7	101	251	17	194	
Pedestrians													
Ped Button													
Pedestrian Timing (s)													
Free Right	No			No			No			No			
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	2500	1600	1600	
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120	
Volume Combined (vph)	349	526	0	307	1751	680	1	7	101	251	17	194	
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00	
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85	
Saturated Flow (vph)	1520	4357	0	1520	4358	1360	1520	1600	1360	4612	1600	1360	
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Pedestrian Frequency (%)	0.00			0.00			0.00			0.00			
Protected Option Allowed	Yes			Yes			Yes			Yes			
Reference Time (s)	27.6	14.5	0.0	24.2	48.2	60.0	0.1	0.5	8.9	6.5	1.3	17.1	
Adj Reference Time (s)	32.1	19.0	0.0	28.7	52.7	64.5	9.5	9.5	13.4	11.0	9.5	21.6	
Permitted Option													
Adj Saturation A (vph)	101	1452		101	1453		101	1600		154	1600		
Reference Time A (s)	413.3	14.5		363.6	48.2		1.2	0.5		98.0	1.3		
Adj Saturation B (vph)	NA	NA		NA	NA		0	1600		0	1600		
Reference Time B (s)	NA	NA		NA	NA		8.1	0.5		14.5	1.3		
Reference Time (s)		413.3			363.6			1.2			14.5		
Adj Reference Time (s)		417.8			368.1			9.5			19.0		
Split Option													
Ref Time Combined (s)	27.6	14.5		24.2	48.2		0.1	0.5		6.5	1.3		
Ref Time Seperate (s)	27.6	14.5		24.2	48.2		0.1	0.5		6.5	1.3		
Reference Time (s)	27.6	27.6		48.2	48.2		0.5	0.5		6.5	6.5		
Adj Reference Time (s)	32.1	32.1		52.7	52.7		9.5	9.5		11.0	11.0		
Summary													
	EB WB		NB SB		Combined								
Protected Option (s)	84.8		20.5										
Permitted Option (s)	417.8		19.0										
Split Option (s)	84.8		20.5										
Minimum (s)	84.8		19.0		103.8								
Right Turns													
	WBR		NBR		SBR								
Adj Reference Time (s)	64.5		13.4		21.6								
Cross Thru Ref Time (s)	9.5		19.0		52.7								
Oncoming Left Ref Time (s)	32.1		11.0		9.5								
Combined (s)	106.1		43.4		83.8								
Intersection Summary													
Intersection Capacity Utilization			88.4%		ICU Level of Service				E				
Reference Times and Phasing Options do not represent an optimized timing plan.													

Intersection Capacity Utilization
19: Valley Oak Lane & Arrow Highway

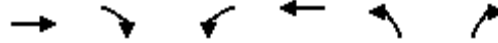
Buildout Year (2028) With Project - Option 2
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↕			↕	
Volume (vph)	0	747	1	48	1978	20	1	0	6	0	0	10
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	748	0	48	1998	0	0	7	0	0	10	0
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	0.87	0.85	0.95	0.85	0.85
Saturated Flow (vph)	1520	4358	0	1520	4352	0	0	1384	0	0	1360	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			No			No	
Reference Time (s)	0.0	20.6	0.0	3.8	55.1	0.0			0.0			0.0
Adj Reference Time (s)	9.5	25.1	0.0	9.5	59.6	0.0			0.0			0.0
Permitted Option												
Adj Saturation A (vph)	101	1453		101	1451		0	441		0	1360	
Reference Time A (s)	0.0	20.6		56.8	55.1		0.0	1.9		0.0	0.9	
Adj Saturation B (vph)	NA	NA		NA	NA		0	0		0	1360	
Reference Time B (s)	NA	NA		NA	NA		8.1	8.6		0.0	0.9	
Reference Time (s)		20.6			56.8			1.9			0.9	
Adj Reference Time (s)		25.1			61.3			9.5			9.5	
Split Option												
Ref Time Combined (s)	0.0	20.6		3.8	55.1		0.0	0.6		0.0	0.9	
Ref Time Seperate (s)	0.0	20.6		3.8	54.5		0.1	0.0		0.0	0.0	
Reference Time (s)	20.6	20.6		55.1	55.1		0.6	0.6		0.9	0.9	
Adj Reference Time (s)	25.1	25.1		59.6	59.6		9.5	9.5		9.5	9.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	69.1		NA									
Permitted Option (s)	61.3		9.5									
Split Option (s)	84.7		19.0									
Minimum (s)	61.3		9.5		70.8							
Right Turns												
Adj Reference Time (s)												
Cross Thru Ref Time (s)												
Oncoming Left Ref Time (s)												
Combined (s)												
Intersection Summary												
Intersection Capacity Utilization			59.0%		ICU Level of Service		B					
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
1: Live Oak Avenue & Arrow Highway

Buildout Year (2028) With Project - Option 2
PM Peak Hour


























Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↑	↑↑↑	↑↑	↑
Volume (vph)	978	1957	344	673	797	105
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right	Yes			No		
Ideal Flow	1600	1600	2500	1600	2500	1600
Lost Time (s)	4.5	4.0	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	4.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1630	1305	344	673	797	105
Lane Utilization Factor	0.91	1.00	0.97	0.91	0.97	1.00
Turning Factor (vph)	0.94	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	4097	1360	4612	4358	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00		
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	47.8	115.1	9.0	18.5	9.3	
Adj Reference Time (s)	52.3	119.1	13.5	23.0	13.8	
Permitted Option						
Adj Saturation A (vph)	1366	154		1453	154	
Reference Time A (s)	47.8	134.3		18.5	311.0	
Adj Saturation B (vph)	NA	NA		NA	NA	
Reference Time B (s)	NA	NA		NA	NA	
Reference Time (s)	47.8	134.3				
Adj Reference Time (s)	52.3	138.8				
Split Option						
Ref Time Combined (s)	47.8	9.0		18.5	20.7	
Ref Time Seperate (s)	28.6	9.0		18.5	20.7	
Reference Time (s)	47.8	18.5		18.5	20.7	
Adj Reference Time (s)	52.3	23.0		23.0	25.2	
Summary						
	EB WB		NB		Combined	
Protected Option (s)	65.7		NA			
Permitted Option (s)	138.8		Err			
Split Option (s)	75.3		25.2			
Minimum (s)	65.7		25.2		90.9	
Right Turns						
	EBR		NBR			
Adj Reference Time (s)	119.1		13.8			
Cross Thru Ref Time (s)	0.0		52.3			
Oncoming Left Ref Time (s)	0.0		0.0			
Combined (s)	119.1		66.0			
Intersection Summary						
Intersection Capacity Utilization			75.8%	ICU Level of Service		D

Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
2: Speedway Drive & Live Oak Ave

Buildout Year (2028) With Project - Option 2

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Volume (vph)	71	2145	86	86	958	85	113	0	112	99	0	58
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right	No			No			No			No		
Ideal Flow	1600	1600	1600	1600	1600	1600	2500	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.0	4.5	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	71	2231	0	86	1043	0	113	0	112	99	58	0
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.99	0.85	0.95	0.99	0.85	0.95	1.00	0.85	0.95	0.85	0.85
Saturated Flow (vph)	1520	4333	0	1520	4305	0	4612	0	1360	1520	1360	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00			0.00			0.00		
Protected Option Allowed	Yes			Yes			Yes			Yes		
Reference Time (s)	5.6	61.8	0.0	6.8	29.1	0.0	2.9	0.0	9.9	7.8	5.1	0.0
Adj Reference Time (s)	10.1	66.3	0.0	11.3	33.6	0.0	9.5	0.0	14.4	12.3	9.6	0.0
Permitted Option												
Adj Saturation A (vph)	101	1444		101	1435		154	0		101	1360	
Reference Time A (s)	84.1	61.8		101.8	29.1		44.1	0.0		117.2	5.1	
Adj Saturation B (vph)	NA	NA		NA	NA		0	0		0	1360	
Reference Time B (s)	NA	NA		NA	NA		10.9	0.0		15.8	5.1	
Reference Time (s)		84.1			101.8			10.9			15.8	
Adj Reference Time (s)		88.6			106.3			14.9			20.3	
Split Option												
Ref Time Combined (s)	5.6	61.8		6.8	29.1		2.9	0.0		7.8	5.1	
Ref Time Seperate (s)	5.6	59.4		6.8	26.7		2.9	0.0		7.8	0.0	
Reference Time (s)	61.8	61.8		29.1	29.1		2.9	2.9		7.8	7.8	
Adj Reference Time (s)	66.3	66.3		33.6	33.6		8.0	8.0		12.3	12.3	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	77.6		19.1									
Permitted Option (s)	106.3		20.3									
Split Option (s)	99.9		20.3									
Minimum (s)	77.6		19.1		96.7							
Right Turns												
	NBR											
Adj Reference Time (s)	14.4											
Cross Thru Ref Time (s)	66.3											
Oncoming Left Ref Time (s)	12.3											
Combined (s)	93.0											
Intersection Summary												
Intersection Capacity Utilization	80.6%		ICU Level of Service						D			
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
3: Live Oak Avenue & Spanish Oak Drive

Buildout Year (2028) With Project - Option 2
PM Peak Hour



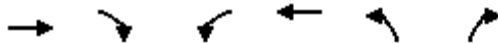
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	4	2147	1041	145	252	11
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.0	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	4.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	4	2147	1186	0	252	11
Lane Utilization Factor	1.00	0.91	0.91	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.98	0.85	0.95	0.85
Saturated Flow (vph)	1520	4358	4278	0	1520	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	0.3	59.1	33.3	0.0		1.0
Adj Reference Time (s)	9.5	63.6	37.8	0.0		9.5
Permitted Option						
Adj Saturation A (vph)	101	1453	1426		101	
Reference Time A (s)	4.7	59.1	33.3		298.4	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		59.1	33.3			
Adj Reference Time (s)		63.6	37.8			
Split Option						
Ref Time Combined (s)	0.3	59.1	33.3		19.9	
Ref Time Seperate (s)	0.3	59.1	29.2		19.9	
Reference Time (s)	59.1	59.1	33.3		19.9	
Adj Reference Time (s)	63.6	63.6	37.8		24.4	
Summary						
	EB WB		SB		Combined	
Protected Option (s)	63.6		NA			
Permitted Option (s)	63.6		Err			
Split Option (s)	101.4		24.4			
Minimum (s)	63.6		24.4		88.0	
Right Turns						
	SBR					
Adj Reference Time (s)	9.5					
Cross Thru Ref Time (s)	37.8					
Oncoming Left Ref Time (s)	0.0					
Combined (s)	47.3					

Intersection Summary

Intersection Capacity Utilization 73.3% ICU Level of Service D
Reference Times and Phasing Options do not represent an optimized timing plan.

HCM 6th Signalized Intersection Summary
4: I605 SB On-Ramp & Live Oak Avenue













Buildout Year (2028) With Project - Option 2
PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑		
Traffic Volume (veh/h)	813	1005	486	1055	0	0
Future Volume (veh/h)	813	1005	486	1055	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1600	1600	1600	1600		
Adj Flow Rate, veh/h	856	0	512	1111		
Peak Hour Factor	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	0	0	0	0		
Cap, veh/h	1294		590	2755		
Arrive On Green	0.43	0.00	0.39	0.91		
Sat Flow, veh/h	3120	1356	1524	3120		
Grp Volume(v), veh/h	856	0	512	1111		
Grp Sat Flow(s),veh/h/ln	1520	1356	1524	1520		
Q Serve(g_s), s	10.8	0.0	14.9	2.6		
Cycle Q Clear(g_c), s	10.8	0.0	14.9	2.6		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	1294		590	2755		
V/C Ratio(X)	0.66		0.87	0.40		
Avail Cap(c_a), veh/h	6042		1443	9205		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00		
Uniform Delay (d), s/veh	11.0	0.0	13.6	0.3		
Incr Delay (d2), s/veh	0.6	0.0	4.1	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.9	0.0	4.7	0.0		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.6	0.0	17.7	0.4		
LnGrp LOS	B		B	A		
Approach Vol, veh/h	856			1623		
Approach Delay, s/veh	11.6			5.9		
Approach LOS	B			A		
Timer - Assigned Phs			3	4		8
Phs Duration (G+Y+Rc), s			23.1	25.0		48.1
Change Period (Y+Rc), s			4.5	4.5		4.5
Max Green Setting (Gmax), s			45.5	95.5		145.5
Max Q Clear Time (g_c+I1), s			16.9	12.8		4.6
Green Ext Time (p_c), s			1.7	7.6		11.4
Intersection Summary						
HCM 6th Ctrl Delay			7.8			
HCM 6th LOS			A			
Notes						
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.						

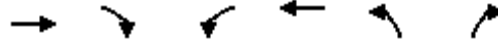
HCM 6th Signalized Intersection Summary
5: I605 NB Off-Ramp & Live Oak Avenue

Buildout Year (2028) With Project - Option 2
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑				↑↑			↑↑
Traffic Volume (veh/h)	0	791	0	0	937	0	0	0	685	0	0	589
Future Volume (veh/h)	0	791	0	0	937	0	0	0	685	0	0	589
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1600	0	0	1600	0	0	0	1600	0	0	1600
Adj Flow Rate, veh/h	0	833	0	0	986	0	0	0	721	0	0	620
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	2103	0	0	2103	0	0	0	0	0	0	0
Arrive On Green	0.00	0.69	0.00	0.00	0.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	3200	0	0	3200	0		0			0	
Grp Volume(v), veh/h	0	833	0	0	986	0		0.0			0.0	
Grp Sat Flow(s),veh/h/ln	0	1520	0	0	1520	0						
Q Serve(g_s), s	0.0	1.7	0.0	0.0	2.2	0.0						
Cycle Q Clear(g_c), s	0.0	1.7	0.0	0.0	2.2	0.0						
Prop In Lane	0.00		0.00	0.00		0.00						
Lane Grp Cap(c), veh/h	0	2103	0	0	2103	0						
V/C Ratio(X)	0.00	0.40	0.00	0.00	0.47	0.00						
Avail Cap(c_a), veh/h	0	3768	0	0	3768	0						
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00						
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00						
Uniform Delay (d), s/veh	0.0	1.0	0.0	0.0	1.0	0.0						
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.2	0.0						
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0						
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0						
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	1.1	0.0	0.0	1.2	0.0						
LnGrp LOS	A	A	A	A	A	A						
Approach Vol, veh/h		833			986							
Approach Delay, s/veh		1.1			1.2							
Approach LOS		A			A							
Timer - Assigned Phs				4				8				
Phs Duration (G+Y+Rc), s				14.6				14.6				
Change Period (Y+Rc), s				4.5				4.5				
Max Green Setting (Gmax), s				18.1				18.1				
Max Q Clear Time (g_c+I1), s				3.7				4.2				
Green Ext Time (p_c), s				5.0				5.9				
Intersection Summary												
HCM 6th Ctrl Delay				1.1								
HCM 6th LOS				A								

Intersection Capacity Utilization
6: Graham Road & Live Oak Avenue

Buildout Year (2028) With Project - Option 2
PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	
Volume (vph)	1525	37	0	913	18	25
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No				No
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1525	37	0	913	43	0
Lane Utilization Factor	0.95	1.00	1.00	0.95	1.00	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.89	0.85
Saturated Flow (vph)	3046	1360	1520	3046	1430	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	60.1	3.3	0.0	36.0		0.0
Adj Reference Time (s)	64.6	9.5	9.5	40.5		0.0
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	95	
Reference Time A (s)	60.1		0.0	36.0	54.1	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	60.1			36.0		
Adj Reference Time (s)	64.6			40.5		
Split Option						
Ref Time Combined (s)	60.1		0.0	36.0	3.6	
Ref Time Seperate (s)	60.1		0.0	36.0	1.5	
Reference Time (s)	60.1		36.0	36.0	3.6	
Adj Reference Time (s)	64.6		40.5	40.5	9.5	
Summary	EB WB		NB		Combined	
Protected Option (s)	74.1		NA			
Permitted Option (s)	64.6		Err			
Split Option (s)	105.0		9.5			
Minimum (s)	64.6		9.5		74.1	
Right Turns	EBR					
Adj Reference Time (s)	9.5					
Cross Thru Ref Time (s)	0.0					
Oncoming Left Ref Time (s)	0.0					
Combined (s)	9.5					

Intersection Summary

Intersection Capacity Utilization 61.7% ICU Level of Service B
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection						
Int Delay, s/veh	5.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	58	1481	810	27	40	106
Future Vol, veh/h	58	1481	810	27	40	106
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	290	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	63	1610	880	29	43	115
























Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	909	0	-	0	1811 440
Stage 1	-	-	-	-	880 -
Stage 2	-	-	-	-	931 -
Critical Hdwy	4.14	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	2.22	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	745	-	-	-	70 565
Stage 1	-	-	-	-	366 -
Stage 2	-	-	-	-	344 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	745	-	-	-	64 565
Mov Cap-2 Maneuver	-	-	-	-	64 -
Stage 1	-	-	-	-	335 -
Stage 2	-	-	-	-	344 -

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	91.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	745	-	-	-	180
HCM Lane V/C Ratio	0.085	-	-	-	0.882
HCM Control Delay (s)	10.3	-	-	-	91.3
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	0.3	-	-	-	6.5






















Intersection Capacity Utilization
8: Live Oak Avenue & Rivergrade Road

Buildout Year (2028) With Project - Option 2
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	9	1453	47	109	714	20	61	69	231	15	27	42
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right	No			No			No			No		
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	9	1500	0	109	714	20	61	69	231	15	27	42
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1520	3032	0	1520	3046	1360	1520	3046	1360	1520	3046	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00			0.00			0.00		
Protected Option Allowed	Yes			Yes			Yes			Yes		
Reference Time (s)	0.7	59.4	0.0	8.6	28.1	1.8	4.8	2.7	20.4	1.2	1.1	3.7
Adj Reference Time (s)	9.5	63.9	0.0	13.1	32.6	9.5	9.5	9.5	24.9	9.5	9.5	9.5
Permitted Option												
Adj Saturation A (vph)	101	1516		101	1523		101	1523		101	1523	
Reference Time A (s)	10.7	59.4		129.1	28.1		72.2	2.7		17.8	1.1	
Adj Saturation B (vph)	NA	NA		NA	NA		0	3046		0	3046	
Reference Time B (s)	NA	NA		NA	NA		12.8	2.7		9.2	1.1	
Reference Time (s)		59.4			129.1			12.8			9.2	
Adj Reference Time (s)		63.9			133.6			17.3			13.7	
Split Option												
Ref Time Combined (s)	0.7	59.4		8.6	28.1		4.8	2.7		1.2	1.1	
Ref Time Seperate (s)	0.7	57.5		8.6	28.1		4.8	2.7		1.2	1.1	
Reference Time (s)	59.4	59.4		28.1	28.1		4.8	4.8		1.2	1.2	
Adj Reference Time (s)	63.9	63.9		32.6	32.6		9.5	9.5		9.5	9.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	77.0		19.0									
Permitted Option (s)	133.6		17.3									
Split Option (s)	96.5		19.0									
Minimum (s)	77.0		17.3		94.3							
Right Turns												
	WBR	NBR	SBR									
Adj Reference Time (s)	9.5	24.9	9.5									
Cross Thru Ref Time (s)	9.5	63.9	32.6									
Oncoming Left Ref Time (s)	9.5	9.5	9.5									
Combined (s)	28.5	98.2	51.6									
Intersection Summary												
Intersection Capacity Utilization			81.9%	ICU Level of Service				D				
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
9: Stewart Avenue & Live Oak Avenue

Buildout Year (2028) With Project - Option 2
PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	53	1455	318	35	748	17	42	36	25	31	147	8	
Pedestrians													
Ped Button													
Pedestrian Timing (s)													
Free Right			No			No			No			No	
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.5	
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	5.0	
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120	
Volume Combined (vph)	53	1455	318	35	765	0	0	103	0	31	147	8	
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	0.94	0.85	0.95	1.00	0.85	
Saturated Flow (vph)	1520	3046	1360	1520	4344	0	0	1510	0	1520	1600	1360	
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00		
Protected Option Allowed		Yes			Yes			No			No		
Reference Time (s)	4.2	57.3	28.1	2.8	21.1	0.0			0.0			0.7	
Adj Reference Time (s)	9.5	61.8	32.6	9.5	25.6	0.0			0.0			9.5	
Permitted Option													
Adj Saturation A (vph)	101	1523		101	1448		0	206		721	1600		
Reference Time A (s)	62.8	57.3		41.4	21.1		0.0	60.1		5.2	11.0		
Adj Saturation B (vph)	NA	NA		NA	NA		NA	NA		0	1600		
Reference Time B (s)	NA	NA		NA	NA		NA	NA		10.4	11.0		
Reference Time (s)		62.8			41.4			60.1			11.0		
Adj Reference Time (s)		67.3			45.9			64.6			15.5		
Split Option													
Ref Time Combined (s)	4.2	57.3		2.8	21.1		0.0	8.2		2.4	11.0		
Ref Time Seperate (s)	4.2	57.3		2.8	20.7		3.3	2.9		2.4	11.0		
Reference Time (s)	57.3	57.3		21.1	21.1		8.2	8.2		11.0	11.0		
Adj Reference Time (s)	61.8	61.8		25.6	25.6		12.7	12.7		15.5	15.5		
Summary													
	EB WB		NB SB		Combined								
Protected Option (s)	71.3		NA										
Permitted Option (s)	67.3		64.6										
Split Option (s)	87.4		28.2										
Minimum (s)	67.3		28.2		95.5								
Right Turns													
	EBR		SBR										
Adj Reference Time (s)	32.6		9.5										
Cross Thru Ref Time (s)	15.5		25.6										
Oncoming Left Ref Time (s)	9.5		12.7										
Combined (s)	57.6		47.8										
Intersection Summary													
Intersection Capacity Utilization			79.6%		ICU Level of Service						D		
Reference Times and Phasing Options do not represent an optimized timing plan.													

Intersection Capacity Utilization
10: Baldwin Park Boulevard & Live Oak Avenue

Buildout Year (2028) With Project - Option 2
PM Peak Hour



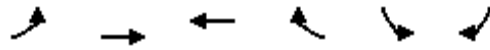
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↓
Volume (vph)	1224	377	339	696	106	190
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No			No	
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1224	377	339	696	106	190
Lane Utilization Factor	0.95	1.00	1.00	0.95	0.97	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	1360	1520	3046	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	48.2	33.3	26.8	27.4		16.8
Adj Reference Time (s)	52.7	37.8	31.3	31.9		21.3
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	154	
Reference Time A (s)	48.2		401.4	27.4	41.4	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	48.2			401.4		
Adj Reference Time (s)	52.7			405.9		
Split Option						
Ref Time Combined (s)	48.2		26.8	27.4	2.8	
Ref Time Seperate (s)	48.2		26.8	27.4	2.8	
Reference Time (s)	48.2		27.4	27.4	2.8	
Adj Reference Time (s)	52.7		31.9	31.9	9.5	
Summary						
	EB WB		NB		Combined	
Protected Option (s)	84.0		NA			
Permitted Option (s)	405.9		Err			
Split Option (s)	84.6		9.5			
Minimum (s)	84.0		9.5		93.5	
Right Turns						
	EBR	NBR				
Adj Reference Time (s)	37.8	21.3				
Cross Thru Ref Time (s)	0.0	52.7				
Oncoming Left Ref Time (s)	31.3	0.0				
Combined (s)	69.0	74.0				

Intersection Summary

Intersection Capacity Utilization 77.9% ICU Level of Service D
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
11: Live Oak Avenue & Arrow Highway

Buildout Year (2028) With Project - Option 2
PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑↑	↑↑	↗	↖↗	↗
Volume (vph)	72	1324	852	551	1117	153
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	72	1324	852	551	1117	153
Lane Utilization Factor	1.00	0.91	0.95	1.00	0.97	1.00
Turning Factor (vph)	0.95	1.00	1.00	0.85	0.95	0.85
Saturated Flow (vph)	1520	4358	3046	1360	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	5.7	36.5	33.6	48.6		13.5
Adj Reference Time (s)	10.2	41.0	38.1	53.1		18.0
Permitted Option						
Adj Saturation A (vph)	101	1453	1523		154	
Reference Time A (s)	85.3	36.5	33.6		435.9	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		85.3	33.6			
Adj Reference Time (s)		89.8	38.1			
Split Option						
Ref Time Combined (s)	5.7	36.5	33.6		29.1	
Ref Time Seperate (s)	5.7	36.5	33.6		29.1	
Reference Time (s)	36.5	36.5	33.6		29.1	
Adj Reference Time (s)	41.0	41.0	38.1		33.6	
Summary						
	EB WB		SB		Combined	
Protected Option (s)	48.2		NA			
Permitted Option (s)	89.8		Err			
Split Option (s)	79.0		33.6			
Minimum (s)	48.2		33.6		81.8	
Right Turns						
	WBR	SBR				
Adj Reference Time (s)	53.1	18.0				
Cross Thru Ref Time (s)	0.0	38.1				
Oncoming Left Ref Time (s)	10.2	0.0				
Combined (s)	63.3	56.1				

Intersection Summary

Intersection Capacity Utilization 68.2% ICU Level of Service C
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
12: Rivergrade Road & Arrow Highway

Buildout Year (2028) With Project - Option 2
PM Peak Hour



Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↑↑	↑	↵	↑↑	↵↵	↵
Volume (vph)	1361	143	46	583	165	18
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No				No
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1361	143	46	583	165	18
Lane Utilization Factor	0.95	1.00	1.00	0.95	0.97	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	1360	1520	3046	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	53.6	12.6	3.6	23.0		1.6
Adj Reference Time (s)	58.1	17.1	9.5	27.5		9.5
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	154	
Reference Time A (s)	53.6		54.5	23.0	64.4	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	53.6			54.5		
Adj Reference Time (s)	58.1			59.0		
Split Option						
Ref Time Combined (s)	53.6		3.6	23.0	4.3	
Ref Time Seperate (s)	53.6		3.6	23.0	4.3	
Reference Time (s)	53.6		23.0	23.0	4.3	
Adj Reference Time (s)	58.1		27.5	27.5	9.5	
Summary	NW SE		NE		Combined	
Protected Option (s)	67.6		NA			
Permitted Option (s)	59.0		Err			
Split Option (s)	85.6		9.5			
Minimum (s)	59.0		9.5		68.5	
Right Turns	SER	NER				
Adj Reference Time (s)	17.1	9.5				
Cross Thru Ref Time (s)	0.0	58.1				
Oncoming Left Ref Time (s)	9.5	0.0				
Combined (s)	26.6	67.6				

Intersection Summary

Intersection Capacity Utilization 57.1% ICU Level of Service B
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
13: San Gabriel River Trail & Arrow Highway

Buildout Year (2028) With Project - Option 2
PM Peak Hour



Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↑↑			↑↑		
Volume (vph)	1533	0	0	773	0	0
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No				No
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.0	4.0	4.5	4.0	4.0
Minimum Green (s)	5.0	4.0	4.0	5.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1533	0	0	773	0	0
Lane Utilization Factor	0.95	1.00	1.00	0.95	1.00	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	0	0	3046	0	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	60.4	0.0	0.0	30.4		0.0
Adj Reference Time (s)	64.9	0.0	0.0	34.9		0.0
Permitted Option						
Adj Saturation A (vph)	1523		0	1523	0	
Reference Time A (s)	60.4		0.0	30.4	0.0	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	60.4			30.4		
Adj Reference Time (s)	64.9			34.9		
Split Option						
Ref Time Combined (s)	60.4		0.0	30.4	0.0	
Ref Time Seperate (s)	60.4		0.0	30.4	0.0	
Reference Time (s)	60.4		30.4	30.4	0.0	
Adj Reference Time (s)	64.9		34.9	34.9	0.0	
Summary	NW SE		NE		Combined	
Protected Option (s)	64.9		NA			
Permitted Option (s)	64.9		Err			
Split Option (s)	99.8		0.0			
Minimum (s)	64.9		0.0		64.9	
Right Turns						
Adj Reference Time (s)						
Cross Thru Ref Time (s)						
Oncoming Left Ref Time (s)						
Combined (s)						

Intersection Summary

Intersection Capacity Utilization 54.1% ICU Level of Service A
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	1549	10	0	423	0	49
Future Vol, veh/h	1549	10	0	423	0	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1684	11	0	460	0	53

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	-	-	-	848
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	305
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	305
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	19.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	305	-	-	-
HCM Lane V/C Ratio	0.175	-	-	-
HCM Control Delay (s)	19.3	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.6	-	-	-

HCM 6th Signalized Intersection Summary
 17: Arrow Highway & I605 SB Off-Ramp



























Buildout Year (2028) With Project - Option 2
 PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↘	↗
Traffic Volume (veh/h)	0	1394	427	0	338	294
Future Volume (veh/h)	0	1394	427	0	338	294
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1600	1600	0	1600	1600
Adj Flow Rate, veh/h	0	1467	449	0	356	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	0	1620	1620	0	479	
Arrive On Green	0.00	0.53	0.53	0.00	0.31	0.00
Sat Flow, veh/h	0	3200	3200	0	1524	1356
Grp Volume(v), veh/h	0	1467	449	0	356	0
Grp Sat Flow(s),veh/h/ln	0	1520	1520	0	1524	1356
Q Serve(g_s), s	0.0	25.6	4.8	0.0	12.3	0.0
Cycle Q Clear(g_c), s	0.0	25.6	4.8	0.0	12.3	0.0
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1620	1620	0	479	
V/C Ratio(X)	0.00	0.91	0.28	0.00	0.74	
Avail Cap(c_a), veh/h	0	1678	1678	0	479	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	12.4	7.5	0.0	18.1	0.0
Incr Delay (d2), s/veh	0.0	7.3	0.1	0.0	10.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.4	1.3	0.0	5.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	19.7	7.6	0.0	28.1	0.0
LnGrp LOS	A	B	A	A	C	
Approach Vol, veh/h		1467	449		356	
Approach Delay, s/veh		19.7	7.6		28.1	
Approach LOS		B	A		C	
Timer - Assigned Phs				4	6	8
Phs Duration (G+Y+Rc), s				35.9	23.0	35.9
Change Period (Y+Rc), s				4.5	4.5	4.5
Max Green Setting (Gmax), s				32.5	18.5	32.5
Max Q Clear Time (g_c+I1), s				27.6	14.3	6.8
Green Ext Time (p_c), s				3.7	0.5	3.1
Intersection Summary						
HCM 6th Ctrl Delay			18.6			
HCM 6th LOS			B			
Notes						
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.						

Intersection Capacity Utilization
18: Arrow Highway & Avenida Barbosa

Buildout Year (2028) With Project - Option 2
PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		 			 					 			
Volume (vph)	271	812	0	225	493	267	6	31	269	720	9	448	
Pedestrians													
Ped Button													
Pedestrian Timing (s)													
Free Right	No			No			No			No			
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	2500	1600	1600	
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120	
Volume Combined (vph)	271	812	0	225	493	267	6	31	269	720	9	448	
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00	
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85	
Saturated Flow (vph)	1520	4358	0	1520	4358	1360	1520	1600	1360	4612	1600	1360	
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Pedestrian Frequency (%)	0.00		0.00			0.00			0.00				
Protected Option Allowed	Yes			Yes			Yes			Yes			
Reference Time (s)	21.4	22.4	0.0	17.8	13.6	23.6	0.5	2.3	23.7	18.7	0.7	39.5	
Adj Reference Time (s)	25.9	26.9	0.0	22.3	18.1	28.1	9.5	9.5	28.2	23.2	9.5	44.0	
Permitted Option													
Adj Saturation A (vph)	101	1453		101	1453		101	1600		154	1600		
Reference Time A (s)	320.9	22.4		266.4	13.6		7.1	2.3		281.0	0.7		
Adj Saturation B (vph)	NA	NA		NA	NA		0	1600		0	1600		
Reference Time B (s)	NA	NA		NA	NA		8.5	2.3		26.7	0.7		
Reference Time (s)		320.9			266.4			7.1			26.7		
Adj Reference Time (s)		325.4			270.9			11.6			31.2		
Split Option													
Ref Time Combined (s)	21.4	22.4		17.8	13.6		0.5	2.3		18.7	0.7		
Ref Time Seperate (s)	21.4	22.4		17.8	13.6		0.5	2.3		18.7	0.7		
Reference Time (s)	22.4	22.4		17.8	17.8		2.3	2.3		18.7	18.7		
Adj Reference Time (s)	26.9	26.9		22.3	22.3		9.5	9.5		23.2	23.2		
Summary													
	EB WB		NB SB		Combined								
Protected Option (s)	49.1		32.7										
Permitted Option (s)	325.4		31.2										
Split Option (s)	49.1		32.7										
Minimum (s)	49.1		31.2		80.4								
Right Turns													
	WBR		NBR		SBR								
Adj Reference Time (s)	28.1		28.2		44.0								
Cross Thru Ref Time (s)	9.5		26.9		18.1								
Oncoming Left Ref Time (s)	25.9		23.2		9.5								
Combined (s)	63.5		78.3		71.6								
Intersection Summary													
Intersection Capacity Utilization			67.0%		ICU Level of Service				C				
Reference Times and Phasing Options do not represent an optimized timing plan.													

Intersection Capacity Utilization
19: Valley Oak Lane & Arrow Highway

Buildout Year (2028) With Project - Option 2
PM Peak Hour

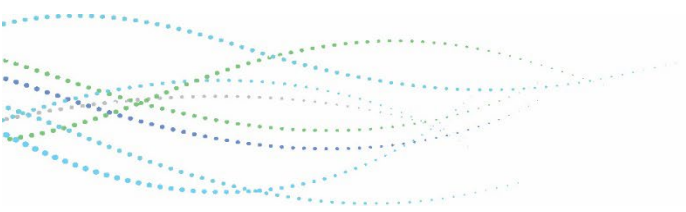


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↕			↕	
Volume (vph)	0	1083	0	21	1017	1	6	0	32	0	0	1
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	1083	0	21	1018	0	0	38	0	0	1	0
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	0.87	0.85	0.95	0.85	0.85
Saturated Flow (vph)	1520	4358	0	1520	4358	0	0	1387	0	0	1360	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00		0.00				0.00			0.00	
Protected Option Allowed		Yes			Yes			No			No	
Reference Time (s)	0.0	29.8	0.0	1.7	28.0	0.0			0.0			0.0
Adj Reference Time (s)	9.5	34.3	0.0	9.5	32.5	0.0			0.0			0.0
Permitted Option												
Adj Saturation A (vph)	101	1453		101	1453		0	411		0	1360	
Reference Time A (s)	0.0	29.8		24.9	28.0		0.0	11.1		0.0	0.1	
Adj Saturation B (vph)	NA	NA		NA	NA		0	0		0	1360	
Reference Time B (s)	NA	NA		NA	NA		8.5	11.3		0.0	0.1	
Reference Time (s)		29.8			28.0			11.1			0.1	
Adj Reference Time (s)		34.3			32.5			15.6			9.5	
Split Option												
Ref Time Combined (s)	0.0	29.8		1.7	28.0		0.0	3.3		0.0	0.1	
Ref Time Seperate (s)	0.0	29.8		1.7	28.0		0.5	0.0		0.0	0.0	
Reference Time (s)	29.8	29.8		28.0	28.0		3.3	3.3		0.1	0.1	
Adj Reference Time (s)	34.3	34.3		32.5	32.5		9.5	9.5		9.5	9.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	43.8		NA									
Permitted Option (s)	34.3		15.6									
Split Option (s)	66.9		19.0									
Minimum (s)	34.3		15.6		49.9							
Right Turns												
Adj Reference Time (s)												
Cross Thru Ref Time (s)												
Oncoming Left Ref Time (s)												
Combined (s)												
Intersection Summary												
Intersection Capacity Utilization			41.6%		ICU Level of Service		A					
Reference Times and Phasing Options do not represent an optimized timing plan.												



Buildout Year (2028) With Project – Project Option 1 (Mitigation Measures)

LOS Calculation Sheets



Intersection Capacity Utilization
7: Live Oak Avenue & Live Oak Lane

Buildout Year (2028) Without Project - Option 1 with Mitigation
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	196	687	1147	118	19	120
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	196	687	1147	118	139	0
Lane Utilization Factor	1.00	0.95	0.95	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	1.00	0.85	0.86	0.85
Saturated Flow (vph)	1520	3046	3046	1360	1383	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	15.5	27.1	45.2	10.4		0.0
Adj Reference Time (s)	20.0	31.6	49.7	14.9		0.0
Permitted Option						
Adj Saturation A (vph)	101	1523	1523		92	
Reference Time A (s)	232.1	27.1	45.2		180.9	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		232.1	45.2			
Adj Reference Time (s)		236.6	49.7			
Split Option						
Ref Time Combined (s)	15.5	27.1	45.2		12.1	
Ref Time Seperate (s)	15.5	27.1	45.2		1.6	
Reference Time (s)	27.1	27.1	45.2		12.1	
Adj Reference Time (s)	31.6	31.6	49.7		16.6	
Summary						
	EB WB		SB		Combined	
Protected Option (s)	69.7		NA			
Permitted Option (s)	236.6		Err			
Split Option (s)	81.2		16.6			
Minimum (s)	69.7		16.6		86.2	
Right Turns						
	WBR					
Adj Reference Time (s)	14.9					
Cross Thru Ref Time (s)	0.0					
Oncoming Left Ref Time (s)	20.0					
Combined (s)	34.9					

Intersection Summary

Intersection Capacity Utilization 71.8% ICU Level of Service C
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
7: Live Oak Avenue & Live Oak Lane

Buildout Year (2028) Without Project - Option 1 with Mitigation
PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	69	1481	810	34	56	144
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	69	1481	810	34	200	0
Lane Utilization Factor	1.00	0.95	0.95	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	1.00	0.85	0.88	0.85
Saturated Flow (vph)	1520	3046	3046	1360	1407	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	5.4	58.3	31.9	3.0		0.0
Adj Reference Time (s)	9.9	62.8	36.4	9.5		0.0
Permitted Option						
Adj Saturation A (vph)	101	1523	1523		94	
Reference Time A (s)	81.7	58.3	31.9		255.8	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		81.7	31.9			
Adj Reference Time (s)		86.2	36.4			
Split Option						
Ref Time Combined (s)	5.4	58.3	31.9		17.1	
Ref Time Seperate (s)	5.4	58.3	31.9		4.8	
Reference Time (s)	58.3	58.3	31.9		17.1	
Adj Reference Time (s)	62.8	62.8	36.4		21.6	
Summary						
	EB WB		SB		Combined	
Protected Option (s)	62.8		NA			
Permitted Option (s)	86.2		Err			
Split Option (s)	99.2		21.6			
Minimum (s)	62.8		21.6		84.4	
Right Turns						
	WBR					
Adj Reference Time (s)	9.5					
Cross Thru Ref Time (s)	0.0					
Oncoming Left Ref Time (s)	9.9					
Combined (s)	19.4					

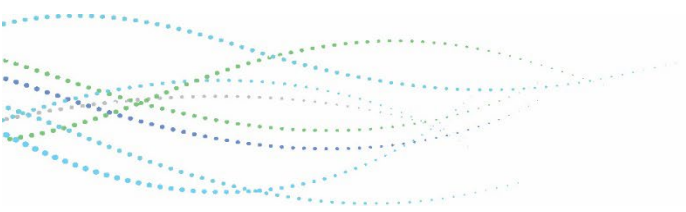
Intersection Summary

Intersection Capacity Utilization 70.3% ICU Level of Service C
Reference Times and Phasing Options do not represent an optimized timing plan.



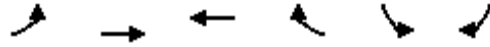
Buildout Year (2028) With Project – Project Option 2 (Mitigation Measures)

LOS Calculation Sheets



Intersection Capacity Utilization
7: Live Oak Avenue & Live Oak Lane

Buildout Year (2028) With Project - Option 2 with Mitigation
AM Peak Hour



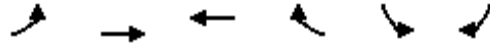
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	151	687	1147	87	14	107
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	151	687	1147	87	121	0
Lane Utilization Factor	1.00	0.95	0.95	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	1.00	0.85	0.86	0.85
Saturated Flow (vph)	1520	3046	3046	1360	1380	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	11.9	27.1	45.2	7.7		0.0
Adj Reference Time (s)	16.4	31.6	49.7	12.2		0.0
Permitted Option						
Adj Saturation A (vph)	101	1523	1523		92	
Reference Time A (s)	178.8	27.1	45.2		157.9	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		178.8	45.2			
Adj Reference Time (s)		183.3	49.7			
Split Option						
Ref Time Combined (s)	11.9	27.1	45.2		10.5	
Ref Time Seperate (s)	11.9	27.1	45.2		1.2	
Reference Time (s)	27.1	27.1	45.2		10.5	
Adj Reference Time (s)	31.6	31.6	49.7		15.0	
Summary						
	EB WB		SB		Combined	
Protected Option (s)	66.1		NA			
Permitted Option (s)	183.3		Err			
Split Option (s)	81.2		15.0			
Minimum (s)	66.1		15.0		81.1	
Right Turns						
	WBR					
Adj Reference Time (s)	12.2					
Cross Thru Ref Time (s)	0.0					
Oncoming Left Ref Time (s)	16.4					
Combined (s)	28.6					

Intersection Summary

Intersection Capacity Utilization 67.6% ICU Level of Service C
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
7: Live Oak Avenue & Live Oak Lane

Buildout Year (2028) Without Project - Option 2 with Mitigation
PM Peak Hour



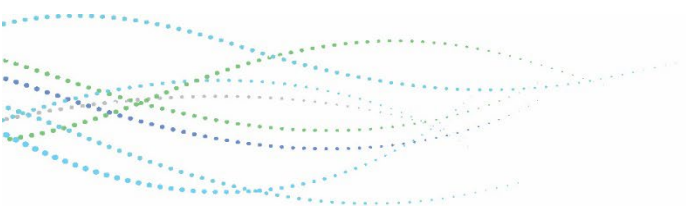
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	58	1481	810	27	40	106
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	58	1481	810	27	146	0
Lane Utilization Factor	1.00	0.95	0.95	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	1.00	0.85	0.88	0.85
Saturated Flow (vph)	1520	3046	3046	1360	1406	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	4.6	58.3	31.9	2.4		0.0
Adj Reference Time (s)	9.5	62.8	36.4	9.5		0.0
Permitted Option						
Adj Saturation A (vph)	101	1523	1523		94	
Reference Time A (s)	68.7	58.3	31.9		186.9	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		68.7	31.9			
Adj Reference Time (s)		73.2	36.4			
Split Option						
Ref Time Combined (s)	4.6	58.3	31.9		12.5	
Ref Time Seperate (s)	4.6	58.3	31.9		3.4	
Reference Time (s)	58.3	58.3	31.9		12.5	
Adj Reference Time (s)	62.8	62.8	36.4		17.0	
Summary	EB WB		SB		Combined	
Protected Option (s)	62.8		NA			
Permitted Option (s)	73.2		Err			
Split Option (s)	99.2		17.0			
Minimum (s)	62.8		17.0		79.8	
Right Turns	WBR					
Adj Reference Time (s)	9.5					
Cross Thru Ref Time (s)	0.0					
Oncoming Left Ref Time (s)	9.5					
Combined (s)	19.0					

Intersection Summary

Intersection Capacity Utilization 66.5% ICU Level of Service C
Reference Times and Phasing Options do not represent an optimized timing plan.



Horizon Year (2040) Without Project LOS Calculation Sheets



Intersection Capacity Utilization
1: Live Oak Avenue & Arrow Highway (West)

Horizon Year (2040) Without Project
AM Peak Hour

























Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↵↵	↑↑↑	↵↵	↑
Volume (vph)	567	1233	251	2077	1500	300
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		Yes				No
Ideal Flow	1600	1600	2500	1600	2500	1600
Lost Time (s)	4.5	4.0	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	4.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	978	822	251	2077	1500	300
Lane Utilization Factor	0.91	1.00	0.97	0.91	0.97	1.00
Turning Factor (vph)	0.94	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	4084	1360	4612	4358	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	28.7	72.5	6.5	57.2		26.5
Adj Reference Time (s)	33.2	76.5	11.0	61.7		31.0
Permitted Option						
Adj Saturation A (vph)	1361		154	1453	154	
Reference Time A (s)	28.7		98.0	57.2	585.4	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	28.7			98.0		
Adj Reference Time (s)	33.2			102.5		
Split Option						
Ref Time Combined (s)	28.7		6.5	57.2	39.0	
Ref Time Seperate (s)	16.7		6.5	57.2	39.0	
Reference Time (s)	28.7		57.2	57.2	39.0	
Adj Reference Time (s)	33.2		61.7	61.7	43.5	
Summary						
	EB WB		NB		Combined	
Protected Option (s)	61.7		NA			
Permitted Option (s)	102.5		Err			
Split Option (s)	94.9		43.5			
Minimum (s)	61.7		43.5		105.2	
Right Turns						
	EBR	NBR				
Adj Reference Time (s)	76.5	31.0				
Cross Thru Ref Time (s)	0.0	33.2				
Oncoming Left Ref Time (s)	0.0	0.0				
Combined (s)	76.5	64.2				

Intersection Summary

Intersection Capacity Utilization 87.7% ICU Level of Service E
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
2: Speedway Drive & Live Oak Avenue

Horizon Year (2040) Without Project
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Volume (vph)	46	1349	88	93	1880	78	32	0	33	52	0	30
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right	No			No			No			No		
Ideal Flow	1600	1600	1600	1600	1600	1600	2500	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.0	4.5	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	46	1437	0	93	1958	0	32	0	33	52	30	0
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.99	0.85	0.95	0.99	0.85	0.95	1.00	0.85	0.95	0.85	0.85
Saturated Flow (vph)	1520	4318	0	1520	4332	0	4612	0	1360	1520	1360	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00			0.00			0.00		
Protected Option Allowed	Yes			Yes			Yes			Yes		
Reference Time (s)	3.6	39.9	0.0	7.3	54.2	0.0	0.8	0.0	2.9	4.1	2.6	0.0
Adj Reference Time (s)	9.5	44.4	0.0	11.8	58.7	0.0	9.5	0.0	9.5	9.5	9.5	0.0
Permitted Option												
Adj Saturation A (vph)	101	1439		101	1444		154	0		101	1360	
Reference Time A (s)	54.5	39.9		110.1	54.2		12.5	0.0		61.6	2.6	
Adj Saturation B (vph)	NA	NA		NA	NA		0	0		0	1360	
Reference Time B (s)	NA	NA		NA	NA		8.8	0.0		12.1	2.6	
Reference Time (s)		54.5			110.1			8.8			12.1	
Adj Reference Time (s)		59.0			114.6			12.8			16.6	
Split Option												
Ref Time Combined (s)	3.6	39.9		7.3	54.2		0.8	0.0		4.1	2.6	
Ref Time Seperate (s)	3.6	37.5		7.3	52.1		0.8	0.0		4.1	0.0	
Reference Time (s)	39.9	39.9		54.2	54.2		0.8	0.8		4.1	4.1	
Adj Reference Time (s)	44.4	44.4		58.7	58.7		8.0	8.0		9.5	9.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	68.2		19.0									
Permitted Option (s)	114.6		16.6									
Split Option (s)	103.2		17.5									
Minimum (s)	68.2		16.6		84.8							
Right Turns												
	NBR											
Adj Reference Time (s)	9.5											
Cross Thru Ref Time (s)	44.4											
Oncoming Left Ref Time (s)	9.5											
Combined (s)	63.4											
Intersection Summary												
Intersection Capacity Utilization	70.7%		ICU Level of Service						C			
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
3: Live Oak Avenue & Spanish Oak Drive

Horizon Year (2040) Without Project
AM Peak Hour



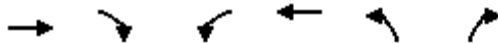
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑↑	↑↑↑		↘	↘
Volume (vph)	6	1349	1996	173	44	2
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.0	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	4.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	6	1349	2169	0	44	2
Lane Utilization Factor	1.00	0.91	0.91	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.99	0.85	0.95	0.85
Saturated Flow (vph)	1520	4358	4306	0	1520	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	0.5	37.1	60.4	0.0		0.2
Adj Reference Time (s)	9.5	41.6	64.9	0.0		9.5
Permitted Option						
Adj Saturation A (vph)	101	1453	1435		101	
Reference Time A (s)	7.1	37.1	60.4		52.1	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		37.1	60.4			
Adj Reference Time (s)		41.6	64.9			
Split Option						
Ref Time Combined (s)	0.5	37.1	60.4		3.5	
Ref Time Seperate (s)	0.5	37.1	55.6		3.5	
Reference Time (s)	37.1	37.1	60.4		3.5	
Adj Reference Time (s)	41.6	41.6	64.9		9.5	
Summary						
	EB WB		SB		Combined	
Protected Option (s)	74.4		NA			
Permitted Option (s)	64.9		Err			
Split Option (s)	106.6		9.5			
Minimum (s)	64.9		9.5		74.4	
Right Turns						
	SBR					
Adj Reference Time (s)	9.5					
Cross Thru Ref Time (s)	64.9					
Oncoming Left Ref Time (s)	0.0					
Combined (s)	74.4					

Intersection Summary

Intersection Capacity Utilization 62.0% ICU Level of Service B
Reference Times and Phasing Options do not represent an optimized timing plan.

HCM 6th Signalized Intersection Summary
4: I605 SB On-Ramp & Live Oak Avenue

Horizon Year (2040) Without Project
AM Peak Hour















Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑		
Traffic Volume (veh/h)	387	613	503	1996	0	0
Future Volume (veh/h)	387	613	503	1996	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1600	1600	1600	1600		
Adj Flow Rate, veh/h	407	0	529	2101		
Peak Hour Factor	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	0	0	0	0		
Cap, veh/h	1337		595	2782		
Arrive On Green	0.44	0.00	0.39	0.92		
Sat Flow, veh/h	3120	1356	1524	3120		
Grp Volume(v), veh/h	407	0	529	2101		
Grp Sat Flow(s),veh/h/ln	1520	1356	1524	1520		
Q Serve(g_s), s	4.6	0.0	17.2	10.1		
Cycle Q Clear(g_c), s	4.6	0.0	17.2	10.1		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	1337		595	2782		
V/C Ratio(X)	0.30		0.89	0.76		
Avail Cap(c_a), veh/h	2147		961	4323		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00		
Uniform Delay (d), s/veh	9.6	0.0	15.1	0.6		
Incr Delay (d2), s/veh	0.1	0.0	6.3	0.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.3	0.0	6.0	0.2		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.7	0.0	21.4	1.0		
LnGrp LOS	A		C	A		
Approach Vol, veh/h	407			2630		
Approach Delay, s/veh	9.7			5.1		
Approach LOS	A			A		
Timer - Assigned Phs			3	4		8
Phs Duration (G+Y+Rc), s			25.2	27.8		53.1
Change Period (Y+Rc), s			4.5	4.5		4.5
Max Green Setting (Gmax), s			33.5	37.5		75.5
Max Q Clear Time (g_c+I1), s			19.2	6.6		12.1
Green Ext Time (p_c), s			1.6	2.9		36.5
Intersection Summary						
HCM 6th Ctrl Delay			5.8			
HCM 6th LOS			A			

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

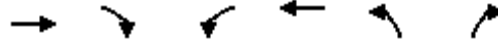
HCM 6th Signalized Intersection Summary
5: I605 NB Off-Ramp & Live Oak Avenue

Horizon Year (2040) Without Project
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑				↑↑			↑↑
Traffic Volume (veh/h)	0	374	0	0	1475	0	0	0	500	0	0	799
Future Volume (veh/h)	0	374	0	0	1475	0	0	0	500	0	0	799
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1600	0	0	1600	0	0	0	1600	0	0	1600
Adj Flow Rate, veh/h	0	394	0	0	1553	0	0	0	526	0	0	841
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	2551	0	0	2551	0	0	0	0	0	0	0
Arrive On Green	0.00	0.84	0.00	0.00	0.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	3200	0	0	3200	0		0			0	
Grp Volume(v), veh/h	0	394	0	0	1553	0		0.0			0.0	
Grp Sat Flow(s),veh/h/ln	0	1520	0	0	1520	0						
Q Serve(g_s), s	0.0	0.7	0.0	0.0	4.7	0.0						
Cycle Q Clear(g_c), s	0.0	0.7	0.0	0.0	4.7	0.0						
Prop In Lane	0.00		0.00	0.00		0.00						
Lane Grp Cap(c), veh/h	0	2551	0	0	2551	0						
V/C Ratio(X)	0.00	0.15	0.00	0.00	0.61	0.00						
Avail Cap(c_a), veh/h	0	4614	0	0	4614	0						
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00						
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00						
Uniform Delay (d), s/veh	0.0	0.4	0.0	0.0	0.7	0.0						
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.2	0.0						
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0						
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.1	0.0						
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.4	0.0	0.0	1.0	0.0						
LnGrp LOS	A	A	A	A	A	A						
Approach Vol, veh/h		394			1553							
Approach Delay, s/veh		0.4			1.0							
Approach LOS		A			A							
Timer - Assigned Phs				4				8				
Phs Duration (G+Y+Rc), s				28.0				28.0				
Change Period (Y+Rc), s				4.5				4.5				
Max Green Setting (Gmax), s				42.5				42.5				
Max Q Clear Time (g_c+I1), s				2.7				6.7				
Green Ext Time (p_c), s				2.9				16.8				
Intersection Summary												
HCM 6th Ctrl Delay				0.9								
HCM 6th LOS				A								

Intersection Capacity Utilization
6: Graham Road & Live Oak Avenue

Horizon Year (2040) Without Project
AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↵	↑↑	↵	
Volume (vph)	884	82	25	1422	112	28
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No			No	
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	884	82	25	1422	140	0
Lane Utilization Factor	0.95	1.00	1.00	0.95	1.00	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.93	0.85
Saturated Flow (vph)	3046	1360	1520	3046	1490	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	34.8	7.2	2.0	56.0		0.0
Adj Reference Time (s)	39.3	11.7	9.5	60.5		0.0
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	99	
Reference Time A (s)	34.8		29.6	56.0	169.1	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	34.8			56.0		
Adj Reference Time (s)	39.3			60.5		
Split Option						
Ref Time Combined (s)	34.8		2.0	56.0	11.3	
Ref Time Seperate (s)	34.8		2.0	56.0	9.0	
Reference Time (s)	34.8		56.0	56.0	11.3	
Adj Reference Time (s)	39.3		60.5	60.5	15.8	
Summary						
	EB	WB		NB		Combined
Protected Option (s)	60.5			NA		
Permitted Option (s)	60.5			Err		
Split Option (s)	99.8			15.8		
Minimum (s)	60.5			15.8		76.3
Right Turns						
	EBR					
Adj Reference Time (s)	11.7					
Cross Thru Ref Time (s)	0.0					
Oncoming Left Ref Time (s)	9.5					
Combined (s)	21.2					
Intersection Summary						
Intersection Capacity Utilization			63.6%	ICU Level of Service		B

Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	76	806	1345	36	3	82
Future Vol, veh/h	76	806	1345	36	3	82
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	290	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	83	876	1462	39	3	89

























Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1501	0	-	0	2066 731
Stage 1	-	-	-	-	1462 -
Stage 2	-	-	-	-	604 -
Critical Hdwy	4.1	-	-	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	452	-	-	-	48 369
Stage 1	-	-	-	-	183 -
Stage 2	-	-	-	-	514 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	452	-	-	-	39 369
Mov Cap-2 Maneuver	-	-	-	-	39 -
Stage 1	-	-	-	-	149 -
Stage 2	-	-	-	-	514 -

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	23.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	452	-	-	-	284
HCM Lane V/C Ratio	0.183	-	-	-	0.325
HCM Control Delay (s)	14.7	-	-	-	23.7
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.7	-	-	-	1.4























Intersection Capacity Utilization
8: Live Oak Avenue & Rivergrade Road

Horizon Year (2040) Without Project
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	11	753	41	419	1283	8	38	56	109	11	109	48
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right	No			No			No			No		
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	11	753	41	419	1283	8	38	56	109	11	109	48
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1520	3046	1360	1520	3046	1360	1520	3046	1360	1520	3046	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00		0.00				0.00		0.00			
Protected Option Allowed	Yes		Yes			Yes		Yes				
Reference Time (s)	0.9	29.7	3.6	33.1	50.5	0.7	3.0	2.2	9.6	0.9	4.3	4.2
Adj Reference Time (s)	9.5	34.2	9.5	37.6	55.0	9.5	9.5	9.5	14.1	9.5	9.5	9.5
Permitted Option												
Adj Saturation A (vph)	101	1523	101		1523	101		1523	101		1523	
Reference Time A (s)	13.0	29.7	496.2		50.5	45.0		2.2	13.0		4.3	
Adj Saturation B (vph)	NA	NA	NA		NA	0		3046	0		3046	
Reference Time B (s)	NA	NA	NA		NA	11.0		2.2	8.9		4.3	
Reference Time (s)	29.7		496.2			11.0		8.9				
Adj Reference Time (s)	34.2		500.7			15.5		13.4				
Split Option												
Ref Time Combined (s)	0.9	29.7	33.1		50.5	3.0		2.2	0.9		4.3	
Ref Time Seperate (s)	0.9	29.7	33.1		50.5	3.0		2.2	0.9		4.3	
Reference Time (s)	29.7	29.7	50.5		50.5	3.0		3.0	4.3		4.3	
Adj Reference Time (s)	34.2	34.2	55.0		55.0	9.5		9.5	9.5		9.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	71.7		19.0									
Permitted Option (s)	500.7		15.5									
Split Option (s)	89.2		19.0									
Minimum (s)	71.7		15.5		87.2							
Right Turns												
	EBR	WBR	NBR	SBR								
Adj Reference Time (s)	9.5	9.5	14.1	9.5								
Cross Thru Ref Time (s)	9.5	9.5	34.2	55.0								
Oncoming Left Ref Time (s)	37.6	9.5	9.5	9.5								
Combined (s)	56.6	28.5	57.8	74.0								
Intersection Summary												
Intersection Capacity Utilization	72.7%		ICU Level of Service					C				
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
9: Stewart Avenue & Live Oak Avenue

Horizon Year (2040) Without Project
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	727	42	27	1841	21	203	91	33	7	36	35
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	30	727	42	27	1862	0	0	327	0	7	36	35
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	0.95	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1520	3046	1360	1520	4351	0	0	1527	0	1520	1600	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			No			No	
Reference Time (s)	2.4	28.6	3.7	2.1	51.4	0.0			0.0			3.1
Adj Reference Time (s)	9.5	33.1	9.5	9.5	55.9	0.0			0.0			9.5
Permitted Option												
Adj Saturation A (vph)	101	1523		101	1450		0	145		1045	1600	
Reference Time A (s)	35.5	28.6		32.0	51.4		0.0	269.9		0.8	2.7	
Adj Saturation B (vph)	NA	NA		NA	NA		0	0		NA	NA	
Reference Time B (s)	NA	NA		NA	NA		24.0	33.7		NA	NA	
Reference Time (s)		35.5			51.4			33.7			2.7	
Adj Reference Time (s)		40.0			55.9			38.2			9.5	
Split Option												
Ref Time Combined (s)	2.4	28.6		2.1	51.4		0.0	25.7		0.6	2.7	
Ref Time Separate (s)	2.4	28.6		2.1	50.8		16.0	7.1		0.6	2.7	
Reference Time (s)	28.6	28.6		51.4	51.4		25.7	25.7		2.7	2.7	
Adj Reference Time (s)	33.1	33.1		55.9	55.9		30.2	30.2		9.5	9.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	65.4		NA									
Permitted Option (s)	55.9		38.2									
Split Option (s)	89.0		39.7									
Minimum (s)	55.9		38.2		94.1							
Right Turns												
	EBR		SBR									
Adj Reference Time (s)	9.5		9.5									
Cross Thru Ref Time (s)	9.5		55.9									
Oncoming Left Ref Time (s)	9.5		30.2									
Combined (s)	28.5		95.6									
Intersection Summary												
Intersection Capacity Utilization			79.6%		ICU Level of Service				D			
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
10: Baldwin Park Boulevard & Live Oak Avenue

Horizon Year (2040) Without Project
AM Peak Hour



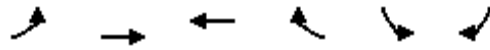
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Volume (vph)	678	116	221	1525	385	287
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No			No	
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	678	116	221	1525	385	287
Lane Utilization Factor	0.95	1.00	1.00	0.95	0.97	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	1360	1520	3046	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	26.7	10.2	17.4	60.1		25.3
Adj Reference Time (s)	31.2	14.7	21.9	64.6		29.8
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	154	
Reference Time A (s)	26.7		261.7	60.1	150.3	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	26.7			261.7		
Adj Reference Time (s)	31.2			266.2		
Split Option						
Ref Time Combined (s)	26.7		17.4	60.1	10.0	
Ref Time Seperate (s)	26.7		17.4	60.1	10.0	
Reference Time (s)	26.7		60.1	60.1	10.0	
Adj Reference Time (s)	31.2		64.6	64.6	14.5	
Summary						
	EB	WB		NB		Combined
Protected Option (s)	64.6			NA		
Permitted Option (s)	266.2			Err		
Split Option (s)	95.8			14.5		
Minimum (s)	64.6			14.5		79.1
Right Turns						
	EBR			NBR		
Adj Reference Time (s)	14.7			29.8		
Cross Thru Ref Time (s)	0.0			31.2		
Oncoming Left Ref Time (s)	21.9			0.0		
Combined (s)	36.7			61.0		

Intersection Summary

Intersection Capacity Utilization 65.9% ICU Level of Service C
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
11: Live Oak Avenue (East) & Arrow Highway

Horizon Year (2040) Without Project
AM Peak Hour









Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	100	831	1664	2185	617	60
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				Yes		No
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.0	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	4.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	100	831	1664	2185	617	60
Lane Utilization Factor	1.00	0.91	0.95	1.00	0.97	1.00
Turning Factor (vph)	0.95	1.00	1.00	0.85	0.95	0.85
Saturated Flow (vph)	1520	4358	3046	1360	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	7.9	22.9	65.5	192.8		5.3
Adj Reference Time (s)	12.4	27.4	70.0	196.8		9.8
Permitted Option						
Adj Saturation A (vph)	101	1453	1523		154	
Reference Time A (s)	118.4	22.9	65.5		240.8	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		118.4	65.5			
Adj Reference Time (s)		122.9	70.0			
Split Option						
Ref Time Combined (s)	7.9	22.9	65.5		16.1	
Ref Time Seperate (s)	7.9	22.9	65.5		16.1	
Reference Time (s)	22.9	22.9	65.5		16.1	
Adj Reference Time (s)	27.4	27.4	70.0		20.6	
Summary						
	EB WB		SB		Combined	
Protected Option (s)	82.4		NA			
Permitted Option (s)	122.9		Err			
Split Option (s)	97.4		20.6			
Minimum (s)	82.4		20.6		103.0	
Right Turns						
	WBR	SBR				
Adj Reference Time (s)	196.8	9.8				
Cross Thru Ref Time (s)	0.0	70.0				
Oncoming Left Ref Time (s)	0.0	0.0				
Combined (s)	196.8	79.8				

Intersection Summary

Intersection Capacity Utilization 85.8% ICU Level of Service E
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
12: Rivergrade Road & Arrow Highway

Horizon Year (2040) Without Project
AM Peak Hour

						
Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↑↑	↑	↔	↑↑	↔	↔
Volume (vph)	602	204	34	2483	188	11
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No				No
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	602	204	34	2483	188	11
Lane Utilization Factor	0.95	1.00	1.00	0.95	0.97	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	1360	1520	3046	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	23.7	18.0	2.7	97.8		1.0
Adj Reference Time (s)	28.2	22.5	9.5	102.3		9.5
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	154	
Reference Time A (s)	23.7		40.3	97.8	73.4	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	23.7			97.8		
Adj Reference Time (s)	28.2			102.3		
Split Option						
Ref Time Combined (s)	23.7		2.7	97.8	4.9	
Ref Time Seperate (s)	23.7		2.7	97.8	4.9	
Reference Time (s)	23.7		97.8	97.8	4.9	
Adj Reference Time (s)	28.2		102.3	102.3	9.5	
Summary	NW	SE	NE	Combined		
Protected Option (s)	102.3		NA			
Permitted Option (s)	102.3		Err			
Split Option (s)	130.5		9.5			
Minimum (s)	102.3		9.5	111.8		
Right Turns	SER	NER				
Adj Reference Time (s)	22.5	9.5				
Cross Thru Ref Time (s)	0.0	28.2				
Oncoming Left Ref Time (s)	9.5	0.0				
Combined (s)	32.0	37.7				

Intersection Summary

Intersection Capacity Utilization 93.2% ICU Level of Service F
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
13: San Gabriel River Trail & Arrow Highway

Horizon Year (2040) Without Project
AM Peak Hour



Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↑↑			↑↑		
Volume (vph)	982	0	0	2649	0	0
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No				No
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.0	4.0	4.5	4.0	4.0
Minimum Green (s)	5.0	4.0	4.0	5.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	982	0	0	2649	0	0
Lane Utilization Factor	0.95	1.00	1.00	0.95	1.00	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	0	0	3046	0	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	38.7	0.0	0.0	104.3		0.0
Adj Reference Time (s)	43.2	0.0	0.0	108.8		0.0
Permitted Option						
Adj Saturation A (vph)	1523		0	1523	0	
Reference Time A (s)	38.7		0.0	104.3	0.0	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	38.7			104.3		
Adj Reference Time (s)	43.2			108.8		
Split Option						
Ref Time Combined (s)	38.7		0.0	104.3	0.0	
Ref Time Seperate (s)	38.7		0.0	104.3	0.0	
Reference Time (s)	38.7		104.3	104.3	0.0	
Adj Reference Time (s)	43.2		108.8	108.8	0.0	
Summary	NW SE		NE		Combined	
Protected Option (s)	108.8		NA			
Permitted Option (s)	108.8		Err			
Split Option (s)	152.0		0.0			
Minimum (s)	108.8		0.0		108.8	
Right Turns						
Adj Reference Time (s)						
Cross Thru Ref Time (s)						
Oncoming Left Ref Time (s)						
Combined (s)						

Intersection Summary

Intersection Capacity Utilization 90.7% ICU Level of Service E
Reference Times and Phasing Options do not represent an optimized timing plan.

HCM 6th TWSC
15: Live Oak Lane & Arrow Highway

Horizon Year (2040) Without Project
AM Peak Hour

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	917	0	0	2067	0	36
Future Vol, veh/h	917	0	0	2067	0	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	997	0	0	2247	0	39

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	-	-	-	499
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	0	522
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	522
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	12.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	522	-	-	-
HCM Lane V/C Ratio	0.075	-	-	-
HCM Control Delay (s)	12.5	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-

HCM 6th Signalized Intersection Summary
 17: Arrow Highway & I605 SB Off-Ramp

Horizon Year (2040) Without Project
 AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↘	↘
Traffic Volume (veh/h)	0	913	2074	0	349	602
Future Volume (veh/h)	0	913	2074	0	349	602
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1600	1600	0	1600	1600
Adj Flow Rate, veh/h	0	961	2183	0	367	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	0	2243	2243	0	301	
Arrive On Green	0.00	0.74	0.74	0.00	0.20	0.00
Sat Flow, veh/h	0	3200	3200	0	1524	1356
Grp Volume(v), veh/h	0	961	2183	0	367	0
Grp Sat Flow(s),veh/h/ln	0	1520	1520	0	1524	1356
Q Serve(g_s), s	0.0	16.9	93.0	0.0	27.5	0.0
Cycle Q Clear(g_c), s	0.0	16.9	93.0	0.0	27.5	0.0
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2243	2243	0	301	
V/C Ratio(X)	0.00	0.43	0.97	0.00	1.22	
Avail Cap(c_a), veh/h	0	2261	2261	0	301	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	7.0	17.0	0.0	55.8	0.0
Incr Delay (d2), s/veh	0.0	0.1	13.2	0.0	124.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.1	32.2	0.0	21.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	7.1	30.2	0.0	180.6	0.0
LnGrp LOS	A	A	C	A	F	
Approach Vol, veh/h		961	2183		367	
Approach Delay, s/veh		7.1	30.2		180.6	
Approach LOS		A	C		F	
Timer - Assigned Phs				4	6	8
Phs Duration (G+Y+Rc), s				107.2	32.0	107.2
Change Period (Y+Rc), s				4.5	4.5	4.5
Max Green Setting (Gmax), s				103.5	27.5	103.5
Max Q Clear Time (g_c+I1), s				18.9	29.5	95.0
Green Ext Time (p_c), s				9.0	0.0	7.7

Intersection Summary



























HCM 6th Ctrl Delay	39.6
HCM 6th LOS	D

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection Capacity Utilization
18: Spanish Oak Drive/Avenida Barbosa & Arrow Highway

Horizon Year (2040) Without Project
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 					 		
Volume (vph)	370	607	1	307	2054	795	1	3	101	256	9	206
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right	No			No			No			No		
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	2500	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	370	608	0	307	2054	795	1	3	101	256	9	206
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1520	4357	0	1520	4358	1360	1520	1600	1360	4612	1600	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00		0.00			0.00			0.00			
Protected Option Allowed	Yes			Yes			Yes			Yes		
Reference Time (s)	29.2	16.7	0.0	24.2	56.6	70.1	0.1	0.2	8.9	6.7	0.7	18.2
Adj Reference Time (s)	33.7	21.2	0.0	28.7	61.1	74.6	9.5	9.5	13.4	11.2	9.5	22.7
Permitted Option												
Adj Saturation A (vph)	101	1452		101	1453		101	1600		154	1600	
Reference Time A (s)	438.2	16.7		363.6	56.6		1.2	0.2		99.9	0.7	
Adj Saturation B (vph)	NA	NA		NA	NA		0	1600		0	1600	
Reference Time B (s)	NA	NA		NA	NA		8.1	0.2		14.7	0.7	
Reference Time (s)		438.2			363.6			1.2			14.7	
Adj Reference Time (s)		442.7			368.1			9.5			19.2	
Split Option												
Ref Time Combined (s)	29.2	16.7		24.2	56.6		0.1	0.2		6.7	0.7	
Ref Time Seperate (s)	29.2	16.7		24.2	56.6		0.1	0.2		6.7	0.7	
Reference Time (s)	29.2	29.2		56.6	56.6		0.2	0.2		6.7	6.7	
Adj Reference Time (s)	33.7	33.7		61.1	61.1		9.5	9.5		11.2	11.2	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	94.8		20.7									
Permitted Option (s)	442.7		19.2									
Split Option (s)	94.8		20.7									
Minimum (s)	94.8		19.2		113.9							
Right Turns												
	WBR	NBR	SBR									
Adj Reference Time (s)	74.6	13.4	22.7									
Cross Thru Ref Time (s)	9.5	21.2	61.1									
Oncoming Left Ref Time (s)	33.7	11.2	9.5									
Combined (s)	117.9	45.8	93.2									
Intersection Summary												
Intersection Capacity Utilization			98.2%		ICU Level of Service				F			
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
19: Valley Oak Lane & Live Oak Avenue

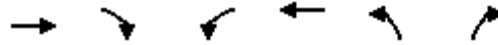
Horizon Year (2040) Without Project
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↕			↕	
Volume (vph)	0	868	1	48	2320	21	1	0	6	0	0	10
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	869	0	48	2341	0	0	7	0	0	10	0
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	0.87	0.85	0.95	0.85	0.85
Saturated Flow (vph)	1520	4358	0	1520	4353	0	0	1384	0	0	1360	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			No			No	
Reference Time (s)	0.0	23.9	0.0	3.8	64.5	0.0			0.0			0.0
Adj Reference Time (s)	9.5	28.4	0.0	9.5	69.0	0.0			0.0			0.0
Permitted Option												
Adj Saturation A (vph)	101	1453		101	1451		0	441		0	1360	
Reference Time A (s)	0.0	23.9		56.8	64.5		0.0	1.9		0.0	0.9	
Adj Saturation B (vph)	NA	NA		NA	NA		0	0		0	1360	
Reference Time B (s)	NA	NA		NA	NA		8.1	8.6		0.0	0.9	
Reference Time (s)		23.9			64.5			1.9			0.9	
Adj Reference Time (s)		28.4			69.0			9.5			9.5	
Split Option												
Ref Time Combined (s)	0.0	23.9		3.8	64.5		0.0	0.6		0.0	0.9	
Ref Time Seperate (s)	0.0	23.9		3.8	64.0		0.1	0.0		0.0	0.0	
Reference Time (s)	23.9	23.9		64.5	64.5		0.6	0.6		0.9	0.9	
Adj Reference Time (s)	28.4	28.4		69.0	69.0		9.5	9.5		9.5	9.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	78.5		NA									
Permitted Option (s)	69.0		9.5									
Split Option (s)	97.5		19.0									
Minimum (s)	69.0		9.5		78.5							
Right Turns												
Adj Reference Time (s)												
Cross Thru Ref Time (s)												
Oncoming Left Ref Time (s)												
Combined (s)												
Intersection Summary												
Intersection Capacity Utilization			65.5%		ICU Level of Service		C					
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
1: Live Oak Avenue & Arrow Highway (West)

Horizon Year (2040) Without Project
PM Peak Hour


























Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↑	↑↑↑	↑↑	↑
Volume (vph)	1145	2397	403	790	896	123
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right	Yes			No		
Ideal Flow	1600	1600	2500	1600	2500	1600
Lost Time (s)	4.5	4.0	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	4.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1944	1598	403	790	896	123
Lane Utilization Factor	0.91	1.00	0.97	0.91	0.97	1.00
Turning Factor (vph)	0.94	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	4090	1360	4612	4358	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00		
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	57.0	141.0	10.5	21.8	10.9	
Adj Reference Time (s)	61.5	145.0	15.0	26.3	15.4	
Permitted Option						
Adj Saturation A (vph)	1363	154		1453	154	
Reference Time A (s)	57.0	157.3		21.8	349.7	
Adj Saturation B (vph)	NA	NA		NA	NA	
Reference Time B (s)	NA	NA		NA	NA	
Reference Time (s)	57.0	157.3				
Adj Reference Time (s)	61.5	161.8				
Split Option						
Ref Time Combined (s)	57.0	10.5		21.8	23.3	
Ref Time Seperate (s)	33.6	10.5		21.8	23.3	
Reference Time (s)	57.0	21.8		21.8	23.3	
Adj Reference Time (s)	61.5	26.3		26.3	27.8	
Summary						
	EB WB		NB		Combined	
Protected Option (s)	76.5		NA			
Permitted Option (s)	161.8		Err			
Split Option (s)	87.8		27.8			
Minimum (s)	76.5		27.8		104.3	
Right Turns						
	EBR	NBR				
Adj Reference Time (s)	145.0	15.4				
Cross Thru Ref Time (s)	0.0	61.5				
Oncoming Left Ref Time (s)	0.0	0.0				
Combined (s)	145.0	76.9				

Intersection Summary

Intersection Capacity Utilization 86.9% ICU Level of Service E
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
2: Speedway Drive & Live Oak Avenue

Horizon Year (2040) Without Project
PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		 			 								
Volume (vph)	71	2506	223	177	1084	85	203	0	249	99	0	58	
Pedestrians													
Ped Button													
Pedestrian Timing (s)													
Free Right			No			No			No			No	
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.0	4.5	4.5	4.5	4.0	
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0	5.0	5.0	4.0	
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120	
Volume Combined (vph)	71	2729	0	177	1169	0	203	0	249	99	58	0	
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00	
Turning Factor (vph)	0.95	0.99	0.85	0.95	0.99	0.85	0.95	1.00	0.85	0.95	0.85	0.85	
Saturated Flow (vph)	1520	4305	0	1520	4311	0	2952	0	1360	1520	1360	0	
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00		
Protected Option Allowed		Yes			Yes			Yes			Yes		
Reference Time (s)	5.6	76.1	0.0	14.0	32.5	0.0	8.3	0.0	22.0	7.8	5.1	0.0	
Adj Reference Time (s)	10.1	80.6	0.0	18.5	37.0	0.0	12.8	0.0	26.5	12.3	9.6	0.0	
Permitted Option													
Adj Saturation A (vph)	101	1435		101	1437		98	0		101	1360		
Reference Time A (s)	84.1	76.1		209.6	32.5		123.8	0.0		117.2	5.1		
Adj Saturation B (vph)	NA	NA		NA	NA		0	0		0	1360		
Reference Time B (s)	NA	NA		NA	NA		16.3	0.0		15.8	5.1		
Reference Time (s)		84.1			209.6			16.3			15.8		
Adj Reference Time (s)		88.6			214.1			20.3			20.3		
Split Option													
Ref Time Combined (s)	5.6	76.1		14.0	32.5		8.3	0.0		7.8	5.1		
Ref Time Seperate (s)	5.6	69.9		14.0	30.2		8.3	0.0		7.8	0.0		
Reference Time (s)	76.1	76.1		32.5	32.5		8.3	8.3		7.8	7.8		
Adj Reference Time (s)	80.6	80.6		37.0	37.0		12.3	12.3		12.3	12.3		
Summary													
	EB WB		NB SB		Combined								
Protected Option (s)	99.0		22.4										
Permitted Option (s)	214.1		20.3										
Split Option (s)	117.6		24.6										
Minimum (s)	99.0		20.3		119.4								
Right Turns													
	NBR												
Adj Reference Time (s)	26.5												
Cross Thru Ref Time (s)	80.6												
Oncoming Left Ref Time (s)	12.3												
Combined (s)	119.4												
Intersection Summary													
Intersection Capacity Utilization	99.5%		ICU Level of Service						F				
Reference Times and Phasing Options do not represent an optimized timing plan.													

Intersection Capacity Utilization
3: Live Oak Avenue & Spanish Oak Drive

Horizon Year (2040) Without Project
PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶	↑↑↑	↑↑↑↶		↶	↷
Volume (vph)	4	2509	1182	130	249	11
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.0	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	4.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	4	2509	1312	0	249	11
Lane Utilization Factor	1.00	0.91	0.91	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.99	0.85	0.95	0.85
Saturated Flow (vph)	1520	4358	4294	0	1520	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	0.3	69.1	36.7	0.0		1.0
Adj Reference Time (s)	9.5	73.6	41.2	0.0		9.5
Permitted Option						
Adj Saturation A (vph)	101	1453	1431		101	
Reference Time A (s)	4.7	69.1	36.7		294.9	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		69.1	36.7			
Adj Reference Time (s)		73.6	41.2			
Split Option						
Ref Time Combined (s)	0.3	69.1	36.7		19.7	
Ref Time Seperate (s)	0.3	69.1	33.0		19.7	
Reference Time (s)	69.1	69.1	36.7		19.7	
Adj Reference Time (s)	73.6	73.6	41.2		24.2	
Summary	EB WB		SB		Combined	
Protected Option (s)	73.6		NA			
Permitted Option (s)	73.6		Err			
Split Option (s)	114.7		24.2			
Minimum (s)	73.6		24.2		97.7	
Right Turns	SBR					
Adj Reference Time (s)	9.5					
Cross Thru Ref Time (s)	41.2					
Oncoming Left Ref Time (s)	0.0					
Combined (s)	50.7					

Intersection Summary

Intersection Capacity Utilization 81.4% ICU Level of Service D
Reference Times and Phasing Options do not represent an optimized timing plan.

HCM 6th Signalized Intersection Summary
4: I605 SB On-Ramp & Live Oak Avenue

Horizon Year (2040) Without Project
PM Peak Hour















Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↵	↑↑		
Traffic Volume (veh/h)	941	1039	460	1182	0	0
Future Volume (veh/h)	941	1039	460	1182	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1600	1600	1600	1600		
Adj Flow Rate, veh/h	991	0	484	1244		
Peak Hour Factor	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	0	0	0	0		
Cap, veh/h	1428		553	2786		
Arrive On Green	0.47	0.00	0.36	0.92		
Sat Flow, veh/h	3120	1356	1524	3120		
Grp Volume(v), veh/h	991	0	484	1244		
Grp Sat Flow(s),veh/h/ln	1520	1356	1524	1520		
Q Serve(g_s), s	13.8	0.0	16.0	3.1		
Cycle Q Clear(g_c), s	13.8	0.0	16.0	3.1		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	1428		553	2786		
V/C Ratio(X)	0.69		0.88	0.45		
Avail Cap(c_a), veh/h	5568		1204	8225		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00		
Uniform Delay (d), s/veh	11.2	0.0	16.0	0.3		
Incr Delay (d2), s/veh	0.6	0.0	4.6	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.8	0.0	5.4	0.0		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.8	0.0	20.6	0.4		
LnGrp LOS	B		C	A		
Approach Vol, veh/h	991			1728		
Approach Delay, s/veh	11.8			6.1		
Approach LOS	B			A		
Timer - Assigned Phs			3	4		8
Phs Duration (G+Y+Rc), s			24.0	29.8		53.8
Change Period (Y+Rc), s			4.5	4.5		4.5
Max Green Setting (Gmax), s			42.5	98.5		145.5
Max Q Clear Time (g_c+I1), s			18.0	15.8		5.1
Green Ext Time (p_c), s			1.6	9.5		14.0
Intersection Summary						
HCM 6th Ctrl Delay			8.2			
HCM 6th LOS			A			

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
5: I605 NB Off-Ramp & Live Oak Avenue

Horizon Year (2040) Without Project
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑				↑↑			↑↑
Traffic Volume (veh/h)	0	914	0	0	995	0	0	0	688	0	0	609
Future Volume (veh/h)	0	914	0	0	995	0	0	0	688	0	0	609
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1600	0	0	1600	0	0	0	1600	0	0	1600
Adj Flow Rate, veh/h	0	962	0	0	1047	0	0	0	724	0	0	641
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	2178	0	0	2178	0	0	0	0	0	0	0
Arrive On Green	0.00	0.72	0.00	0.00	0.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	3200	0	0	3200	0		0			0	
Grp Volume(v), veh/h	0	962	0	0	1047	0		0.0			0.0	
Grp Sat Flow(s),veh/h/ln	0	1520	0	0	1520	0						
Q Serve(g_s), s	0.0	2.1	0.0	0.0	2.4	0.0						
Cycle Q Clear(g_c), s	0.0	2.1	0.0	0.0	2.4	0.0						
Prop In Lane	0.00		0.00	0.00		0.00						
Lane Grp Cap(c), veh/h	0	2178	0	0	2178	0						
V/C Ratio(X)	0.00	0.44	0.00	0.00	0.48	0.00						
Avail Cap(c_a), veh/h	0	4021	0	0	4021	0						
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00						
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00						
Uniform Delay (d), s/veh	0.0	0.9	0.0	0.0	1.0	0.0						
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.2	0.0						
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0						
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0						
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	1.1	0.0	0.0	1.1	0.0						
LnGrp LOS	A	A	A	A	A	A						
Approach Vol, veh/h		962			1047							
Approach Delay, s/veh		1.1			1.1							
Approach LOS		A			A							
Timer - Assigned Phs				4				8				
Phs Duration (G+Y+Rc), s				15.9				15.9				
Change Period (Y+Rc), s				4.5				4.5				
Max Green Setting (Gmax), s				21.0				21.0				
Max Q Clear Time (g_c+I1), s				4.1				4.4				
Green Ext Time (p_c), s				6.4				7.0				
Intersection Summary												
HCM 6th Ctrl Delay				1.1								
HCM 6th LOS				A								

Intersection Capacity Utilization
6: Graham Road & Live Oak Avenue

Horizon Year (2040) Without Project
PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	
Volume (vph)	1752	37	0	968	18	25
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No				No
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1752	37	0	968	43	0
Lane Utilization Factor	0.95	1.00	1.00	0.95	1.00	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.89	0.85
Saturated Flow (vph)	3046	1360	1520	3046	1430	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	69.0	3.3	0.0	38.1		0.0
Adj Reference Time (s)	73.5	9.5	9.5	42.6		0.0
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	95	
Reference Time A (s)	69.0		0.0	38.1	54.1	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	69.0			38.1		
Adj Reference Time (s)	73.5			42.6		
Split Option						
Ref Time Combined (s)	69.0		0.0	38.1	3.6	
Ref Time Seperate (s)	69.0		0.0	38.1	1.5	
Reference Time (s)	69.0		38.1	38.1	3.6	
Adj Reference Time (s)	73.5		42.6	42.6	9.5	
Summary	EB WB		NB		Combined	
Protected Option (s)	83.0		NA			
Permitted Option (s)	73.5		Err			
Split Option (s)	116.1		9.5			
Minimum (s)	73.5		9.5		83.0	
Right Turns	EBR					
Adj Reference Time (s)	9.5					
Cross Thru Ref Time (s)	0.0					
Oncoming Left Ref Time (s)	0.0					
Combined (s)	9.5					

Intersection Summary

Intersection Capacity Utilization 69.2% ICU Level of Service C
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑	↗	↘	
Traffic Vol, veh/h	27	1737	950	7	3	18
Future Vol, veh/h	27	1737	950	7	3	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	290	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	29	1888	1033	8	3	20

























Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1041	0	-	0	2035 517
Stage 1	-	-	-	-	1033 -
Stage 2	-	-	-	-	1002 -
Critical Hdwy	4.1	-	-	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	676	-	-	-	51 509
Stage 1	-	-	-	-	309 -
Stage 2	-	-	-	-	320 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	676	-	-	-	49 509
Mov Cap-2 Maneuver	-	-	-	-	49 -
Stage 1	-	-	-	-	296 -
Stage 2	-	-	-	-	320 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	23.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	676	-	-	-	217
HCM Lane V/C Ratio	0.043	-	-	-	0.105
HCM Control Delay (s)	10.6	-	-	-	23.5
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3























Intersection Capacity Utilization
8: Live Oak Avenue & Rivergrade Road

Horizon Year (2040) Without Project
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1	1679	40	109	817	20	58	69	231	15	27	42
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right	No			No			No			No		
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	1	1679	40	109	817	20	58	69	231	15	27	42
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1520	3046	1360	1520	3046	1360	1520	3046	1360	1520	3046	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00		0.00				0.00			0.00		
Protected Option Allowed	Yes		Yes				Yes			Yes		
Reference Time (s)	0.1	66.1	3.5	8.6	32.2	1.8	4.6	2.7	20.4	1.2	1.1	3.7
Adj Reference Time (s)	9.5	70.6	9.5	13.1	36.7	9.5	9.5	9.5	24.9	9.5	9.5	9.5
Permitted Option												
Adj Saturation A (vph)	101	1523		101	1523		101	1523		101	1523	
Reference Time A (s)	1.2	66.1		129.1	32.2		68.7	2.7		17.8	1.1	
Adj Saturation B (vph)	NA	NA		NA	NA		0	3046		0	3046	
Reference Time B (s)	NA	NA		NA	NA		12.6	2.7		9.2	1.1	
Reference Time (s)		66.1			129.1			12.6			9.2	
Adj Reference Time (s)		70.6			133.6			17.1			13.7	
Split Option												
Ref Time Combined (s)	0.1	66.1		8.6	32.2		4.6	2.7		1.2	1.1	
Ref Time Seperate (s)	0.1	66.1		8.6	32.2		4.6	2.7		1.2	1.1	
Reference Time (s)	66.1	66.1		32.2	32.2		4.6	4.6		1.2	1.2	
Adj Reference Time (s)	70.6	70.6		36.7	36.7		9.5	9.5		9.5	9.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	83.7		19.0									
Permitted Option (s)	133.6		17.1									
Split Option (s)	107.3		19.0									
Minimum (s)	83.7		17.1		100.8							
Right Turns												
	EBR	WBR	NBR	SBR								
Adj Reference Time (s)	9.5	9.5	24.9	9.5								
Cross Thru Ref Time (s)	9.5	9.5	70.6	36.7								
Oncoming Left Ref Time (s)	13.1	9.5	9.5	9.5								
Combined (s)	32.1	28.5	105.0	55.7								
Intersection Summary												
Intersection Capacity Utilization			87.5%		ICU Level of Service				E			
Reference Times and Phasing Options do not represent an optimized timing plan.												

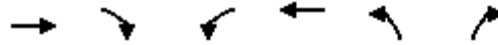
Intersection Capacity Utilization
9: Stewart Avenue & Live Oak Avenue

Horizon Year (2040) Without Project
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	53	1689	312	35	860	17	40	36	25	31	147	8
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	53	1689	312	35	877	0	0	101	0	31	147	8
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	0.94	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1520	3046	1360	1520	4346	0	0	1510	0	1520	1600	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			No			No	
Reference Time (s)	4.2	66.5	27.5	2.8	24.2	0.0			0.0			0.7
Adj Reference Time (s)	9.5	71.0	32.0	9.5	28.7	0.0			0.0			9.5
Permitted Option												
Adj Saturation A (vph)	101	1523		101	1449		0	211		703	1600	
Reference Time A (s)	62.8	66.5		41.4	24.2		0.0	57.4		5.3	11.0	
Adj Saturation B (vph)	NA	NA		NA	NA		NA	NA		0	1600	
Reference Time B (s)	NA	NA		NA	NA		NA	NA		10.4	11.0	
Reference Time (s)		66.5			41.4			57.4			11.0	
Adj Reference Time (s)		71.0			45.9			61.9			15.5	
Split Option												
Ref Time Combined (s)	4.2	66.5		2.8	24.2		0.0	8.0		2.4	11.0	
Ref Time Seperate (s)	4.2	66.5		2.8	23.7		3.2	2.9		2.4	11.0	
Reference Time (s)	66.5	66.5		24.2	24.2		8.0	8.0		11.0	11.0	
Adj Reference Time (s)	71.0	71.0		28.7	28.7		12.5	12.5		15.5	15.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	80.5		NA									
Permitted Option (s)	71.0		61.9									
Split Option (s)	99.7		28.1									
Minimum (s)	71.0		28.1		99.1							
Right Turns												
	EBR		SBR									
Adj Reference Time (s)	32.0		9.5									
Cross Thru Ref Time (s)	15.5		28.7									
Oncoming Left Ref Time (s)	9.5		12.5									
Combined (s)	57.1		50.7									
Intersection Summary												
Intersection Capacity Utilization			82.6%		ICU Level of Service				E			
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
10: Baldwin Park Boulevard & Live Oak Avenue

Horizon Year (2040) Without Project
PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Volume (vph)	1435	425	397	806	118	223
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No			No	
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1435	425	397	806	118	223
Lane Utilization Factor	0.95	1.00	1.00	0.95	0.97	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	1360	1520	3046	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	56.5	37.5	31.3	31.7		19.7
Adj Reference Time (s)	61.0	42.0	35.8	36.2		24.2
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	154	
Reference Time A (s)	56.5		470.1	31.7	46.1	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	56.5			470.1		
Adj Reference Time (s)	61.0			474.6		
Split Option						
Ref Time Combined (s)	56.5		31.3	31.7	3.1	
Ref Time Seperate (s)	56.5		31.3	31.7	3.1	
Reference Time (s)	56.5		31.7	31.7	3.1	
Adj Reference Time (s)	61.0		36.2	36.2	9.5	
Summary						
	EB WB		NB		Combined	
Protected Option (s)	96.9		NA			
Permitted Option (s)	474.6		Err			
Split Option (s)	97.3		9.5			
Minimum (s)	96.9		9.5		106.4	
Right Turns						
	EBR		NBR			
Adj Reference Time (s)	42.0		24.2			
Cross Thru Ref Time (s)	0.0		61.0			
Oncoming Left Ref Time (s)	35.8		0.0			
Combined (s)	77.8		85.2			

Intersection Summary

Intersection Capacity Utilization 88.6% ICU Level of Service E
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
11: Live Oak Avenue (East) & Arrow Highway

Horizon Year (2040) Without Project
PM Peak Hour









Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	72	1553	988	646	1284	153
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	72	1553	988	646	1284	153
Lane Utilization Factor	1.00	0.91	0.95	1.00	0.97	1.00
Turning Factor (vph)	0.95	1.00	1.00	0.85	0.95	0.85
Saturated Flow (vph)	1520	4358	3046	1360	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	5.7	42.8	38.9	57.0		13.5
Adj Reference Time (s)	10.2	47.3	43.4	61.5		18.0
Permitted Option						
Adj Saturation A (vph)	101	1453	1523		154	
Reference Time A (s)	85.3	42.8	38.9		501.1	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		85.3	38.9			
Adj Reference Time (s)		89.8	43.4			
Split Option						
Ref Time Combined (s)	5.7	42.8	38.9		33.4	
Ref Time Seperate (s)	5.7	42.8	38.9		33.4	
Reference Time (s)	42.8	42.8	38.9		33.4	
Adj Reference Time (s)	47.3	47.3	43.4		37.9	
Summary						
	EB WB		SB		Combined	
Protected Option (s)	53.6		NA			
Permitted Option (s)	89.8		Err			
Split Option (s)	90.7		37.9			
Minimum (s)	53.6		37.9		91.5	
Right Turns						
	WBR	SBR				
Adj Reference Time (s)	61.5	18.0				
Cross Thru Ref Time (s)	0.0	43.4				
Oncoming Left Ref Time (s)	10.2	0.0				
Combined (s)	71.7	61.4				

Intersection Summary

Intersection Capacity Utilization 76.3% ICU Level of Service D
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
12: Rivergrade Road & Arrow Highway

Horizon Year (2040) Without Project
PM Peak Hour

						
Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↑↑	↑	↔	↑↑	↔	↔
Volume (vph)	1570	143	46	684	157	18
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No				No
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1570	143	46	684	157	18
Lane Utilization Factor	0.95	1.00	1.00	0.95	0.97	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	1360	1520	3046	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	61.8	12.6	3.6	26.9		1.6
Adj Reference Time (s)	66.3	17.1	9.5	31.4		9.5
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	154	
Reference Time A (s)	61.8		54.5	26.9	61.3	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	61.8			54.5		
Adj Reference Time (s)	66.3			59.0		
Split Option						
Ref Time Combined (s)	61.8		3.6	26.9	4.1	
Ref Time Seperate (s)	61.8		3.6	26.9	4.1	
Reference Time (s)	61.8		26.9	26.9	4.1	
Adj Reference Time (s)	66.3		31.4	31.4	9.5	
Summary	NW SE		NE		Combined	
Protected Option (s)	75.8		NA			
Permitted Option (s)	66.3		Err			
Split Option (s)	97.8		9.5			
Minimum (s)	66.3		9.5		75.8	
Right Turns	SER	NER				
Adj Reference Time (s)	17.1	9.5				
Cross Thru Ref Time (s)	0.0	66.3				
Oncoming Left Ref Time (s)	9.5	0.0				
Combined (s)	26.6	75.8				

Intersection Summary

Intersection Capacity Utilization 63.2% ICU Level of Service B
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
13: San Gabriel River Trail & Arrow Highway

Horizon Year (2040) Without Project
PM Peak Hour



Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↑↑			↑↑		
Volume (vph)	1773	0	0	897	0	0
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No				No
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.0	4.0	4.5	4.0	4.0
Minimum Green (s)	5.0	4.0	4.0	5.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1773	0	0	897	0	0
Lane Utilization Factor	0.95	1.00	1.00	0.95	1.00	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	0	0	3046	0	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	69.8	0.0	0.0	35.3		0.0
Adj Reference Time (s)	74.3	0.0	0.0	39.8		0.0
Permitted Option						
Adj Saturation A (vph)	1523		0	1523	0	
Reference Time A (s)	69.8		0.0	35.3	0.0	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	69.8			35.3		
Adj Reference Time (s)	74.3			39.8		
Split Option						
Ref Time Combined (s)	69.8		0.0	35.3	0.0	
Ref Time Seperate (s)	69.8		0.0	35.3	0.0	
Reference Time (s)	69.8		35.3	35.3	0.0	
Adj Reference Time (s)	74.3		39.8	39.8	0.0	
Summary	NW SE		NE		Combined	
Protected Option (s)	74.3		NA			
Permitted Option (s)	74.3		Err			
Split Option (s)	114.2		0.0			
Minimum (s)	74.3		0.0		74.3	
Right Turns						
Adj Reference Time (s)						
Cross Thru Ref Time (s)						
Oncoming Left Ref Time (s)						
Combined (s)						

Intersection Summary

Intersection Capacity Utilization 61.9% ICU Level of Service B
Reference Times and Phasing Options do not represent an optimized timing plan.

HCM 6th TWSC
15: Live Oak Lane & Arrow Highway

Horizon Year (2040) Without Project
PM Peak Hour

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	1817	0	0	496	0	27
Future Vol, veh/h	1817	0	0	496	0	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1975	0	0	539	0	29

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	-	-	-	988
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	0	250
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	250
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	21.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	250	-	-	-
HCM Lane V/C Ratio	0.117	-	-	-
HCM Control Delay (s)	21.3	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.4	-	-	-

HCM 6th Signalized Intersection Summary
 17: Arrow Highway & I605 SB Off-Ramp

Horizon Year (2040) Without Project
 PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↙	↗
Traffic Volume (veh/h)	0	1629	500	0	345	304
Future Volume (veh/h)	0	1629	500	0	345	304
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1600	1600	0	1600	1600
Adj Flow Rate, veh/h	0	1715	526	0	363	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	0	1828	1828	0	434	
Arrive On Green	0.00	0.60	0.60	0.00	0.28	0.00
Sat Flow, veh/h	0	3200	3200	0	1524	1356
Grp Volume(v), veh/h	0	1715	526	0	363	0
Grp Sat Flow(s),veh/h/ln	0	1520	1520	0	1524	1356
Q Serve(g_s), s	0.0	40.8	6.6	0.0	17.7	0.0
Cycle Q Clear(g_c), s	0.0	40.8	6.6	0.0	17.7	0.0
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1828	1828	0	434	
V/C Ratio(X)	0.00	0.94	0.29	0.00	0.84	
Avail Cap(c_a), veh/h	0	1866	1866	0	434	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	14.4	7.6	0.0	26.5	0.0
Incr Delay (d2), s/veh	0.0	9.7	0.1	0.0	17.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	14.0	1.9	0.0	8.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	24.1	7.7	0.0	43.7	0.0
LnGrp LOS	A	C	A	A	D	
Approach Vol, veh/h		1715	526		363	
Approach Delay, s/veh		24.1	7.7		43.7	
Approach LOS		C	A		D	
Timer - Assigned Phs				4	6	8
Phs Duration (G+Y+Rc), s				52.0	27.0	52.0
Change Period (Y+Rc), s				4.5	4.5	4.5
Max Green Setting (Gmax), s				48.5	22.5	48.5
Max Q Clear Time (g_c+I1), s				42.8	19.7	8.6
Green Ext Time (p_c), s				4.7	0.3	4.0

Intersection Summary

HCM 6th Ctrl Delay	23.5
HCM 6th LOS	C

Notes



























Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection Capacity Utilization

Horizon Year (2040) Without Project

18: Spanish Oak Drive/Avenida Barbosa & Arrow Highway

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 					 		
Volume (vph)	286	950	0	225	579	313	6	16	269	760	6	475
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right	No			No			No			No		
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	2500	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	286	950	0	225	579	313	6	16	269	760	6	475
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1520	4358	0	1520	4358	1360	1520	1600	1360	4612	1600	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00		0.00			0.00			0.00		0.00	
Protected Option Allowed	Yes			Yes			Yes			Yes		
Reference Time (s)	22.6	26.2	0.0	17.8	15.9	27.6	0.5	1.2	23.7	19.8	0.5	41.9
Adj Reference Time (s)	27.1	30.7	0.0	22.3	20.4	32.1	9.5	9.5	28.2	24.3	9.5	46.4
Permitted Option												
Adj Saturation A (vph)	101	1453		101	1453		101	1600		154	1600	
Reference Time A (s)	338.7	26.2		266.4	15.9		7.1	1.2		296.6	0.5	
Adj Saturation B (vph)	NA	NA		NA	NA		0	1600		0	1600	
Reference Time B (s)	NA	NA		NA	NA		8.5	1.2		27.8	0.5	
Reference Time (s)		338.7			266.4			7.1			27.8	
Adj Reference Time (s)		343.2			270.9			11.6			32.3	
Split Option												
Ref Time Combined (s)	22.6	26.2		17.8	15.9		0.5	1.2		19.8	0.5	
Ref Time Seperate (s)	22.6	26.2		17.8	15.9		0.5	1.2		19.8	0.5	
Reference Time (s)	26.2	26.2		17.8	17.8		1.2	1.2		19.8	19.8	
Adj Reference Time (s)	30.7	30.7		22.3	22.3		9.5	9.5		24.3	24.3	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	52.9		33.8									
Permitted Option (s)	343.2		32.3									
Split Option (s)	52.9		33.8									
Minimum (s)	52.9		32.3		85.2							
Right Turns												
	WBR	NBR	SBR									
Adj Reference Time (s)	32.1	28.2	46.4									
Cross Thru Ref Time (s)	9.5	30.7	20.4									
Oncoming Left Ref Time (s)	27.1	24.3	9.5									
Combined (s)	68.7	83.2	76.4									
Intersection Summary												
Intersection Capacity Utilization			71.0%	ICU Level of Service						C		
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
19: Valley Oak Lane & Live Oak Avenue

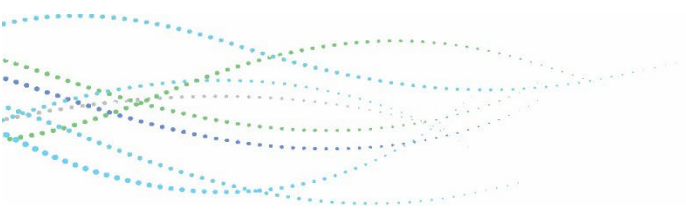
Horizon Year (2040) Without Project
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↕			↕	
Volume (vph)	0	1268	0	21	1193	1	6	0	32	0	0	1
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	1268	0	21	1194	0	0	38	0	0	1	0
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	0.87	0.85	0.95	0.85	0.85
Saturated Flow (vph)	1520	4358	0	1520	4358	0	0	1387	0	0	1360	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			No			No	
Reference Time (s)	0.0	34.9	0.0	1.7	32.9	0.0			0.0			0.0
Adj Reference Time (s)	9.5	39.4	0.0	9.5	37.4	0.0			0.0			0.0
Permitted Option												
Adj Saturation A (vph)	101	1453		101	1453		0	411		0	1360	
Reference Time A (s)	0.0	34.9		24.9	32.9		0.0	11.1		0.0	0.1	
Adj Saturation B (vph)	NA	NA		NA	NA		0	0		0	1360	
Reference Time B (s)	NA	NA		NA	NA		8.5	11.3		0.0	0.1	
Reference Time (s)		34.9			32.9			11.1			0.1	
Adj Reference Time (s)		39.4			37.4			15.6			9.5	
Split Option												
Ref Time Combined (s)	0.0	34.9		1.7	32.9		0.0	3.3		0.0	0.1	
Ref Time Seperate (s)	0.0	34.9		1.7	32.9		0.5	0.0		0.0	0.0	
Reference Time (s)	34.9	34.9		32.9	32.9		3.3	3.3		0.1	0.1	
Adj Reference Time (s)	39.4	39.4		37.4	37.4		9.5	9.5		9.5	9.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	48.9		NA									
Permitted Option (s)	39.4		15.6									
Split Option (s)	76.8		19.0									
Minimum (s)	39.4		15.6		55.0							
Right Turns												
Adj Reference Time (s)												
Cross Thru Ref Time (s)												
Oncoming Left Ref Time (s)												
Combined (s)												
Intersection Summary												
Intersection Capacity Utilization			45.8%		ICU Level of Service		A					
Reference Times and Phasing Options do not represent an optimized timing plan.												

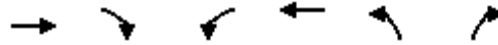


Horizon Year (2040) With Project – Project Option 1 LOS Calculation Sheets



Intersection Capacity Utilization
1: Live Oak Avenue & Arrow Highway (West)

Horizon Year (2040) With Project - Option 1
AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↑	↑↑↑	↑↑	↑
Volume (vph)	578	1278	251	2077	1513	300
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		Yes				No
Ideal Flow	1600	1600	2500	1600	2500	1600
Lost Time (s)	4.5	4.0	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	4.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1004	852	251	2077	1513	300
Lane Utilization Factor	0.91	1.00	0.97	0.91	0.97	1.00
Turning Factor (vph)	0.94	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	4081	1360	4612	4358	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	29.5	75.2	6.5	57.2		26.5
Adj Reference Time (s)	34.0	79.2	11.0	61.7		31.0
Permitted Option						
Adj Saturation A (vph)	1360		154	1453	154	
Reference Time A (s)	29.5		98.0	57.2	590.5	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	29.5			98.0		
Adj Reference Time (s)	34.0			102.5		
Split Option						
Ref Time Combined (s)	29.5		6.5	57.2	39.4	
Ref Time Seperate (s)	17.0		6.5	57.2	39.4	
Reference Time (s)	29.5		57.2	57.2	39.4	
Adj Reference Time (s)	34.0		61.7	61.7	43.9	
Summary	EB WB		NB		Combined	
Protected Option (s)	61.7		NA			
Permitted Option (s)	102.5		Err			
Split Option (s)	95.7		43.9			
Minimum (s)	61.7		43.9		105.6	
Right Turns	EBR	NBR				
Adj Reference Time (s)	79.2	31.0				
Cross Thru Ref Time (s)	0.0	34.0				
Oncoming Left Ref Time (s)	0.0	0.0				
Combined (s)	79.2	65.0				

Intersection Summary

Intersection Capacity Utilization 88.0% ICU Level of Service E
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
2: Speedway Drive & Live Oak Ave

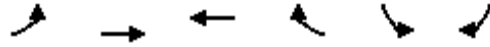
Horizon Year (2040) With Project - Option 1
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑		↖		↗	↖	↑	↘
Volume (vph)	46	1394	88	93	1893	78	32	0	33	52	0	30
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	2500	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.0	4.5	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	46	1482	0	93	1971	0	32	0	33	52	30	0
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.99	0.85	0.95	0.99	0.85	0.95	1.00	0.85	0.95	0.85	0.85
Saturated Flow (vph)	1520	4320	0	1520	4333	0	4612	0	1360	1520	1360	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			Yes			Yes	
Reference Time (s)	3.6	41.2	0.0	7.3	54.6	0.0	0.8	0.0	2.9	4.1	2.6	0.0
Adj Reference Time (s)	9.5	45.7	0.0	11.8	59.1	0.0	9.5	0.0	9.5	9.5	9.5	0.0
Permitted Option												
Adj Saturation A (vph)	101	1440		101	1444		154	0		101	1360	
Reference Time A (s)	54.5	41.2		110.1	54.6		12.5	0.0		61.6	2.6	
Adj Saturation B (vph)	NA	NA		NA	NA		0	0		0	1360	
Reference Time B (s)	NA	NA		NA	NA		8.8	0.0		12.1	2.6	
Reference Time (s)		54.5			110.1			8.8			12.1	
Adj Reference Time (s)		59.0			114.6			12.8			16.6	
Split Option												
Ref Time Combined (s)	3.6	41.2		7.3	54.6		0.8	0.0		4.1	2.6	
Ref Time Seperate (s)	3.6	38.7		7.3	52.4		0.8	0.0		4.1	0.0	
Reference Time (s)	41.2	41.2		54.6	54.6		0.8	0.8		4.1	4.1	
Adj Reference Time (s)	45.7	45.7		59.1	59.1		8.0	8.0		9.5	9.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	68.6		19.0									
Permitted Option (s)	114.6		16.6									
Split Option (s)	104.8		17.5									
Minimum (s)	68.6		16.6		85.2							
Right Turns												
	NBR											
Adj Reference Time (s)	9.5											
Cross Thru Ref Time (s)	45.7											
Oncoming Left Ref Time (s)	9.5											
Combined (s)	64.7											
Intersection Summary												
Intersection Capacity Utilization			71.0%		ICU Level of Service		C					
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
3: Live Oak Avenue & Spanish Oak Drive

Horizon Year (2040) With Project - Option 1
AM Peak Hour



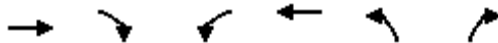
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	6	1394	2009	179	56	2
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.0	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	4.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	6	1394	2188	0	56	2
Lane Utilization Factor	1.00	0.91	0.91	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.99	0.85	0.95	0.85
Saturated Flow (vph)	1520	4358	4305	0	1520	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	0.5	38.4	61.0	0.0		0.2
Adj Reference Time (s)	9.5	42.9	65.5	0.0		9.5
Permitted Option						
Adj Saturation A (vph)	101	1453	1435		101	
Reference Time A (s)	7.1	38.4	61.0		66.3	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		38.4	61.0			
Adj Reference Time (s)		42.9	65.5			
Split Option						
Ref Time Combined (s)	0.5	38.4	61.0		4.4	
Ref Time Seperate (s)	0.5	38.4	56.0		4.4	
Reference Time (s)	38.4	38.4	61.0		4.4	
Adj Reference Time (s)	42.9	42.9	65.5		9.5	
Summary						
	EB WB		SB		Combined	
Protected Option (s)	75.0		NA			
Permitted Option (s)	65.5		Err			
Split Option (s)	108.4		9.5			
Minimum (s)	65.5		9.5		75.0	
Right Turns						
	SBR					
Adj Reference Time (s)	9.5					
Cross Thru Ref Time (s)	65.5					
Oncoming Left Ref Time (s)	0.0					
Combined (s)	75.0					

Intersection Summary

Intersection Capacity Utilization 62.5% ICU Level of Service B
Reference Times and Phasing Options do not represent an optimized timing plan.

HCM 6th Signalized Intersection Summary
4: I605 SB On-Ramp & Live Oak Avenue













Horizon Year (2040) With Project - Option 1
AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑		
Traffic Volume (veh/h)	444	613	522	2014	0	0
Future Volume (veh/h)	444	613	522	2014	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1600	1600	1600	1600		
Adj Flow Rate, veh/h	467	0	549	2120		
Peak Hour Factor	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	0	0	0	0		
Cap, veh/h	1289		615	2778		
Arrive On Green	0.42	0.00	0.40	0.91		
Sat Flow, veh/h	3120	1356	1524	3120		
Grp Volume(v), veh/h	467	0	549	2120		
Grp Sat Flow(s),veh/h/ln	1520	1356	1524	1520		
Q Serve(g_s), s	5.5	0.0	17.5	10.4		
Cycle Q Clear(g_c), s	5.5	0.0	17.5	10.4		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	1289		615	2778		
V/C Ratio(X)	0.36		0.89	0.76		
Avail Cap(c_a), veh/h	2010		920	4107		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00		
Uniform Delay (d), s/veh	10.2	0.0	14.5	0.6		
Incr Delay (d2), s/veh	0.2	0.0	7.7	0.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.5	0.0	6.3	0.2		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.4	0.0	22.3	1.1		
LnGrp LOS	B		C	A		
Approach Vol, veh/h	467			2669		
Approach Delay, s/veh	10.4			5.5		
Approach LOS	B			A		
Timer - Assigned Phs			3	4		8
Phs Duration (G+Y+Rc), s			25.6	26.6		52.2
Change Period (Y+Rc), s			4.5	4.5		4.5
Max Green Setting (Gmax), s			31.5	34.5		70.5
Max Q Clear Time (g_c+I1), s			19.5	7.5		12.4
Green Ext Time (p_c), s			1.5	3.3		35.3
Intersection Summary						
HCM 6th Ctrl Delay			6.2			
HCM 6th LOS			A			
Notes						
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.						

HCM 6th Signalized Intersection Summary
5: I605 NB Off-Ramp & Live Oak Avenue

Horizon Year (2040) With Project - Option 1
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑				↑↑			↑↑
Traffic Volume (veh/h)	0	431	0	0	1513	0	0	0	564	0	0	799
Future Volume (veh/h)	0	431	0	0	1513	0	0	0	564	0	0	799
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1600	0	0	1600	0	0	0	1600	0	0	1600
Adj Flow Rate, veh/h	0	454	0	0	1593	0	0	0	594	0	0	841
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	2585	0	0	2585	0	0	0	0	0	0	0
Arrive On Green	0.00	0.85	0.00	0.00	0.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	3200	0	0	3200	0		0			0	
Grp Volume(v), veh/h	0	454	0	0	1593	0		0.0			0.0	
Grp Sat Flow(s),veh/h/ln	0	1520	0	0	1520	0						
Q Serve(g_s), s	0.0	0.8	0.0	0.0	5.0	0.0						
Cycle Q Clear(g_c), s	0.0	0.8	0.0	0.0	5.0	0.0						
Prop In Lane	0.00		0.00	0.00		0.00						
Lane Grp Cap(c), veh/h	0	2585	0	0	2585	0						
V/C Ratio(X)	0.00	0.18	0.00	0.00	0.62	0.00						
Avail Cap(c_a), veh/h	0	4899	0	0	4899	0						
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00						
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00						
Uniform Delay (d), s/veh	0.0	0.4	0.0	0.0	0.7	0.0						
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.2	0.0						
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0						
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.1	0.0						
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.4	0.0	0.0	0.9	0.0						
LnGrp LOS	A	A	A	A	A	A						
Approach Vol, veh/h		454			1593							
Approach Delay, s/veh		0.4			0.9							
Approach LOS		A			A							
Timer - Assigned Phs				4				8				
Phs Duration (G+Y+Rc), s				30.1				30.1				
Change Period (Y+Rc), s				4.5				4.5				
Max Green Setting (Gmax), s				48.5				48.5				
Max Q Clear Time (g_c+I1), s				2.8				7.0				
Green Ext Time (p_c), s				3.4				18.6				
Intersection Summary												
HCM 6th Ctrl Delay				0.8								
HCM 6th LOS				A								

Intersection Capacity Utilization
6: Graham Road & Live Oak Avenue

Horizon Year (2040) With Project - Option 1
AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	
Volume (vph)	1004	82	25	1460	112	28
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No			No	
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1004	82	25	1460	140	0
Lane Utilization Factor	0.95	1.00	1.00	0.95	1.00	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.93	0.85
Saturated Flow (vph)	3046	1360	1520	3046	1490	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	39.5	7.2	2.0	57.5		0.0
Adj Reference Time (s)	44.0	11.7	9.5	62.0		0.0
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	99	
Reference Time A (s)	39.5		29.6	57.5	169.1	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	39.5			57.5		
Adj Reference Time (s)	44.0			62.0		
Split Option						
Ref Time Combined (s)	39.5		2.0	57.5	11.3	
Ref Time Seperate (s)	39.5		2.0	57.5	9.0	
Reference Time (s)	39.5		57.5	57.5	11.3	
Adj Reference Time (s)	44.0		62.0	62.0	15.8	
Summary						
	EB WB		NB		Combined	
Protected Option (s)	62.0		NA			
Permitted Option (s)	62.0		Err			
Split Option (s)	106.1		15.8			
Minimum (s)	62.0		15.8		77.8	
Right Turns						
	EBR					
Adj Reference Time (s)	11.7					
Cross Thru Ref Time (s)	0.0					
Oncoming Left Ref Time (s)	9.5					
Combined (s)	21.2					
Intersection Summary						
Intersection Capacity Utilization		64.8%		ICU Level of Service		C
Reference Times and Phasing Options do not represent an optimized timing plan.						

Intersection						
Int Delay, s/veh	23.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	196	806	1345	118	19	120
Future Vol, veh/h	196	806	1345	118	19	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	290	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	213	876	1462	128	21	130

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1590	0	-	0	2326 731
Stage 1	-	-	-	-	1462 -
Stage 2	-	-	-	-	864 -
Critical Hdwy	4.1	-	-	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	418	-	-	-	32 369
Stage 1	-	-	-	-	183 -
Stage 2	-	-	-	-	378 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	418	-	-	-	~ 16 369
Mov Cap-2 Maneuver	-	-	-	-	~ 16 -
Stage 1	-	-	-	-	90 -
Stage 2	-	-	-	-	378 -

Approach	EB	WB	SB
HCM Control Delay, s	4.3	0	\$ 411.8
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	418	-	-	-	92
HCM Lane V/C Ratio	0.51	-	-	-	1.642
HCM Control Delay (s)	22.2	-	-	-	\$ 411.8
HCM Lane LOS	C	-	-	-	F
HCM 95th %tile Q(veh)	2.8	-	-	-	12.1

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

Intersection Capacity Utilization
8: Live Oak Avenue & Rivergrade Road






















Horizon Year (2040) With Project - Option 1
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↘	↘	↑↑	↘	↘	↑↑	↘	↘	↑↑	↘
Volume (vph)	15	762	44	419	1353	8	50	56	109	11	109	48
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right	No			No			No			No		
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	15	762	44	419	1353	8	50	56	109	11	109	48
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1520	3046	1360	1520	3046	1360	1520	3046	1360	1520	3046	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00		0.00				0.00			0.00		
Protected Option Allowed	Yes		Yes				Yes			Yes		
Reference Time (s)	1.2	30.0	3.9	33.1	53.3	0.7	3.9	2.2	9.6	0.9	4.3	4.2
Adj Reference Time (s)	9.5	34.5	9.5	37.6	57.8	9.5	9.5	9.5	14.1	9.5	9.5	9.5
Permitted Option												
Adj Saturation A (vph)	101	1523	101		1523	101		1523	101		1523	
Reference Time A (s)	17.8	30.0	496.2		53.3	59.2		2.2	13.0		4.3	
Adj Saturation B (vph)	NA	NA	NA		NA	0		3046	0		3046	
Reference Time B (s)	NA	NA	NA		NA	11.9		2.2	8.9		4.3	
Reference Time (s)	30.0		496.2				11.9			8.9		
Adj Reference Time (s)	34.5		500.7				16.4			13.4		
Split Option												
Ref Time Combined (s)	1.2	30.0	33.1		53.3	3.9		2.2	0.9		4.3	
Ref Time Seperate (s)	1.2	30.0	33.1		53.3	3.9		2.2	0.9		4.3	
Reference Time (s)	30.0	30.0	53.3		53.3	3.9		3.9	4.3		4.3	
Adj Reference Time (s)	34.5	34.5	57.8		57.8	9.5		9.5	9.5		9.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	72.1		19.0									
Permitted Option (s)	500.7		16.4									
Split Option (s)	92.3		19.0									
Minimum (s)	72.1		16.4		88.5							
Right Turns												
	EBR	WBR	NBR	SBR								
Adj Reference Time (s)	9.5	9.5	14.1	9.5								
Cross Thru Ref Time (s)	9.5	9.5	34.5	57.8								
Oncoming Left Ref Time (s)	37.6	9.5	9.5	9.5								
Combined (s)	56.6	28.5	58.1	76.8								
Intersection Summary												
Intersection Capacity Utilization			73.8%		ICU Level of Service			D				
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
9: Stewart Avenue & Live Oak Avenue

Horizon Year (2040) With Project - Option 1
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	734	44	27	1901	21	214	91	33	7	36	35
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	30	734	44	27	1922	0	0	338	0	7	36	35
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	0.95	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1520	3046	1360	1520	4351	0	0	1527	0	1520	1600	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			No			No	
Reference Time (s)	2.4	28.9	3.9	2.1	53.0	0.0			0.0			3.1
Adj Reference Time (s)	9.5	33.4	9.5	9.5	57.5	0.0			0.0			9.5
Permitted Option												
Adj Saturation A (vph)	101	1523		101	1450		0	143		1064	1600	
Reference Time A (s)	35.5	28.9		32.0	53.0		0.0	283.6		0.8	2.7	
Adj Saturation B (vph)	NA	NA		NA	NA		0	0		NA	NA	
Reference Time B (s)	NA	NA		NA	NA		24.9	34.6		NA	NA	
Reference Time (s)		35.5			53.0			34.6			2.7	
Adj Reference Time (s)		40.0			57.5			39.1			9.5	
Split Option												
Ref Time Combined (s)	2.4	28.9		2.1	53.0		0.0	26.6		0.6	2.7	
Ref Time Separate (s)	2.4	28.9		2.1	52.4		16.9	7.1		0.6	2.7	
Reference Time (s)	28.9	28.9		53.0	53.0		26.6	26.6		2.7	2.7	
Adj Reference Time (s)	33.4	33.4		57.5	57.5		31.1	31.1		9.5	9.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	67.0		NA									
Permitted Option (s)	57.5		39.1									
Split Option (s)	90.9		40.6									
Minimum (s)	57.5		39.1		96.6							
Right Turns												
	EBR		SBR									
Adj Reference Time (s)	9.5		9.5									
Cross Thru Ref Time (s)	9.5		57.5									
Oncoming Left Ref Time (s)	9.5		31.1									
Combined (s)	28.5		98.1									
Intersection Summary												
Intersection Capacity Utilization			81.7%		ICU Level of Service				D			
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
10: Baldwin Park Boulevard & Live Oak Avenue

Horizon Year (2040) With Project - Option 1
AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Volume (vph)	678	123	221	1561	409	287
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No			No	
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	678	123	221	1561	409	287
Lane Utilization Factor	0.95	1.00	1.00	0.95	0.97	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	1360	1520	3046	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	26.7	10.9	17.4	61.5		25.3
Adj Reference Time (s)	31.2	15.4	21.9	66.0		29.8
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	154	
Reference Time A (s)	26.7		261.7	61.5	159.6	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	26.7			261.7		
Adj Reference Time (s)	31.2			266.2		
Split Option						
Ref Time Combined (s)	26.7		17.4	61.5	10.6	
Ref Time Seperate (s)	26.7		17.4	61.5	10.6	
Reference Time (s)	26.7		61.5	61.5	10.6	
Adj Reference Time (s)	31.2		66.0	66.0	15.1	
Summary						
	EB WB		NB		Combined	
Protected Option (s)	66.0		NA			
Permitted Option (s)	266.2		Err			
Split Option (s)	97.2		15.1			
Minimum (s)	66.0		15.1		81.1	
Right Turns						
	EBR	NBR				
Adj Reference Time (s)	15.4	29.8				
Cross Thru Ref Time (s)	0.0	31.2				
Oncoming Left Ref Time (s)	21.9	0.0				
Combined (s)	37.3	61.0				

Intersection Summary

Intersection Capacity Utilization 67.6% ICU Level of Service C
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
11: Live Oak Avenue (East) & Arrow Highway

Horizon Year (2040) With Project - Option 1
AM Peak Hour



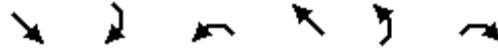
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	100	831	1700	2185	626	60
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				Yes		No
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.0	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	4.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	100	831	1700	2185	626	60
Lane Utilization Factor	1.00	0.91	0.95	1.00	0.97	1.00
Turning Factor (vph)	0.95	1.00	1.00	0.85	0.95	0.85
Saturated Flow (vph)	1520	4358	3046	1360	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	7.9	22.9	67.0	192.8		5.3
Adj Reference Time (s)	12.4	27.4	71.5	196.8		9.8
Permitted Option						
Adj Saturation A (vph)	101	1453	1523		154	
Reference Time A (s)	118.4	22.9	67.0		244.3	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		118.4	67.0			
Adj Reference Time (s)		122.9	71.5			
Split Option						
Ref Time Combined (s)	7.9	22.9	67.0		16.3	
Ref Time Seperate (s)	7.9	22.9	67.0		16.3	
Reference Time (s)	22.9	22.9	67.0		16.3	
Adj Reference Time (s)	27.4	27.4	71.5		20.8	
Summary						
	EB WB		SB		Combined	
Protected Option (s)	83.9		NA			
Permitted Option (s)	122.9		Err			
Split Option (s)	98.8		20.8			
Minimum (s)	83.9		20.8		104.6	
Right Turns						
	WBR	SBR				
Adj Reference Time (s)	196.8	9.8				
Cross Thru Ref Time (s)	0.0	71.5				
Oncoming Left Ref Time (s)	0.0	0.0				
Combined (s)	196.8	81.3				

Intersection Summary

Intersection Capacity Utilization 87.2% ICU Level of Service E
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
12: Rivergrade Road & Arrow Highway

Horizon Year (2040) With Project - Option 1
AM Peak Hour



Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↑↑	↑	↵	↑↑	↵↵	↵
Volume (vph)	611	204	34	2483	192	11
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No				No
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	611	204	34	2483	192	11
Lane Utilization Factor	0.95	1.00	1.00	0.95	0.97	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	1360	1520	3046	2952	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	24.1	18.0	2.7	97.8		1.0
Adj Reference Time (s)	28.6	22.5	9.5	102.3		9.5
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	98	
Reference Time A (s)	24.1		40.3	97.8	117.1	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	24.1			97.8		
Adj Reference Time (s)	28.6			102.3		
Split Option						
Ref Time Combined (s)	24.1		2.7	97.8	7.8	
Ref Time Seperate (s)	24.1		2.7	97.8	7.8	
Reference Time (s)	24.1		97.8	97.8	7.8	
Adj Reference Time (s)	28.6		102.3	102.3	12.3	
Summary						
	NW	SE	NE	Combined		
Protected Option (s)	102.3		NA			
Permitted Option (s)	102.3		Err			
Split Option (s)	130.9		12.3			
Minimum (s)	102.3		12.3	114.6		
Right Turns						
	SER	NER				
Adj Reference Time (s)	22.5	9.5				
Cross Thru Ref Time (s)	0.0	28.6				
Oncoming Left Ref Time (s)	9.5	0.0				
Combined (s)	32.0	38.1				
Intersection Summary						
Intersection Capacity Utilization			95.5%	ICU Level of Service		F

Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
13: San Gabriel River Trail & Arrow Highway

Horizon Year (2040) With Project - Option 1
AM Peak Hour



Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↑↑			↑↑		
Volume (vph)	991	0	0	2653	0	0
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No				No
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.0	4.0	4.5	4.0	4.0
Minimum Green (s)	5.0	4.0	4.0	5.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	991	0	0	2653	0	0
Lane Utilization Factor	0.95	1.00	1.00	0.95	1.00	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	0	0	3046	0	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	39.0	0.0	0.0	104.5		0.0
Adj Reference Time (s)	43.5	0.0	0.0	109.0		0.0
Permitted Option						
Adj Saturation A (vph)	1523		0	1523	0	
Reference Time A (s)	39.0		0.0	104.5	0.0	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	39.0			104.5		
Adj Reference Time (s)	43.5			109.0		
Split Option						
Ref Time Combined (s)	39.0		0.0	104.5	0.0	
Ref Time Seperate (s)	39.0		0.0	104.5	0.0	
Reference Time (s)	39.0		104.5	104.5	0.0	
Adj Reference Time (s)	43.5		109.0	109.0	0.0	
Summary	NW SE		NE		Combined	
Protected Option (s)	109.0		NA			
Permitted Option (s)	109.0		Err			
Split Option (s)	152.5		0.0			
Minimum (s)	109.0		0.0		109.0	
Right Turns						
Adj Reference Time (s)						
Cross Thru Ref Time (s)						
Oncoming Left Ref Time (s)						
Combined (s)						

Intersection Summary
 Intersection Capacity Utilization 90.8% ICU Level of Service E
 Reference Times and Phasing Options do not represent an optimized timing plan.

HCM 6th TWSC
15: Live Oak Lane & Arrow Highway

Horizon Year (2040) With Project - Option 1
AM Peak Hour

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	917	36	0	2067	0	45
Future Vol, veh/h	917	36	0	2067	0	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	997	39	0	2247	0	49

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	-	-	-	518
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	0	508
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	508
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	12.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	508	-	-	-
HCM Lane V/C Ratio	0.096	-	-	-
HCM Control Delay (s)	12.8	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-

HCM 6th Signalized Intersection Summary
 17: Arrow Highway & I605 SB Off-Ramp

Horizon Year (2040) With Project - Option 1
 AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↙	↗
Traffic Volume (veh/h)	0	936	2074	0	362	602
Future Volume (veh/h)	0	936	2074	0	362	602
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1600	1600	0	1600	1600
Adj Flow Rate, veh/h	0	985	2183	0	381	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	0	2224	2224	0	311	
Arrive On Green	0.00	0.73	0.73	0.00	0.20	0.00
Sat Flow, veh/h	0	3200	3200	0	1524	1356
Grp Volume(v), veh/h	0	985	2183	0	381	0
Grp Sat Flow(s),veh/h/ln	0	1520	1520	0	1524	1356
Q Serve(g_s), s	0.0	18.0	95.5	0.0	28.5	0.0
Cycle Q Clear(g_c), s	0.0	18.0	95.5	0.0	28.5	0.0
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2224	2224	0	311	
V/C Ratio(X)	0.00	0.44	0.98	0.00	1.23	
Avail Cap(c_a), veh/h	0	2232	2232	0	311	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	7.4	17.9	0.0	55.6	0.0
Incr Delay (d2), s/veh	0.0	0.1	14.9	0.0	126.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.5	33.7	0.0	21.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	7.6	32.8	0.0	182.1	0.0
LnGrp LOS	A	A	C	A	F	
Approach Vol, veh/h		985	2183		381	
Approach Delay, s/veh		7.6	32.8		182.1	
Approach LOS		A	C		F	
Timer - Assigned Phs				4	6	8
Phs Duration (G+Y+Rc), s				106.6	33.0	106.6
Change Period (Y+Rc), s				4.5	4.5	4.5
Max Green Setting (Gmax), s				102.5	28.5	102.5
Max Q Clear Time (g_c+I1), s				20.0	30.5	97.5
Green Ext Time (p_c), s				9.4	0.0	4.6

Intersection Summary

HCM 6th Ctrl Delay	41.8
HCM 6th LOS	D

Notes

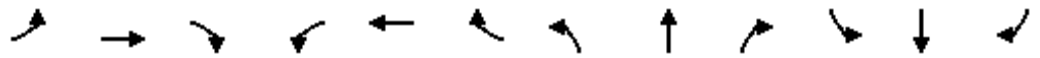
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection Capacity Utilization

Horizon Year (2040) With Project - Option 1

18: Spanish Oak Drive/Avenida Barbosa & Arrow Highway

AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	370	618	1	307	2054	795	1	9	101	268	21	206
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	2500	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	370	619	0	307	2054	795	1	9	101	268	21	206
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1520	4357	0	1520	4358	1360	1520	1600	1360	4612	1600	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00				0.00
Protected Option Allowed		Yes			Yes			Yes				Yes
Reference Time (s)	29.2	17.0	0.0	24.2	56.6	70.1	0.1	0.7	8.9	7.0	1.6	18.2
Adj Reference Time (s)	33.7	21.5	0.0	28.7	61.1	74.6	9.5	9.5	13.4	11.5	9.5	22.7
Permitted Option												
Adj Saturation A (vph)	101	1452		101	1453		101	1600		154	1600	
Reference Time A (s)	438.2	17.0		363.6	56.6		1.2	0.7		104.6	1.6	
Adj Saturation B (vph)	NA	NA		NA	NA		0	1600		0	1600	
Reference Time B (s)	NA	NA		NA	NA		8.1	0.7		15.0	1.6	
Reference Time (s)		438.2			363.6			1.2			15.0	
Adj Reference Time (s)		442.7			368.1			9.5			19.5	
Split Option												
Ref Time Combined (s)	29.2	17.0		24.2	56.6		0.1	0.7		7.0	1.6	
Ref Time Seperate (s)	29.2	17.0		24.2	56.6		0.1	0.7		7.0	1.6	
Reference Time (s)	29.2	29.2		56.6	56.6		0.7	0.7		7.0	7.0	
Adj Reference Time (s)	33.7	33.7		61.1	61.1		9.5	9.5		11.5	11.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	94.8		21.0									
Permitted Option (s)	442.7		19.5									
Split Option (s)	94.8		21.0									
Minimum (s)	94.8		19.5		114.2							
Right Turns												
	WBR	NBR	SBR									
Adj Reference Time (s)	74.6	13.4	22.7									
Cross Thru Ref Time (s)	9.5	21.5	61.1									
Oncoming Left Ref Time (s)	33.7	11.5	9.5									
Combined (s)	117.9	46.4	93.2									
Intersection Summary												
Intersection Capacity Utilization			98.2%		ICU Level of Service				F			
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
19: Valley Oak Lane & Live Oak Avenue

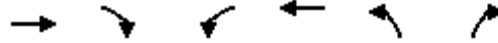
Horizon Year (2040) With Project - Option 1
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↕			↕	
Volume (vph)	0	879	1	48	2320	21	1	0	6	0	0	10
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	880	0	48	2341	0	0	7	0	0	10	0
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	0.87	0.85	0.95	0.85	0.85
Saturated Flow (vph)	1520	4358	0	1520	4353	0	0	1384	0	0	1360	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			No			No	
Reference Time (s)	0.0	24.2	0.0	3.8	64.5	0.0			0.0			0.0
Adj Reference Time (s)	9.5	28.7	0.0	9.5	69.0	0.0			0.0			0.0
Permitted Option												
Adj Saturation A (vph)	101	1453		101	1451		0	441		0	1360	
Reference Time A (s)	0.0	24.2		56.8	64.5		0.0	1.9		0.0	0.9	
Adj Saturation B (vph)	NA	NA		NA	NA		0	0		0	1360	
Reference Time B (s)	NA	NA		NA	NA		8.1	8.6		0.0	0.9	
Reference Time (s)		24.2			64.5			1.9			0.9	
Adj Reference Time (s)		28.7			69.0			9.5			9.5	
Split Option												
Ref Time Combined (s)	0.0	24.2		3.8	64.5		0.0	0.6		0.0	0.9	
Ref Time Seperate (s)	0.0	24.2		3.8	64.0		0.1	0.0		0.0	0.0	
Reference Time (s)	24.2	24.2		64.5	64.5		0.6	0.6		0.9	0.9	
Adj Reference Time (s)	28.7	28.7		69.0	69.0		9.5	9.5		9.5	9.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	78.5		NA									
Permitted Option (s)	69.0		9.5									
Split Option (s)	97.8		19.0									
Minimum (s)	69.0		9.5		78.5							
Right Turns												
Adj Reference Time (s)												
Cross Thru Ref Time (s)												
Oncoming Left Ref Time (s)												
Combined (s)												
Intersection Summary												
Intersection Capacity Utilization			65.5%		ICU Level of Service		C					
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
1: Live Oak Avenue & Arrow Highway (West)

Horizon Year (2040) With Project - Option 1
PM Peak Hour


























Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↑	↑↑↑	↑↑	↑
Volume (vph)	1149	2410	403	790	950	123
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		Yes				No
Ideal Flow	1600	1600	2500	1600	2500	1600
Lost Time (s)	4.5	4.0	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	4.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1952	1607	403	790	950	123
Lane Utilization Factor	0.91	1.00	0.97	0.91	0.97	1.00
Turning Factor (vph)	0.94	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	4089	1360	4612	4358	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	57.3	141.8	10.5	21.8		10.9
Adj Reference Time (s)	61.8	145.8	15.0	26.3		15.4
Permitted Option						
Adj Saturation A (vph)	1363		154	1453	154	
Reference Time A (s)	57.3		157.3	21.8	370.8	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	57.3			157.3		
Adj Reference Time (s)	61.8			161.8		
Split Option						
Ref Time Combined (s)	57.3		10.5	21.8	24.7	
Ref Time Seperate (s)	33.7		10.5	21.8	24.7	
Reference Time (s)	57.3		21.8	21.8	24.7	
Adj Reference Time (s)	61.8		26.3	26.3	29.2	
Summary	EB WB		NB		Combined	
Protected Option (s)	76.8		NA			
Permitted Option (s)	161.8		Err			
Split Option (s)	88.0		29.2			
Minimum (s)	76.8		29.2		106.0	
Right Turns	EBR	NBR				
Adj Reference Time (s)	145.8	15.4				
Cross Thru Ref Time (s)	0.0	61.8				
Oncoming Left Ref Time (s)	0.0	0.0				
Combined (s)	145.8	77.1				

Intersection Summary

Intersection Capacity Utilization 88.3% ICU Level of Service E
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
2: Speedway Drive & Live Oak Ave

Horizon Year (2040) With Project - Option 1
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Volume (vph)	71	2519	223	177	1138	85	203	0	249	99	0	58
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right	No			No			No			No		
Ideal Flow	1600	1600	1600	1600	1600	1600	2500	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.0	4.5	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	71	2742	0	177	1223	0	203	0	249	99	58	0
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.99	0.85	0.95	0.99	0.85	0.95	1.00	0.85	0.95	0.85	0.85
Saturated Flow (vph)	1520	4305	0	1520	4313	0	4612	0	1360	1520	1360	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00			0.00			0.00		
Protected Option Allowed	Yes			Yes			Yes			Yes		
Reference Time (s)	5.6	76.4	0.0	14.0	34.0	0.0	5.3	0.0	22.0	7.8	5.1	0.0
Adj Reference Time (s)	10.1	80.9	0.0	18.5	38.5	0.0	9.8	0.0	26.5	12.3	9.6	0.0
Permitted Option												
Adj Saturation A (vph)	101	1435		101	1438		154	0		101	1360	
Reference Time A (s)	84.1	76.4		209.6	34.0		79.2	0.0		117.2	5.1	
Adj Saturation B (vph)	NA	NA		NA	NA		0	0		0	1360	
Reference Time B (s)	NA	NA		NA	NA		13.3	0.0		15.8	5.1	
Reference Time (s)		84.1			209.6			13.3			15.8	
Adj Reference Time (s)		88.6			214.1			17.3			20.3	
Split Option												
Ref Time Combined (s)	5.6	76.4		14.0	34.0		5.3	0.0		7.8	5.1	
Ref Time Separate (s)	5.6	70.2		14.0	31.7		5.3	0.0		7.8	0.0	
Reference Time (s)	76.4	76.4		34.0	34.0		5.3	5.3		7.8	7.8	
Adj Reference Time (s)	80.9	80.9		38.5	38.5		9.3	9.3		12.3	12.3	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	99.4		19.4									
Permitted Option (s)	214.1		20.3									
Split Option (s)	119.5		21.6									
Minimum (s)	99.4		19.4		118.8							
Right Turns												
	NBR											
Adj Reference Time (s)	26.5											
Cross Thru Ref Time (s)	80.9											
Oncoming Left Ref Time (s)	12.3											
Combined (s)	119.7											
Intersection Summary												
Intersection Capacity Utilization			99.8%		ICU Level of Service				F			
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
3: Live Oak Avenue & Spanish Oak Drive

Horizon Year (2040) With Project - Option 1
PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶	↑↑↑	↑↑↑↶		↶	↶
Volume (vph)	4	2522	1236	153	253	11
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.0	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	4.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	4	2522	1389	0	253	11
Lane Utilization Factor	1.00	0.91	0.91	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.98	0.85	0.95	0.85
Saturated Flow (vph)	1520	4358	4286	0	1520	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	0.3	69.4	38.9	0.0		1.0
Adj Reference Time (s)	9.5	73.9	43.4	0.0		9.5
Permitted Option						
Adj Saturation A (vph)	101	1453	1429		101	
Reference Time A (s)	4.7	69.4	38.9		299.6	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		69.4	38.9			
Adj Reference Time (s)		73.9	43.4			
Split Option						
Ref Time Combined (s)	0.3	69.4	38.9		20.0	
Ref Time Seperate (s)	0.3	69.4	34.6		20.0	
Reference Time (s)	69.4	69.4	38.9		20.0	
Adj Reference Time (s)	73.9	73.9	43.4		24.5	
Summary	EB WB		SB		Combined	
Protected Option (s)	73.9		NA			
Permitted Option (s)	73.9		Err			
Split Option (s)	117.3		24.5			
Minimum (s)	73.9		24.5		98.4	
Right Turns	SBR					
Adj Reference Time (s)	9.5					
Cross Thru Ref Time (s)	43.4					
Oncoming Left Ref Time (s)	0.0					
Combined (s)	52.9					

Intersection Summary

Intersection Capacity Utilization 82.0% ICU Level of Service E
Reference Times and Phasing Options do not represent an optimized timing plan.

HCM 6th Signalized Intersection Summary
4: I605 SB On-Ramp & Live Oak Avenue













Horizon Year (2040) With Project - Option 1
PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑		
Traffic Volume (veh/h)	959	1039	526	1260	0	0
Future Volume (veh/h)	959	1039	526	1260	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1600	1600	1600	1600		
Adj Flow Rate, veh/h	1009	0	554	1326		
Peak Hour Factor	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	0	0	0	0		
Cap, veh/h	1385		613	2824		
Arrive On Green	0.46	0.00	0.40	0.93		
Sat Flow, veh/h	3120	1356	1524	3120		
Grp Volume(v), veh/h	1009	0	554	1326		
Grp Sat Flow(s),veh/h/ln	1520	1356	1524	1520		
Q Serve(g_s), s	17.1	0.0	21.6	3.5		
Cycle Q Clear(g_c), s	17.1	0.0	21.6	3.5		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	1385		613	2824		
V/C Ratio(X)	0.73		0.90	0.47		
Avail Cap(c_a), veh/h	4586		1095	6987		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00		
Uniform Delay (d), s/veh	14.0	0.0	17.8	0.3		
Incr Delay (d2), s/veh	0.7	0.0	5.5	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	5.2	0.0	7.6	0.0		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	14.8	0.0	23.3	0.4		
LnGrp LOS	B		C	A		
Approach Vol, veh/h	1009			1880		
Approach Delay, s/veh	14.8			7.2		
Approach LOS	B			A		
Timer - Assigned Phs			3	4		8
Phs Duration (G+Y+Rc), s			30.0	33.4		63.3
Change Period (Y+Rc), s			4.5	4.5		4.5
Max Green Setting (Gmax), s			45.5	95.5		145.5
Max Q Clear Time (g_c+I1), s			23.6	19.1		5.5
Green Ext Time (p_c), s			1.8	9.7		15.8
Intersection Summary						
HCM 6th Ctrl Delay			9.8			
HCM 6th LOS			A			
Notes						
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.						

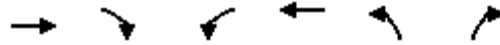
HCM 6th Signalized Intersection Summary
5: I605 NB Off-Ramp & Live Oak Avenue

Horizon Year (2040) With Project - Option 1
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑				↑↑			↑↑
Traffic Volume (veh/h)	0	932	0	0	1138	0	0	0	716	0	0	609
Future Volume (veh/h)	0	932	0	0	1138	0	0	0	716	0	0	609
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1600	0	0	1600	0	0	0	1600	0	0	1600
Adj Flow Rate, veh/h	0	981	0	0	1198	0	0	0	754	0	0	641
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	2273	0	0	2273	0	0	0	0	0	0	0
Arrive On Green	0.00	0.75	0.00	0.00	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	3200	0	0	3200	0		0			0	
Grp Volume(v), veh/h	0	981	0	0	1198	0		0.0			0.0	
Grp Sat Flow(s),veh/h/ln	0	1520	0	0	1520	0						
Q Serve(g_s), s	0.0	2.1	0.0	0.0	2.9	0.0						
Cycle Q Clear(g_c), s	0.0	2.1	0.0	0.0	2.9	0.0						
Prop In Lane	0.00		0.00	0.00		0.00						
Lane Grp Cap(c), veh/h	0	2273	0	0	2273	0						
V/C Ratio(X)	0.00	0.43	0.00	0.00	0.53	0.00						
Avail Cap(c_a), veh/h	0	3837	0	0	3837	0						
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00						
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00						
Uniform Delay (d), s/veh	0.0	0.8	0.0	0.0	0.9	0.0						
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.2	0.0						
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0						
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.1	0.0						
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	1.0	0.0	0.0	1.1	0.0						
LnGrp LOS	A	A	A	A	A	A						
Approach Vol, veh/h		981			1198							
Approach Delay, s/veh		1.0			1.1							
Approach LOS		A			A							
Timer - Assigned Phs				4				8				
Phs Duration (G+Y+Rc), s				17.8				17.8				
Change Period (Y+Rc), s				4.5				4.5				
Max Green Setting (Gmax), s				22.5				22.5				
Max Q Clear Time (g_c+I1), s				4.1				4.9				
Green Ext Time (p_c), s				6.9				8.4				
Intersection Summary												
HCM 6th Ctrl Delay				1.1								
HCM 6th LOS				A								

Intersection Capacity Utilization
6: Graham Road & Live Oak Avenue

Horizon Year (2040) With Project - Option 1
PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	
Volume (vph)	1797	37	0	1111	18	25
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No			No	
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1797	37	0	1111	43	0
Lane Utilization Factor	0.95	1.00	1.00	0.95	1.00	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.89	0.85
Saturated Flow (vph)	3046	1360	1520	3046	1430	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	70.8	3.3	0.0	43.8		0.0
Adj Reference Time (s)	75.3	9.5	9.5	48.3		0.0
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	95	
Reference Time A (s)	70.8		0.0	43.8	54.1	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	70.8			43.8		
Adj Reference Time (s)	75.3			48.3		
Split Option						
Ref Time Combined (s)	70.8		0.0	43.8	3.6	
Ref Time Seperate (s)	70.8		0.0	43.8	1.5	
Reference Time (s)	70.8		43.8	43.8	3.6	
Adj Reference Time (s)	75.3		48.3	48.3	9.5	
Summary						
	EB WB		NB		Combined	
Protected Option (s)	84.8		NA			
Permitted Option (s)	75.3		Err			
Split Option (s)	123.5		9.5			
Minimum (s)	75.3		9.5		84.8	
Right Turns						
	EBR					
Adj Reference Time (s)	9.5					
Cross Thru Ref Time (s)	0.0					
Oncoming Left Ref Time (s)	0.0					
Combined (s)	9.5					
Intersection Summary						
Intersection Capacity Utilization		70.7%		ICU Level of Service		C
Reference Times and Phasing Options do not represent an optimized timing plan.						

Intersection						
Int Delay, s/veh	45.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑	↗	↘	
Traffic Vol, veh/h	72	1737	950	36	63	161
Future Vol, veh/h	72	1737	950	36	63	161
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	290	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	78	1888	1033	39	68	175

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1072	0	-	0	2133 517
Stage 1	-	-	-	-	1033 -
Stage 2	-	-	-	-	1100 -
Critical Hdwy	4.1	-	-	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	658	-	-	-	~ 43 509
Stage 1	-	-	-	-	309 -
Stage 2	-	-	-	-	285 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	658	-	-	-	~ 38 509
Mov Cap-2 Maneuver	-	-	-	-	~ 38 -
Stage 1	-	-	-	-	272 -
Stage 2	-	-	-	-	285 -

























Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	\$ 610.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	658	-	-	-	113
HCM Lane V/C Ratio	0.119	-	-	-	2.155
HCM Control Delay (s)	11.2	-	-	-	\$ 610.3
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	0.4	-	-	-	20.7

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

























Intersection Capacity Utilization
8: Live Oak Avenue & Rivergrade Road

Horizon Year (2040) With Project - Option 1
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	14	1713	52	109	842	20	62	69	231	15	27	42
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right	No			No			No			No		
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	14	1713	52	109	842	20	62	69	231	15	27	42
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1520	3046	1360	1520	3046	1360	1520	3046	1360	1520	3046	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00		0.00				0.00			0.00		
Protected Option Allowed	Yes		Yes				Yes			Yes		
Reference Time (s)	1.1	67.5	4.6	8.6	33.2	1.8	4.9	2.7	20.4	1.2	1.1	3.7
Adj Reference Time (s)	9.5	72.0	9.5	13.1	37.7	9.5	9.5	9.5	24.9	9.5	9.5	9.5
Permitted Option												
Adj Saturation A (vph)	101	1523	101		1523	101		1523	101		1523	
Reference Time A (s)	16.6	67.5	129.1		33.2	73.4		2.7	17.8		1.1	
Adj Saturation B (vph)	NA	NA	NA		NA	0		3046	0		3046	
Reference Time B (s)	NA	NA	NA		NA	12.9		2.7	9.2		1.1	
Reference Time (s)	67.5		129.1				12.9			9.2		
Adj Reference Time (s)	72.0		133.6				17.4			13.7		
Split Option												
Ref Time Combined (s)	1.1	67.5	8.6		33.2	4.9		2.7	1.2		1.1	
Ref Time Seperate (s)	1.1	67.5	8.6		33.2	4.9		2.7	1.2		1.1	
Reference Time (s)	67.5	67.5	33.2		33.2	4.9		4.9	1.2		1.2	
Adj Reference Time (s)	72.0	72.0	37.7		37.7	9.5		9.5	9.5		9.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	85.1		19.0									
Permitted Option (s)	133.6		17.4									
Split Option (s)	109.6		19.0									
Minimum (s)	85.1		17.4		102.5							
Right Turns												
	EBR	WBR	NBR	SBR								
Adj Reference Time (s)	9.5	9.5	24.9	9.5								
Cross Thru Ref Time (s)	9.5	9.5	72.0	37.7								
Oncoming Left Ref Time (s)	13.1	9.5	9.5	9.5								
Combined (s)	32.1	28.5	106.4	56.7								
Intersection Summary												
Intersection Capacity Utilization	88.6%		ICU Level of Service				E					
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
9: Stewart Avenue & Live Oak Avenue

Horizon Year (2040) With Project - Option 1
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	53	1713	322	35	882	17	43	36	25	31	147	8
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	53	1713	322	35	899	0	0	104	0	31	147	8
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	0.94	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1520	3046	1360	1520	4346	0	0	1510	0	1520	1600	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			No			No	
Reference Time (s)	4.2	67.5	28.4	2.8	24.8	0.0			0.0			0.7
Adj Reference Time (s)	9.5	72.0	32.9	9.5	29.3	0.0			0.0			9.5
Permitted Option												
Adj Saturation A (vph)	101	1523		101	1449		0	203		730	1600	
Reference Time A (s)	62.8	67.5		41.4	24.8		0.0	61.4		5.1	11.0	
Adj Saturation B (vph)	NA	NA		NA	NA		NA	NA		0	1600	
Reference Time B (s)	NA	NA		NA	NA		NA	NA		10.4	11.0	
Reference Time (s)		67.5			41.4			61.4			11.0	
Adj Reference Time (s)		72.0			45.9			65.9			15.5	
Split Option												
Ref Time Combined (s)	4.2	67.5		2.8	24.8		0.0	8.3		2.4	11.0	
Ref Time Seperate (s)	4.2	67.5		2.8	24.4		3.4	2.9		2.4	11.0	
Reference Time (s)	67.5	67.5		24.8	24.8		8.3	8.3		11.0	11.0	
Adj Reference Time (s)	72.0	72.0		29.3	29.3		12.8	12.8		15.5	15.5	
Summary	EB WB		NB SB		Combined							
Protected Option (s)	81.5		NA									
Permitted Option (s)	72.0		65.9									
Split Option (s)	101.3		28.3									
Minimum (s)	72.0		28.3		100.3							
Right Turns	EBR		SBR									
Adj Reference Time (s)	32.9		9.5									
Cross Thru Ref Time (s)	15.5		29.3									
Oncoming Left Ref Time (s)	9.5		12.8									
Combined (s)	57.9		51.6									

Intersection Summary

Intersection Capacity Utilization 83.6% ICU Level of Service E
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
10: Baldwin Park Boulevard & Live Oak Avenue

Horizon Year (2040) With Project - Option 1
PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Volume (vph)	1435	449	397	819	127	223
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No			No	
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1435	449	397	819	127	223
Lane Utilization Factor	0.95	1.00	1.00	0.95	0.97	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	1360	1520	3046	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	56.5	39.6	31.3	32.3		19.7
Adj Reference Time (s)	61.0	44.1	35.8	36.8		24.2
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	154	
Reference Time A (s)	56.5		470.1	32.3	49.6	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	56.5			470.1		
Adj Reference Time (s)	61.0			474.6		
Split Option						
Ref Time Combined (s)	56.5		31.3	32.3	3.3	
Ref Time Seperate (s)	56.5		31.3	32.3	3.3	
Reference Time (s)	56.5		32.3	32.3	3.3	
Adj Reference Time (s)	61.0		36.8	36.8	9.5	
Summary						
	EB WB		NB		Combined	
Protected Option (s)	96.9		NA			
Permitted Option (s)	474.6		Err			
Split Option (s)	97.8		9.5			
Minimum (s)	96.9		9.5		106.4	
Right Turns						
	EBR		NBR			
Adj Reference Time (s)	44.1		24.2			
Cross Thru Ref Time (s)	0.0		61.0			
Oncoming Left Ref Time (s)	35.8		0.0			
Combined (s)	80.0		85.2			
Intersection Summary						
Intersection Capacity Utilization			88.6%	ICU Level of Service		E
Reference Times and Phasing Options do not represent an optimized timing plan.						

Intersection Capacity Utilization
11: Live Oak Avenue (East) & Arrow Highway

Horizon Year (2040) With Project - Option 1
PM Peak Hour



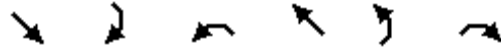
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶	↑↑↑	↑↑	↷	↶↷	↷
Volume (vph)	72	1553	1001	646	1320	153
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				Yes		No
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.0	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	4.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	72	1553	1001	646	1320	153
Lane Utilization Factor	1.00	0.91	0.95	1.00	0.97	1.00
Turning Factor (vph)	0.95	1.00	1.00	0.85	0.95	0.85
Saturated Flow (vph)	1520	4358	3046	1360	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	5.7	42.8	39.4	57.0		13.5
Adj Reference Time (s)	10.2	47.3	43.9	61.0		18.0
Permitted Option						
Adj Saturation A (vph)	101	1453	1523		154	
Reference Time A (s)	85.3	42.8	39.4		515.1	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		85.3	39.4			
Adj Reference Time (s)		89.8	43.9			
Split Option						
Ref Time Combined (s)	5.7	42.8	39.4		34.3	
Ref Time Seperate (s)	5.7	42.8	39.4		34.3	
Reference Time (s)	42.8	42.8	39.4		34.3	
Adj Reference Time (s)	47.3	47.3	43.9		38.8	
Summary						
	EB WB		SB		Combined	
Protected Option (s)	54.1		NA			
Permitted Option (s)	89.8		Err			
Split Option (s)	91.2		38.8			
Minimum (s)	54.1		38.8		93.0	
Right Turns						
	WBR	SBR				
Adj Reference Time (s)	61.0	18.0				
Cross Thru Ref Time (s)	0.0	43.9				
Oncoming Left Ref Time (s)	0.0	0.0				
Combined (s)	61.0	61.9				

Intersection Summary

Intersection Capacity Utilization 77.5% ICU Level of Service D
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
12: Rivergrade Road & Arrow Highway

Horizon Year (2040) With Project - Option 1
PM Peak Hour



Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↑↑	↑	↵	↑↑	↵↵	↵
Volume (vph)	1606	143	46	684	170	18
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No				No
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1606	143	46	684	170	18
Lane Utilization Factor	0.95	1.00	1.00	0.95	0.97	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	1360	1520	3046	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	63.3	12.6	3.6	26.9		1.6
Adj Reference Time (s)	67.8	17.1	9.5	31.4		9.5
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	154	
Reference Time A (s)	63.3		54.5	26.9	66.3	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	63.3			54.5		
Adj Reference Time (s)	67.8			59.0		
Split Option						
Ref Time Combined (s)	63.3		3.6	26.9	4.4	
Ref Time Seperate (s)	63.3		3.6	26.9	4.4	
Reference Time (s)	63.3		26.9	26.9	4.4	
Adj Reference Time (s)	67.8		31.4	31.4	9.5	
Summary	NW SE		NE		Combined	
Protected Option (s)	77.3		NA			
Permitted Option (s)	67.8		Err			
Split Option (s)	99.2		9.5			
Minimum (s)	67.8		9.5		77.3	
Right Turns	SER	NER				
Adj Reference Time (s)	17.1	9.5				
Cross Thru Ref Time (s)	0.0	67.8				
Oncoming Left Ref Time (s)	9.5	0.0				
Combined (s)	26.6	77.3				

Intersection Summary

Intersection Capacity Utilization 64.4% ICU Level of Service C
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
13: San Gabriel River Trail & Arrow Highway

Horizon Year (2040) With Project - Option 1
PM Peak Hour



Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↑↑			↑↑		
Volume (vph)	1809	0	0	910	0	0
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No				No
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.0	4.0	4.5	4.0	4.0
Minimum Green (s)	5.0	4.0	4.0	5.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1809	0	0	910	0	0
Lane Utilization Factor	0.95	1.00	1.00	0.95	1.00	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	0	0	3046	0	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	71.3	0.0	0.0	35.8		0.0
Adj Reference Time (s)	75.8	0.0	0.0	40.3		0.0
Permitted Option						
Adj Saturation A (vph)	1523		0	1523	0	
Reference Time A (s)	71.3		0.0	35.8	0.0	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	71.3			35.8		
Adj Reference Time (s)	75.8			40.3		
Split Option						
Ref Time Combined (s)	71.3		0.0	35.8	0.0	
Ref Time Seperate (s)	71.3		0.0	35.8	0.0	
Reference Time (s)	71.3		35.8	35.8	0.0	
Adj Reference Time (s)	75.8		40.3	40.3	0.0	
Summary	NW SE		NE		Combined	
Protected Option (s)	75.8		NA			
Permitted Option (s)	75.8		Err			
Split Option (s)	116.1		0.0			
Minimum (s)	75.8		0.0		75.8	
Right Turns						
Adj Reference Time (s)						
Cross Thru Ref Time (s)						
Oncoming Left Ref Time (s)						
Combined (s)						

Intersection Summary

Intersection Capacity Utilization 63.1% ICU Level of Service B
Reference Times and Phasing Options do not represent an optimized timing plan.

HCM 6th TWSC
15: Live Oak Lane & Arrow Highway

Horizon Year (2040) With Project - Option 1
PM Peak Hour

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	1817	13	0	496	0	63
Future Vol, veh/h	1817	13	0	496	0	63
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1975	14	0	539	0	68

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	-	-	-	995
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	0	247
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	247
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	25.1
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	247	-	-	-
HCM Lane V/C Ratio	0.277	-	-	-
HCM Control Delay (s)	25.1	-	-	-
HCM Lane LOS	D	-	-	-
HCM 95th %tile Q(veh)	1.1	-	-	-

HCM 6th Signalized Intersection Summary
 17: Arrow Highway & I605 SB Off-Ramp

Horizon Year (2040) With Project - Option 1
 PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↙	↗
Traffic Volume (veh/h)	0	1637	500	0	351	304
Future Volume (veh/h)	0	1637	500	0	351	304
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1600	1600	0	1600	1600
Adj Flow Rate, veh/h	0	1723	526	0	369	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	0	1830	1830	0	433	
Arrive On Green	0.00	0.60	0.60	0.00	0.28	0.00
Sat Flow, veh/h	0	3200	3200	0	1524	1356
Grp Volume(v), veh/h	0	1723	526	0	369	0
Grp Sat Flow(s),veh/h/ln	0	1520	1520	0	1524	1356
Q Serve(g_s), s	0.0	41.2	6.6	0.0	18.1	0.0
Cycle Q Clear(g_c), s	0.0	41.2	6.6	0.0	18.1	0.0
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1830	1830	0	433	
V/C Ratio(X)	0.00	0.94	0.29	0.00	0.85	
Avail Cap(c_a), veh/h	0	1863	1863	0	433	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	14.5	7.6	0.0	26.7	0.0
Incr Delay (d2), s/veh	0.0	10.1	0.1	0.0	18.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	14.2	1.9	0.0	8.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	24.6	7.7	0.0	45.4	0.0
LnGrp LOS	A	C	A	A	D	
Approach Vol, veh/h		1723	526		369	
Approach Delay, s/veh		24.6	7.7		45.4	
Approach LOS		C	A		D	
Timer - Assigned Phs				4	6	8
Phs Duration (G+Y+Rc), s				52.1	27.0	52.1
Change Period (Y+Rc), s				4.5	4.5	4.5
Max Green Setting (Gmax), s				48.5	22.5	48.5
Max Q Clear Time (g_c+I1), s				43.2	20.1	8.6
Green Ext Time (p_c), s				4.4	0.3	4.0
Intersection Summary						
HCM 6th Ctrl Delay			24.1			
HCM 6th LOS			C			
Notes						
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.						

Intersection Capacity Utilization

Horizon Year (2040) With Project - Option 1

18: Spanish Oak Drive/Avenida Barbosa & Arrow Highway

PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↗↗		↗	↗↗↗	↗	↗	↗	↗	↗↗	↗	↗
Volume (vph)	286	954	0	225	579	313	6	39	269	764	10	475
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	2500	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	286	954	0	225	579	313	6	39	269	764	10	475
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1520	4358	0	1520	4358	1360	1520	1600	1360	4612	1600	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			Yes			Yes	
Reference Time (s)	22.6	26.3	0.0	17.8	15.9	27.6	0.5	2.9	23.7	19.9	0.8	41.9
Adj Reference Time (s)	27.1	30.8	0.0	22.3	20.4	32.1	9.5	9.5	28.2	24.4	9.5	46.4
Permitted Option												
Adj Saturation A (vph)	101	1453		101	1453		101	1600		154	1600	
Reference Time A (s)	338.7	26.3		266.4	15.9		7.1	2.9		298.2	0.8	
Adj Saturation B (vph)	NA	NA		NA	NA		0	1600		0	1600	
Reference Time B (s)	NA	NA		NA	NA		8.5	2.9		27.9	0.8	
Reference Time (s)		338.7			266.4			7.1			27.9	
Adj Reference Time (s)		343.2			270.9			11.6			32.4	
Split Option												
Ref Time Combined (s)	22.6	26.3		17.8	15.9		0.5	2.9		19.9	0.8	
Ref Time Seperate (s)	22.6	26.3		17.8	15.9		0.5	2.9		19.9	0.8	
Reference Time (s)	26.3	26.3		17.8	17.8		2.9	2.9		19.9	19.9	
Adj Reference Time (s)	30.8	30.8		22.3	22.3		9.5	9.5		24.4	24.4	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	53.0		33.9									
Permitted Option (s)	343.2		32.4									
Split Option (s)	53.0		33.9									
Minimum (s)	53.0		32.4		85.4							
Right Turns												
	WBR		NBR		SBR							
Adj Reference Time (s)	32.1		28.2		46.4							
Cross Thru Ref Time (s)	9.5		30.8		20.4							
Oncoming Left Ref Time (s)	27.1		24.4		9.5							
Combined (s)	68.7		83.4		76.4							
Intersection Summary												
Intersection Capacity Utilization			71.2%		ICU Level of Service				C			
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
19: Valley Oak Lane & Live Oak Avenue

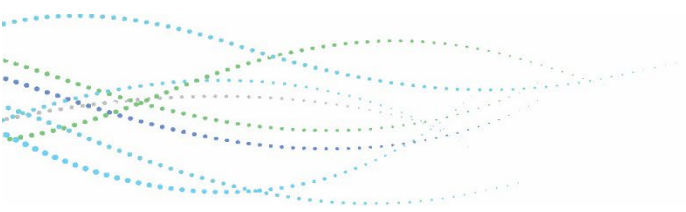
Horizon Year (2040) With Project - Option 1
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↕			↕	
Volume (vph)	0	1272	0	21	1193	1	6	0	32	0	0	1
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	1272	0	21	1194	0	0	38	0	0	1	0
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	0.87	0.85	0.95	0.85	0.85
Saturated Flow (vph)	1520	4358	0	1520	4358	0	0	1387	0	0	1360	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			No			No	
Reference Time (s)	0.0	35.0	0.0	1.7	32.9	0.0			0.0			0.0
Adj Reference Time (s)	9.5	39.5	0.0	9.5	37.4	0.0			0.0			0.0
Permitted Option												
Adj Saturation A (vph)	101	1453		101	1453		0	411		0	1360	
Reference Time A (s)	0.0	35.0		24.9	32.9		0.0	11.1		0.0	0.1	
Adj Saturation B (vph)	NA	NA		NA	NA		0	0		0	1360	
Reference Time B (s)	NA	NA		NA	NA		8.5	11.3		0.0	0.1	
Reference Time (s)		35.0			32.9			11.1			0.1	
Adj Reference Time (s)		39.5			37.4			15.6			9.5	
Split Option												
Ref Time Combined (s)	0.0	35.0		1.7	32.9		0.0	3.3		0.0	0.1	
Ref Time Seperate (s)	0.0	35.0		1.7	32.9		0.5	0.0		0.0	0.0	
Reference Time (s)	35.0	35.0		32.9	32.9		3.3	3.3		0.1	0.1	
Adj Reference Time (s)	39.5	39.5		37.4	37.4		9.5	9.5		9.5	9.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	49.0		NA									
Permitted Option (s)	39.5		15.6									
Split Option (s)	76.9		19.0									
Minimum (s)	39.5		15.6		55.1							
Right Turns												
Adj Reference Time (s)												
Cross Thru Ref Time (s)												
Oncoming Left Ref Time (s)												
Combined (s)												
Intersection Summary												
Intersection Capacity Utilization			45.9%		ICU Level of Service		A					
Reference Times and Phasing Options do not represent an optimized timing plan.												



Horizon Year (2040) With Project – Project Option 2 LOS Calculation Sheets



Intersection Capacity Utilization
1: Live Oak Avenue & Arrow Highway (West)

Horizon Year (2040) With Project - Option 2
AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↑	↑↑↑	↑↑	↑
Volume (vph)	574	1260	251	2077	1509	300
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		Yes				No
Ideal Flow	1600	1600	2500	1600	2500	1600
Lost Time (s)	4.5	4.0	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	4.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	994	840	251	2077	1509	300
Lane Utilization Factor	0.91	1.00	0.97	0.91	0.97	1.00
Turning Factor (vph)	0.94	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	4082	1360	4612	4358	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	29.2	74.1	6.5	57.2		26.5
Adj Reference Time (s)	33.7	78.1	11.0	61.7		31.0
Permitted Option						
Adj Saturation A (vph)	1361		154	1453	154	
Reference Time A (s)	29.2		98.0	57.2	588.9	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	29.2			98.0		
Adj Reference Time (s)	33.7			102.5		
Split Option						
Ref Time Combined (s)	29.2		6.5	57.2	39.3	
Ref Time Seperate (s)	16.9		6.5	57.2	39.3	
Reference Time (s)	29.2		57.2	57.2	39.3	
Adj Reference Time (s)	33.7		61.7	61.7	43.8	
Summary	EB WB		NB		Combined	
Protected Option (s)	61.7		NA			
Permitted Option (s)	102.5		Err			
Split Option (s)	95.4		43.8			
Minimum (s)	61.7		43.8		105.4	
Right Turns	EBR	NBR				
Adj Reference Time (s)	78.1	31.0				
Cross Thru Ref Time (s)	0.0	33.7				
Oncoming Left Ref Time (s)	0.0	0.0				
Combined (s)	78.1	64.7				

Intersection Summary

Intersection Capacity Utilization 87.9% ICU Level of Service E
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
2: Speedway Drive & Live Oak Ave

Horizon Year (2040) With Project - Option 2
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↗	↑↑↑		↖	↑↑↑		↗		↘	↖	↑	↘	
Volume (vph)	46	1376	88	93	1889	78	32	0	33	52	0	30	
Pedestrians													
Ped Button													
Pedestrian Timing (s)													
Free Right			No			No			No			No	
Ideal Flow	1600	1600	1600	1600	1600	1600	2500	1600	1600	1600	1600	1600	
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.0	4.5	4.5	4.5	4.0	
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0	5.0	5.0	4.0	
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120	
Volume Combined (vph)	46	1464	0	93	1967	0	32	0	33	52	30	0	
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00	
Turning Factor (vph)	0.95	0.99	0.85	0.95	0.99	0.85	0.95	1.00	0.85	0.95	0.85	0.85	
Saturated Flow (vph)	1520	4319	0	1520	4332	0	4612	0	1360	1520	1360	0	
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00		
Protected Option Allowed		Yes			Yes			Yes			Yes		
Reference Time (s)	3.6	40.7	0.0	7.3	54.5	0.0	0.8	0.0	2.9	4.1	2.6	0.0	
Adj Reference Time (s)	9.5	45.2	0.0	11.8	59.0	0.0	9.5	0.0	9.5	9.5	9.5	0.0	
Permitted Option													
Adj Saturation A (vph)	101	1440		101	1444		154	0		101	1360		
Reference Time A (s)	54.5	40.7		110.1	54.5		12.5	0.0		61.6	2.6		
Adj Saturation B (vph)	NA	NA		NA	NA		0	0		0	1360		
Reference Time B (s)	NA	NA		NA	NA		8.8	0.0		12.1	2.6		
Reference Time (s)		54.5			110.1			8.8			12.1		
Adj Reference Time (s)		59.0			114.6			12.8			16.6		
Split Option													
Ref Time Combined (s)	3.6	40.7		7.3	54.5		0.8	0.0		4.1	2.6		
Ref Time Seperate (s)	3.6	38.2		7.3	52.3		0.8	0.0		4.1	0.0		
Reference Time (s)	40.7	40.7		54.5	54.5		0.8	0.8		4.1	4.1		
Adj Reference Time (s)	45.2	45.2		59.0	59.0		8.0	8.0		9.5	9.5		
Summary													
	EB WB		NB SB		Combined								
Protected Option (s)	68.5		19.0										
Permitted Option (s)	114.6		16.6										
Split Option (s)	104.2		17.5										
Minimum (s)	68.5		16.6		85.1								
Right Turns													
	NBR												
Adj Reference Time (s)	9.5												
Cross Thru Ref Time (s)	45.2												
Oncoming Left Ref Time (s)	9.5												
Combined (s)	64.2												
Intersection Summary													
Intersection Capacity Utilization			70.9%		ICU Level of Service						C		
Reference Times and Phasing Options do not represent an optimized timing plan.													

Intersection Capacity Utilization
3: Live Oak Avenue & Spanish Oak Drive

Horizon Year (2040) With Project - Option 2
AM Peak Hour



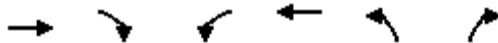
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	6	1376	2005	177	52	2
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.0	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	4.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	6	1376	2182	0	52	2
Lane Utilization Factor	1.00	0.91	0.91	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.99	0.85	0.95	0.85
Saturated Flow (vph)	1520	4358	4305	0	1520	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	0.5	37.9	60.8	0.0		0.2
Adj Reference Time (s)	9.5	42.4	65.3	0.0		9.5
Permitted Option						
Adj Saturation A (vph)	101	1453	1435		101	
Reference Time A (s)	7.1	37.9	60.8		61.6	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		37.9	60.8			
Adj Reference Time (s)		42.4	65.3			
Split Option						
Ref Time Combined (s)	0.5	37.9	60.8		4.1	
Ref Time Seperate (s)	0.5	37.9	55.9		4.1	
Reference Time (s)	37.9	37.9	60.8		4.1	
Adj Reference Time (s)	42.4	42.4	65.3		9.5	
Summary						
	EB WB		SB		Combined	
Protected Option (s)	74.8		NA			
Permitted Option (s)	65.3		Err			
Split Option (s)	107.7		9.5			
Minimum (s)	65.3		9.5		74.8	
Right Turns						
	SBR					
Adj Reference Time (s)	9.5					
Cross Thru Ref Time (s)	65.3					
Oncoming Left Ref Time (s)	0.0					
Combined (s)	74.8					

Intersection Summary

Intersection Capacity Utilization 62.3% ICU Level of Service B
Reference Times and Phasing Options do not represent an optimized timing plan.

HCM 6th Signalized Intersection Summary
4: I605 SB On-Ramp & Live Oak Avenue













Horizon Year (2040) With Project - Option 2
AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑		
Traffic Volume (veh/h)	421	613	516	2009	0	0
Future Volume (veh/h)	421	613	516	2009	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1600	1600	1600	1600		
Adj Flow Rate, veh/h	443	0	543	2115		
Peak Hour Factor	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	0	0	0	0		
Cap, veh/h	1232		608	2742		
Arrive On Green	0.41	0.00	0.40	0.90		
Sat Flow, veh/h	3120	1356	1524	3120		
Grp Volume(v), veh/h	443	0	543	2115		
Grp Sat Flow(s),veh/h/ln	1520	1356	1524	1520		
Q Serve(g_s), s	4.7	0.0	15.3	10.3		
Cycle Q Clear(g_c), s	4.7	0.0	15.3	10.3		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	1232		608	2742		
V/C Ratio(X)	0.36		0.89	0.77		
Avail Cap(c_a), veh/h	1818		779	3670		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00		
Uniform Delay (d), s/veh	9.5	0.0	12.9	0.7		
Incr Delay (d2), s/veh	0.2	0.0	10.6	0.7		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.3	0.0	5.8	0.3		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.7	0.0	23.5	1.5		
LnGrp LOS	A		C	A		
Approach Vol, veh/h	443			2658		
Approach Delay, s/veh	9.7			6.0		
Approach LOS	A			A		
Timer - Assigned Phs			3	4		8
Phs Duration (G+Y+Rc), s			22.8	23.1		46.0
Change Period (Y+Rc), s			4.5	4.5		4.5
Max Green Setting (Gmax), s			23.5	27.5		55.5
Max Q Clear Time (g_c+I1), s			17.3	6.7		12.3
Green Ext Time (p_c), s			1.1	2.9		29.2
Intersection Summary						
HCM 6th Ctrl Delay			6.5			
HCM 6th LOS			A			
Notes						
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.						

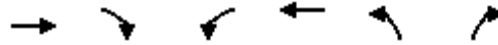
HCM 6th Signalized Intersection Summary
5: I605 NB Off-Ramp & Live Oak Avenue

Horizon Year (2040) With Project - Option 2
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑				↑↑			↑↑
Traffic Volume (veh/h)	0	408	0	0	1500	0	0	0	540	0	0	799
Future Volume (veh/h)	0	408	0	0	1500	0	0	0	540	0	0	799
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1600	0	0	1600	0	0	0	1600	0	0	1600
Adj Flow Rate, veh/h	0	429	0	0	1579	0	0	0	568	0	0	841
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	2469	0	0	2469	0	0	0	0	0	0	0
Arrive On Green	0.00	0.81	0.00	0.00	0.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	3200	0	0	3200	0		0			0	
Grp Volume(v), veh/h	0	429	0	0	1579	0		0.0			0.0	
Grp Sat Flow(s),veh/h/ln	0	1520	0	0	1520	0						
Q Serve(g_s), s	0.0	0.7	0.0	0.0	4.9	0.0						
Cycle Q Clear(g_c), s	0.0	0.7	0.0	0.0	4.9	0.0						
Prop In Lane	0.00		0.00	0.00		0.00						
Lane Grp Cap(c), veh/h	0	2469	0	0	2469	0						
V/C Ratio(X)	0.00	0.17	0.00	0.00	0.64	0.00						
Avail Cap(c_a), veh/h	0	3492	0	0	3492	0						
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00						
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00						
Uniform Delay (d), s/veh	0.0	0.5	0.0	0.0	0.9	0.0						
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.3	0.0						
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0						
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.1	0.0						
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.5	0.0	0.0	1.2	0.0						
LnGrp LOS	A	A	A	A	A	A						
Approach Vol, veh/h		429			1579							
Approach Delay, s/veh		0.5			1.2							
Approach LOS		A			A							
Timer - Assigned Phs				4				8				
Phs Duration (G+Y+Rc), s				23.9				23.9				
Change Period (Y+Rc), s				4.5				4.5				
Max Green Setting (Gmax), s				27.5				27.5				
Max Q Clear Time (g_c+I1), s				2.7				6.9				
Green Ext Time (p_c), s				2.9				12.6				
Intersection Summary												
HCM 6th Ctrl Delay				1.0								
HCM 6th LOS				A								

Intersection Capacity Utilization
6: Graham Road & Live Oak Avenue

Horizon Year (2040) With Project - Option 2
AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	
Volume (vph)	959	82	25	1447	112	28
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No			No	
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	959	82	25	1447	140	0
Lane Utilization Factor	0.95	1.00	1.00	0.95	1.00	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.93	0.85
Saturated Flow (vph)	3046	1360	1520	3046	1490	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	37.8	7.2	2.0	57.0		0.0
Adj Reference Time (s)	42.3	11.7	9.5	61.5		0.0
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	99	
Reference Time A (s)	37.8		29.6	57.0	169.1	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	37.8			57.0		
Adj Reference Time (s)	42.3			61.5		
Split Option						
Ref Time Combined (s)	37.8		2.0	57.0	11.3	
Ref Time Seperate (s)	37.8		2.0	57.0	9.0	
Reference Time (s)	37.8		57.0	57.0	11.3	
Adj Reference Time (s)	42.3		61.5	61.5	15.8	
Summary						
	EB WB		NB		Combined	
Protected Option (s)	61.5		NA			
Permitted Option (s)	61.5		Err			
Split Option (s)	103.8		15.8			
Minimum (s)	61.5		15.8		77.3	
Right Turns						
	EBR					
Adj Reference Time (s)	11.7					
Cross Thru Ref Time (s)	0.0					
Oncoming Left Ref Time (s)	9.5					
Combined (s)	21.2					
Intersection Summary						
Intersection Capacity Utilization		64.4%		ICU Level of Service		C

Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection						
Int Delay, s/veh	8.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	151	806	1345	87	14	107
Future Vol, veh/h	151	806	1345	87	14	107
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	290	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	164	876	1462	95	15	116

























Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1557	0	-	0	2228 731
Stage 1	-	-	-	-	1462 -
Stage 2	-	-	-	-	766 -
Critical Hdwy	4.14	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	2.22	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	421	-	-	-	36 364
Stage 1	-	-	-	-	179 -
Stage 2	-	-	-	-	419 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	421	-	-	-	22 364
Mov Cap-2 Maneuver	-	-	-	-	22 -
Stage 1	-	-	-	-	109 -
Stage 2	-	-	-	-	419 -

Approach	EB	WB	SB
HCM Control Delay, s	3	0	147.6
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	421	-	-	-	130
HCM Lane V/C Ratio	0.39	-	-	-	1.012
HCM Control Delay (s)	18.9	-	-	-	147.6
HCM Lane LOS	C	-	-	-	F
HCM 95th %tile Q(veh)	1.8	-	-	-	7.1























Intersection Capacity Utilization
8: Live Oak Avenue & Rivergrade Road

Horizon Year (2040) With Project - Option 2
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	14	759	44	419	1327	8	46	56	109	11	109	48
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right	No			No			No			No		
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	14	759	44	419	1327	8	46	56	109	11	109	48
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1520	3046	1360	1520	3046	1360	1520	3046	1360	1520	3046	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00		0.00				0.00		0.00			
Protected Option Allowed	Yes			Yes			Yes			Yes		
Reference Time (s)	1.1	29.9	3.9	33.1	52.3	0.7	3.6	2.2	9.6	0.9	4.3	4.2
Adj Reference Time (s)	9.5	34.4	9.5	37.6	56.8	9.5	9.5	9.5	14.1	9.5	9.5	9.5
Permitted Option												
Adj Saturation A (vph)	101	1523	101		1523	101	1523	101		1523		
Reference Time A (s)	16.6	29.9	496.2		52.3	54.5		2.2	13.0		4.3	
Adj Saturation B (vph)	NA	NA	NA		NA	0	3046	0		3046		
Reference Time B (s)	NA	NA	NA		NA	11.6	2.2	8.9		4.3		
Reference Time (s)	29.9		496.2				11.6		8.9			
Adj Reference Time (s)	34.4		500.7				16.1		13.4			
Split Option												
Ref Time Combined (s)	1.1	29.9	33.1		52.3	3.6	2.2	0.9		4.3		
Ref Time Seperate (s)	1.1	29.9	33.1		52.3	3.6	2.2	0.9		4.3		
Reference Time (s)	29.9	29.9	52.3		52.3	3.6	3.6	4.3		4.3		
Adj Reference Time (s)	34.4	34.4	56.8		56.8	9.5	9.5	9.5		9.5		
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	72.0		19.0									
Permitted Option (s)	500.7		16.1									
Split Option (s)	91.2		19.0									
Minimum (s)	72.0		16.1		88.1							
Right Turns												
	EBR	WBR	NBR	SBR								
Adj Reference Time (s)	9.5	9.5	14.1	9.5								
Cross Thru Ref Time (s)	9.5	9.5	34.4	56.8								
Oncoming Left Ref Time (s)	37.6	9.5	9.5	9.5								
Combined (s)	56.6	28.5	58.0	75.8								
Intersection Summary												
Intersection Capacity Utilization	73.4%		ICU Level of Service				D					
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
9: Stewart Avenue & Live Oak Avenue

Horizon Year (2040) With Project - Option 2
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	731	44	27	1878	21	210	91	33	7	36	35
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	30	731	44	27	1899	0	0	334	0	7	36	35
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	0.95	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1520	3046	1360	1520	4351	0	0	1527	0	1520	1600	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			No			No	
Reference Time (s)	2.4	28.8	3.9	2.1	52.4	0.0			0.0			3.1
Adj Reference Time (s)	9.5	33.3	9.5	9.5	56.9	0.0			0.0			9.5
Permitted Option												
Adj Saturation A (vph)	101	1523		101	1450		0	144		1057	1600	
Reference Time A (s)	35.5	28.8		32.0	52.4		0.0	278.6		0.8	2.7	
Adj Saturation B (vph)	NA	NA		NA	NA		0	0		NA	NA	
Reference Time B (s)	NA	NA		NA	NA		24.6	34.3		NA	NA	
Reference Time (s)		35.5			52.4			34.3			2.7	
Adj Reference Time (s)		40.0			56.9			38.8			9.5	
Split Option												
Ref Time Combined (s)	2.4	28.8		2.1	52.4		0.0	26.3		0.6	2.7	
Ref Time Seperate (s)	2.4	28.8		2.1	51.8		16.6	7.1		0.6	2.7	
Reference Time (s)	28.8	28.8		52.4	52.4		26.3	26.3		2.7	2.7	
Adj Reference Time (s)	33.3	33.3		56.9	56.9		30.8	30.8		9.5	9.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	66.4		NA									
Permitted Option (s)	56.9		38.8									
Split Option (s)	90.2		40.3									
Minimum (s)	56.9		38.8		95.6							
Right Turns												
	EBR		SBR									
Adj Reference Time (s)	9.5		9.5									
Cross Thru Ref Time (s)	9.5		56.9									
Oncoming Left Ref Time (s)	9.5		30.8									
Combined (s)	28.5		97.1									
Intersection Summary												
Intersection Capacity Utilization			80.9%		ICU Level of Service				D			
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
10: Baldwin Park Boulevard & Live Oak Avenue

Horizon Year (2040) With Project - Option 2
AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Volume (vph)	678	120	221	1547	400	287
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No			No	
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	678	120	221	1547	400	287
Lane Utilization Factor	0.95	1.00	1.00	0.95	0.97	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	1360	1520	3046	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	26.7	10.6	17.4	60.9		25.3
Adj Reference Time (s)	31.2	15.1	21.9	65.4		29.8
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	154	
Reference Time A (s)	26.7		261.7	60.9	156.1	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	26.7			261.7		
Adj Reference Time (s)	31.2			266.2		
Split Option						
Ref Time Combined (s)	26.7		17.4	60.9	10.4	
Ref Time Seperate (s)	26.7		17.4	60.9	10.4	
Reference Time (s)	26.7		60.9	60.9	10.4	
Adj Reference Time (s)	31.2		65.4	65.4	14.9	
Summary						
	EB	WB		NB		Combined
Protected Option (s)	65.4			NA		
Permitted Option (s)	266.2			Err		
Split Option (s)	96.6			14.9		
Minimum (s)	65.4			14.9		80.3
Right Turns						
	EBR			NBR		
Adj Reference Time (s)	15.1			29.8		
Cross Thru Ref Time (s)	0.0			31.2		
Oncoming Left Ref Time (s)	21.9			0.0		
Combined (s)	37.0			61.0		

Intersection Summary

Intersection Capacity Utilization 67.0% ICU Level of Service C
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
11: Live Oak Avenue (East) & Arrow Highway

Horizon Year (2040) With Project - Option 2
AM Peak Hour



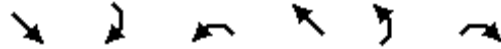
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	100	831	1686	2185	624	60
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				Yes		No
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.0	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	4.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	100	831	1686	2185	624	60
Lane Utilization Factor	1.00	0.91	0.95	1.00	0.97	1.00
Turning Factor (vph)	0.95	1.00	1.00	0.85	0.95	0.85
Saturated Flow (vph)	1520	4358	3046	1360	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	7.9	22.9	66.4	192.8		5.3
Adj Reference Time (s)	12.4	27.4	70.9	196.8		9.8
Permitted Option						
Adj Saturation A (vph)	101	1453	1523		154	
Reference Time A (s)	118.4	22.9	66.4		243.5	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		118.4	66.4			
Adj Reference Time (s)		122.9	70.9			
Split Option						
Ref Time Combined (s)	7.9	22.9	66.4		16.2	
Ref Time Seperate (s)	7.9	22.9	66.4		16.2	
Reference Time (s)	22.9	22.9	66.4		16.2	
Adj Reference Time (s)	27.4	27.4	70.9		20.7	
Summary						
	EB WB		SB		Combined	
Protected Option (s)	83.3		NA			
Permitted Option (s)	122.9		Err			
Split Option (s)	98.3		20.7			
Minimum (s)	83.3		20.7		104.0	
Right Turns						
	WBR	SBR				
Adj Reference Time (s)	196.8	9.8				
Cross Thru Ref Time (s)	0.0	70.9				
Oncoming Left Ref Time (s)	0.0	0.0				
Combined (s)	196.8	80.7				

Intersection Summary

Intersection Capacity Utilization 86.7% ICU Level of Service E
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
12: Rivergrade Road & Arrow Highway

Horizon Year (2040) With Project - Option 2
AM Peak Hour



Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↑↑	↑	↑	↑↑	↑↑	↑
Volume (vph)	609	204	34	2483	191	11
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No				No
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	609	204	34	2483	191	11
Lane Utilization Factor	0.95	1.00	1.00	0.95	0.97	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	1360	1520	3046	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	24.0	18.0	2.7	97.8		1.0
Adj Reference Time (s)	28.5	22.5	9.5	102.3		9.5
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	154	
Reference Time A (s)	24.0		40.3	97.8	74.5	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	24.0			97.8		
Adj Reference Time (s)	28.5			102.3		
Split Option						
Ref Time Combined (s)	24.0		2.7	97.8	5.0	
Ref Time Seperate (s)	24.0		2.7	97.8	5.0	
Reference Time (s)	24.0		97.8	97.8	5.0	
Adj Reference Time (s)	28.5		102.3	102.3	9.5	
Summary						
	NW	SE	NE	Combined		
Protected Option (s)	102.3		NA			
Permitted Option (s)	102.3		Err			
Split Option (s)	130.8		9.5			
Minimum (s)	102.3		9.5	111.8		
Right Turns						
	SER	NER				
Adj Reference Time (s)	22.5	9.5				
Cross Thru Ref Time (s)	0.0	28.5				
Oncoming Left Ref Time (s)	9.5	0.0				
Combined (s)	32.0	38.0				
Intersection Summary						
Intersection Capacity Utilization			93.2%	ICU Level of Service		F

Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
13: San Gabriel River Trail & Arrow Highway

Horizon Year (2040) With Project - Option 2
AM Peak Hour



Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↑↑			↑↑		
Volume (vph)	989	0	0	2652	0	0
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No				No
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.0	4.0	4.5	4.0	4.0
Minimum Green (s)	5.0	4.0	4.0	5.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	989	0	0	2652	0	0
Lane Utilization Factor	0.95	1.00	1.00	0.95	1.00	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	0	0	3046	0	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	39.0	0.0	0.0	104.5		0.0
Adj Reference Time (s)	43.5	0.0	0.0	109.0		0.0
Permitted Option						
Adj Saturation A (vph)	1523		0	1523	0	
Reference Time A (s)	39.0		0.0	104.5	0.0	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	39.0			104.5		
Adj Reference Time (s)	43.5			109.0		
Split Option						
Ref Time Combined (s)	39.0		0.0	104.5	0.0	
Ref Time Seperate (s)	39.0		0.0	104.5	0.0	
Reference Time (s)	39.0		104.5	104.5	0.0	
Adj Reference Time (s)	43.5		109.0	109.0	0.0	
Summary	NW SE		NE		Combined	
Protected Option (s)	109.0		NA			
Permitted Option (s)	109.0		Err			
Split Option (s)	152.4		0.0			
Minimum (s)	109.0		0.0		109.0	
Right Turns						
Adj Reference Time (s)						
Cross Thru Ref Time (s)						
Oncoming Left Ref Time (s)						
Combined (s)						

Intersection Summary

Intersection Capacity Utilization 90.8% ICU Level of Service E
Reference Times and Phasing Options do not represent an optimized timing plan.

HCM 6th TWSC
15: Live Oak Lane & Arrow Highway

Horizon Year (2040) With Project - Option 2
AM Peak Hour

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↓			↑↑		↑
Traffic Vol, veh/h	917	23	0	2067	0	43
Future Vol, veh/h	917	23	0	2067	0	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	997	25	0	2247	0	47

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	-	-	-	511
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	508
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	508
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	12.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	508	-	-	-
HCM Lane V/C Ratio	0.092	-	-	-
HCM Control Delay (s)	12.8	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-

HCM 6th Signalized Intersection Summary
 17: Arrow Highway & I605 SB Off-Ramp

Horizon Year (2040) With Project - Option 2
 AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↙	↗
Traffic Volume (veh/h)	0	927	2074	0	358	602
Future Volume (veh/h)	0	927	2074	0	358	602
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1600	1600	0	1600	1600
Adj Flow Rate, veh/h	0	976	2183	0	377	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	0	2224	2224	0	311	
Arrive On Green	0.00	0.73	0.73	0.00	0.20	0.00
Sat Flow, veh/h	0	3200	3200	0	1524	1356
Grp Volume(v), veh/h	0	976	2183	0	377	0
Grp Sat Flow(s),veh/h/ln	0	1520	1520	0	1524	1356
Q Serve(g_s), s	0.0	17.7	95.5	0.0	28.5	0.0
Cycle Q Clear(g_c), s	0.0	17.7	95.5	0.0	28.5	0.0
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2224	2224	0	311	
V/C Ratio(X)	0.00	0.44	0.98	0.00	1.21	
Avail Cap(c_a), veh/h	0	2232	2232	0	311	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	7.4	17.9	0.0	55.6	0.0
Incr Delay (d2), s/veh	0.0	0.1	14.9	0.0	121.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.5	33.7	0.0	21.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	7.6	32.8	0.0	177.0	0.0
LnGrp LOS	A	A	C	A	F	
Approach Vol, veh/h		976	2183		377	
Approach Delay, s/veh		7.6	32.8		177.0	
Approach LOS		A	C		F	
Timer - Assigned Phs				4	6	8
Phs Duration (G+Y+Rc), s				106.6	33.0	106.6
Change Period (Y+Rc), s				4.5	4.5	4.5
Max Green Setting (Gmax), s				102.5	28.5	102.5
Max Q Clear Time (g_c+I1), s				19.7	30.5	97.5
Green Ext Time (p_c), s				9.3	0.0	4.6

Intersection Summary

HCM 6th Ctrl Delay	41.2
HCM 6th LOS	D

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection Capacity Utilization

Horizon Year (2040) With Project - Option 2

18: Spanish Oak Drive/Avenida Barbosa & Arrow Highway

AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑	↗	↗	↑	↗	↗	↑	↗
Volume (vph)	370	614	1	307	2054	795	1	7	101	264	17	206
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	2500	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	370	615	0	307	2054	795	1	7	101	264	17	206
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1520	4357	0	1520	4358	1360	1520	1600	1360	4612	1600	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			Yes			Yes	
Reference Time (s)	29.2	16.9	0.0	24.2	56.6	70.1	0.1	0.5	8.9	6.9	1.3	18.2
Adj Reference Time (s)	33.7	21.4	0.0	28.7	61.1	74.6	9.5	9.5	13.4	11.4	9.5	22.7
Permitted Option												
Adj Saturation A (vph)	101	1452		101	1453		101	1600		154	1600	
Reference Time A (s)	438.2	16.9		363.6	56.6		1.2	0.5		103.0	1.3	
Adj Saturation B (vph)	NA	NA		NA	NA		0	1600		0	1600	
Reference Time B (s)	NA	NA		NA	NA		8.1	0.5		14.9	1.3	
Reference Time (s)		438.2			363.6			1.2			14.9	
Adj Reference Time (s)		442.7			368.1			9.5			19.4	
Split Option												
Ref Time Combined (s)	29.2	16.9		24.2	56.6		0.1	0.5		6.9	1.3	
Ref Time Seperate (s)	29.2	16.9		24.2	56.6		0.1	0.5		6.9	1.3	
Reference Time (s)	29.2	29.2		56.6	56.6		0.5	0.5		6.9	6.9	
Adj Reference Time (s)	33.7	33.7		61.1	61.1		9.5	9.5		11.4	11.4	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	94.8		20.9									
Permitted Option (s)	442.7		19.4									
Split Option (s)	94.8		20.9									
Minimum (s)	94.8		19.4		114.1							
Right Turns												
	WBR		NBR		SBR							
Adj Reference Time (s)	74.6		13.4		22.7							
Cross Thru Ref Time (s)	9.5		21.4		61.1							
Oncoming Left Ref Time (s)	33.7		11.4		9.5							
Combined (s)	117.9		46.2		93.2							
Intersection Summary												
Intersection Capacity Utilization			98.2%		ICU Level of Service		F					
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
19: Valley Oak Lane & Live Oak Avenue

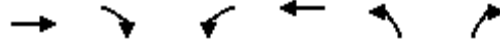
Horizon Year (2040) With Project - Option 2
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↕			↕	
Volume (vph)	0	875	1	48	2320	21	1	0	6	0	0	10
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	876	0	48	2341	0	0	7	0	0	10	0
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	0.87	0.85	0.95	0.85	0.85
Saturated Flow (vph)	1520	4358	0	1520	4353	0	0	1384	0	0	1360	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			No			No	
Reference Time (s)	0.0	24.1	0.0	3.8	64.5	0.0			0.0			0.0
Adj Reference Time (s)	9.5	28.6	0.0	9.5	69.0	0.0			0.0			0.0
Permitted Option												
Adj Saturation A (vph)	101	1453		101	1451		0	441		0	1360	
Reference Time A (s)	0.0	24.1		56.8	64.5		0.0	1.9		0.0	0.9	
Adj Saturation B (vph)	NA	NA		NA	NA		0	0		0	1360	
Reference Time B (s)	NA	NA		NA	NA		8.1	8.6		0.0	0.9	
Reference Time (s)		24.1			64.5			1.9			0.9	
Adj Reference Time (s)		28.6			69.0			9.5			9.5	
Split Option												
Ref Time Combined (s)	0.0	24.1		3.8	64.5		0.0	0.6		0.0	0.9	
Ref Time Separate (s)	0.0	24.1		3.8	64.0		0.1	0.0		0.0	0.0	
Reference Time (s)	24.1	24.1		64.5	64.5		0.6	0.6		0.9	0.9	
Adj Reference Time (s)	28.6	28.6		69.0	69.0		9.5	9.5		9.5	9.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	78.5		NA									
Permitted Option (s)	69.0		9.5									
Split Option (s)	97.7		19.0									
Minimum (s)	69.0		9.5		78.5							
Right Turns												
Adj Reference Time (s)												
Cross Thru Ref Time (s)												
Oncoming Left Ref Time (s)												
Combined (s)												
Intersection Summary												
Intersection Capacity Utilization			65.5%		ICU Level of Service		C					
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
1: Live Oak Avenue & Arrow Highway (West)

Horizon Year (2040) With Project - Option 2
PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↑	↑↑↑	↑↑	↑
Volume (vph)	1147	2405	403	790	929	123
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		Yes				No
Ideal Flow	1600	1600	2500	1600	2500	1600
Lost Time (s)	4.5	4.0	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	4.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1949	1603	403	790	929	123
Lane Utilization Factor	0.91	1.00	0.97	0.91	0.97	1.00
Turning Factor (vph)	0.94	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	4089	1360	4612	4358	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	57.2	141.5	10.5	21.8		10.9
Adj Reference Time (s)	61.7	145.5	15.0	26.3		15.4
Permitted Option						
Adj Saturation A (vph)	1363		154	1453	154	
Reference Time A (s)	57.2		157.3	21.8	362.6	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	57.2			157.3		
Adj Reference Time (s)	61.7			161.8		
Split Option						
Ref Time Combined (s)	57.2		10.5	21.8	24.2	
Ref Time Seperate (s)	33.7		10.5	21.8	24.2	
Reference Time (s)	57.2		21.8	21.8	24.2	
Adj Reference Time (s)	61.7		26.3	26.3	28.7	
Summary	EB WB		NB		Combined	
Protected Option (s)	76.7		NA			
Permitted Option (s)	161.8		Err			
Split Option (s)	87.9		28.7			
Minimum (s)	76.7		28.7		105.3	
Right Turns	EBR	NBR				
Adj Reference Time (s)	145.5	15.4				
Cross Thru Ref Time (s)	0.0	61.7				
Oncoming Left Ref Time (s)	0.0	0.0				
Combined (s)	145.5	77.0				

Intersection Summary

Intersection Capacity Utilization 87.8% ICU Level of Service E
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
2: Speedway Drive & Live Oak Ave

Horizon Year (2040) With Project - Option 2
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑		↖		↗	↖	↗	
Volume (vph)	71	2514	223	177	1117	85	203	0	249	99	0	58
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	2500	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.0	4.5	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	71	2737	0	177	1202	0	203	0	249	99	58	0
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.99	0.85	0.95	0.99	0.85	0.95	1.00	0.85	0.95	0.85	0.85
Saturated Flow (vph)	1520	4305	0	1520	4312	0	4612	0	1360	1520	1360	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			Yes			Yes	
Reference Time (s)	5.6	76.3	0.0	14.0	33.4	0.0	5.3	0.0	22.0	7.8	5.1	0.0
Adj Reference Time (s)	10.1	80.8	0.0	18.5	37.9	0.0	9.8	0.0	26.5	12.3	9.6	0.0
Permitted Option												
Adj Saturation A (vph)	101	1435		101	1437		154	0		101	1360	
Reference Time A (s)	84.1	76.3		209.6	33.4		79.2	0.0		117.2	5.1	
Adj Saturation B (vph)	NA	NA		NA	NA		0	0		0	1360	
Reference Time B (s)	NA	NA		NA	NA		13.3	0.0		15.8	5.1	
Reference Time (s)		84.1			209.6			13.3			15.8	
Adj Reference Time (s)		88.6			214.1			17.3			20.3	
Split Option												
Ref Time Combined (s)	5.6	76.3		14.0	33.4		5.3	0.0		7.8	5.1	
Ref Time Seperate (s)	5.6	70.1		14.0	31.1		5.3	0.0		7.8	0.0	
Reference Time (s)	76.3	76.3		33.4	33.4		5.3	5.3		7.8	7.8	
Adj Reference Time (s)	80.8	80.8		37.9	37.9		9.3	9.3		12.3	12.3	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	99.3		19.4									
Permitted Option (s)	214.1		20.3									
Split Option (s)	118.7		21.6									
Minimum (s)	99.3		19.4		118.7							
Right Turns												
	NBR											
Adj Reference Time (s)	26.5											
Cross Thru Ref Time (s)	80.8											
Oncoming Left Ref Time (s)	12.3											
Combined (s)	119.6											
Intersection Summary												
Intersection Capacity Utilization	99.6%		ICU Level of Service		F							
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
3: Live Oak Avenue & Spanish Oak Drive

Horizon Year (2040) With Project - Option 2
PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑↑	↑↑↑↔		↘	↘
Volume (vph)	4	2517	1215	145	252	11
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.0	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	4.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	4	2517	1360	0	252	11
Lane Utilization Factor	1.00	0.91	0.91	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.98	0.85	0.95	0.85
Saturated Flow (vph)	1520	4358	4289	0	1520	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	0.3	69.3	38.1	0.0		1.0
Adj Reference Time (s)	9.5	73.8	42.6	0.0		9.5
Permitted Option						
Adj Saturation A (vph)	101	1453	1430		101	
Reference Time A (s)	4.7	69.3	38.1		298.4	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		69.3	38.1			
Adj Reference Time (s)		73.8	42.6			
Split Option						
Ref Time Combined (s)	0.3	69.3	38.1		19.9	
Ref Time Seperate (s)	0.3	69.3	34.0		19.9	
Reference Time (s)	69.3	69.3	38.1		19.9	
Adj Reference Time (s)	73.8	73.8	42.6		24.4	
Summary						
	EB WB		SB		Combined	
Protected Option (s)	73.8		NA			
Permitted Option (s)	73.8		Err			
Split Option (s)	116.4		24.4			
Minimum (s)	73.8		24.4		98.2	
Right Turns						
	SBR					
Adj Reference Time (s)	9.5					
Cross Thru Ref Time (s)	42.6					
Oncoming Left Ref Time (s)	0.0					
Combined (s)	52.1					

Intersection Summary

Intersection Capacity Utilization 81.8% ICU Level of Service D
Reference Times and Phasing Options do not represent an optimized timing plan.

HCM 6th Signalized Intersection Summary
4: I605 SB On-Ramp & Live Oak Avenue

Horizon Year (2040) With Project - Option 2
PM Peak Hour















Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↵	↑↑		
Traffic Volume (veh/h)	952	1039	501	1229	0	0
Future Volume (veh/h)	952	1039	501	1229	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1600	1600	1600	1600		
Adj Flow Rate, veh/h	1002	0	527	1294		
Peak Hour Factor	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	0	0	0	0		
Cap, veh/h	1402		590	2809		
Arrive On Green	0.46	0.00	0.39	0.92		
Sat Flow, veh/h	3120	1356	1524	3120		
Grp Volume(v), veh/h	1002	0	527	1294		
Grp Sat Flow(s),veh/h/ln	1520	1356	1524	1520		
Q Serve(g_s), s	15.7	0.0	19.2	3.3		
Cycle Q Clear(g_c), s	15.7	0.0	19.2	3.3		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	1402		590	2809		
V/C Ratio(X)	0.71		0.89	0.46		
Avail Cap(c_a), veh/h	4948		1144	7460		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00		
Uniform Delay (d), s/veh	12.8	0.0	17.0	0.3		
Incr Delay (d2), s/veh	0.7	0.0	5.0	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.6	0.0	6.6	0.0		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.5	0.0	22.0	0.4		
LnGrp LOS	B		C	A		
Approach Vol, veh/h	1002			1821		
Approach Delay, s/veh	13.5			6.7		
Approach LOS	B			A		
Timer - Assigned Phs			3	4		8
Phs Duration (G+Y+Rc), s			27.4	31.8		59.3
Change Period (Y+Rc), s			4.5	4.5		4.5
Max Green Setting (Gmax), s			44.5	96.5		145.5
Max Q Clear Time (g_c+I1), s			21.2	17.7		5.3
Green Ext Time (p_c), s			1.7	9.6		15.1
Intersection Summary						
HCM 6th Ctrl Delay			9.1			
HCM 6th LOS			A			

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

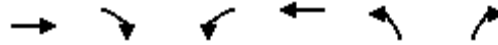
HCM 6th Signalized Intersection Summary
5: I605 NB Off-Ramp & Live Oak Avenue

Horizon Year (2040) With Project - Option 2
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑				↑↑			↑↑
Traffic Volume (veh/h)	0	925	0	0	1083	0	0	0	707	0	0	609
Future Volume (veh/h)	0	925	0	0	1083	0	0	0	707	0	0	609
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1600	0	0	1600	0	0	0	1600	0	0	1600
Adj Flow Rate, veh/h	0	974	0	0	1140	0	0	0	744	0	0	641
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	2266	0	0	2266	0	0	0	0	0	0	0
Arrive On Green	0.00	0.75	0.00	0.00	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	3200	0	0	3200	0		0			0	
Grp Volume(v), veh/h	0	974	0	0	1140	0		0.0			0.0	
Grp Sat Flow(s),veh/h/ln	0	1520	0	0	1520	0						
Q Serve(g_s), s	0.0	2.1	0.0	0.0	2.7	0.0						
Cycle Q Clear(g_c), s	0.0	2.1	0.0	0.0	2.7	0.0						
Prop In Lane	0.00		0.00	0.00		0.00						
Lane Grp Cap(c), veh/h	0	2266	0	0	2266	0						
V/C Ratio(X)	0.00	0.43	0.00	0.00	0.50	0.00						
Avail Cap(c_a), veh/h	0	4216	0	0	4216	0						
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00						
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00						
Uniform Delay (d), s/veh	0.0	0.8	0.0	0.0	0.9	0.0						
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.2	0.0						
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0						
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.1	0.0						
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	1.0	0.0	0.0	1.1	0.0						
LnGrp LOS	A	A	A	A	A	A						
Approach Vol, veh/h		974			1140							
Approach Delay, s/veh		1.0			1.1							
Approach LOS		A			A							
Timer - Assigned Phs				4				8				
Phs Duration (G+Y+Rc), s				17.7				17.7				
Change Period (Y+Rc), s				4.5				4.5				
Max Green Setting (Gmax), s				24.5				24.5				
Max Q Clear Time (g_c+I1), s				4.1				4.7				
Green Ext Time (p_c), s				7.1				8.5				
Intersection Summary												
HCM 6th Ctrl Delay				1.0								
HCM 6th LOS				A								

Intersection Capacity Utilization
6: Graham Road & Live Oak Avenue

Horizon Year (2040) With Project - Option 2
PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	
Volume (vph)	1783	37	0	1056	18	25
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No			No	
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1783	37	0	1056	43	0
Lane Utilization Factor	0.95	1.00	1.00	0.95	1.00	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.89	0.85
Saturated Flow (vph)	3046	1360	1520	3046	1430	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	70.2	3.3	0.0	41.6		0.0
Adj Reference Time (s)	74.7	9.5	9.5	46.1		0.0
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	95	
Reference Time A (s)	70.2		0.0	41.6	54.1	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	70.2			41.6		
Adj Reference Time (s)	74.7			46.1		
Split Option						
Ref Time Combined (s)	70.2		0.0	41.6	3.6	
Ref Time Seperate (s)	70.2		0.0	41.6	1.5	
Reference Time (s)	70.2		41.6	41.6	3.6	
Adj Reference Time (s)	74.7		46.1	46.1	9.5	
Summary						
	EB WB		NB		Combined	
Protected Option (s)	84.2		NA			
Permitted Option (s)	74.7		Err			
Split Option (s)	120.8		9.5			
Minimum (s)	74.7		9.5		84.2	
Right Turns						
	EBR					
Adj Reference Time (s)	9.5					
Cross Thru Ref Time (s)	0.0					
Oncoming Left Ref Time (s)	0.0					
Combined (s)	9.5					
Intersection Summary						
Intersection Capacity Utilization		70.2%		ICU Level of Service		C
Reference Times and Phasing Options do not represent an optimized timing plan.						

Intersection						
Int Delay, s/veh	13					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑	↗	↘	
Traffic Vol, veh/h	58	1737	950	27	40	106
Future Vol, veh/h	58	1737	950	27	40	106
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	290	-	-	100	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	63	1888	1033	29	43	115

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1062	0	-	0	2103 517
Stage 1	-	-	-	-	1033 -
Stage 2	-	-	-	-	1070 -
Critical Hdwy	4.14	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	2.22	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	652	-	-	-	44 503
Stage 1	-	-	-	-	304 -
Stage 2	-	-	-	-	291 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	652	-	-	-	~ 40 503
Mov Cap-2 Maneuver	-	-	-	-	~ 40 -
Stage 1	-	-	-	-	275 -
Stage 2	-	-	-	-	291 -

























Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	254.8
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	652	-	-	-	121
HCM Lane V/C Ratio	0.097	-	-	-	1.312
HCM Control Delay (s)	11.1	-	-	-	254.8
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	0.3	-	-	-	10.4

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






















Intersection Capacity Utilization
8: Live Oak Avenue & Rivergrade Road

Horizon Year (2040) With Project - Option 2
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	9	1700	47	109	834	20	61	69	231	15	27	42
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	9	1700	47	109	834	20	61	69	231	15	27	42
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1520	3046	1360	1520	3046	1360	1520	3046	1360	1520	3046	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			Yes			Yes	
Reference Time (s)	0.7	67.0	4.1	8.6	32.9	1.8	4.8	2.7	20.4	1.2	1.1	3.7
Adj Reference Time (s)	9.5	71.5	9.5	13.1	37.4	9.5	9.5	9.5	24.9	9.5	9.5	9.5
Permitted Option												
Adj Saturation A (vph)	101	1523		101	1523		101	1523		101	1523	
Reference Time A (s)	10.7	67.0		129.1	32.9		72.2	2.7		17.8	1.1	
Adj Saturation B (vph)	NA	NA		NA	NA		0	3046		0	3046	
Reference Time B (s)	NA	NA		NA	NA		12.8	2.7		9.2	1.1	
Reference Time (s)		67.0			129.1			12.8			9.2	
Adj Reference Time (s)		71.5			133.6			17.3			13.7	
Split Option												
Ref Time Combined (s)	0.7	67.0		8.6	32.9		4.8	2.7		1.2	1.1	
Ref Time Seperate (s)	0.7	67.0		8.6	32.9		4.8	2.7		1.2	1.1	
Reference Time (s)	67.0	67.0		32.9	32.9		4.8	4.8		1.2	1.2	
Adj Reference Time (s)	71.5	71.5		37.4	37.4		9.5	9.5		9.5	9.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	84.6		19.0									
Permitted Option (s)	133.6		17.3									
Split Option (s)	108.8		19.0									
Minimum (s)	84.6		17.3		101.9							
Right Turns												
	EBR	WBR	NBR	SBR								
Adj Reference Time (s)	9.5	9.5	24.9	9.5								
Cross Thru Ref Time (s)	9.5	9.5	71.5	37.4								
Oncoming Left Ref Time (s)	13.1	9.5	9.5	9.5								
Combined (s)	32.1	28.5	105.8	56.4								
Intersection Summary												
Intersection Capacity Utilization			88.2%	ICU Level of Service		E						
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
9: Stewart Avenue & Live Oak Avenue

Horizon Year (2040) With Project - Option 2
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	53	1704	318	35	875	17	42	36	25	31	147	8
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	53	1704	318	35	892	0	0	103	0	31	147	8
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	0.94	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1520	3046	1360	1520	4346	0	0	1510	0	1520	1600	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			No			No	
Reference Time (s)	4.2	67.1	28.1	2.8	24.6	0.0			0.0			0.7
Adj Reference Time (s)	9.5	71.6	32.6	9.5	29.1	0.0			0.0			9.5
Permitted Option												
Adj Saturation A (vph)	101	1523		101	1449		0	206		721	1600	
Reference Time A (s)	62.8	67.1		41.4	24.6		0.0	60.1		5.2	11.0	
Adj Saturation B (vph)	NA	NA		NA	NA		NA	NA		0	1600	
Reference Time B (s)	NA	NA		NA	NA		NA	NA		10.4	11.0	
Reference Time (s)		67.1			41.4			60.1			11.0	
Adj Reference Time (s)		71.6			45.9			64.6			15.5	
Split Option												
Ref Time Combined (s)	4.2	67.1		2.8	24.6		0.0	8.2		2.4	11.0	
Ref Time Seperate (s)	4.2	67.1		2.8	24.2		3.3	2.9		2.4	11.0	
Reference Time (s)	67.1	67.1		24.6	24.6		8.2	8.2		11.0	11.0	
Adj Reference Time (s)	71.6	71.6		29.1	29.1		12.7	12.7		15.5	15.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	81.1		NA									
Permitted Option (s)	71.6		64.6									
Split Option (s)	100.8		28.2									
Minimum (s)	71.6		28.2		99.8							
Right Turns												
	EBR		SBR									
Adj Reference Time (s)	32.6		9.5									
Cross Thru Ref Time (s)	15.5		29.1									
Oncoming Left Ref Time (s)	9.5		12.7									
Combined (s)	57.6		51.3									
Intersection Summary												
Intersection Capacity Utilization			83.2%		ICU Level of Service				E			
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
10: Baldwin Park Boulevard & Live Oak Avenue

Horizon Year (2040) With Project - Option 2
PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑↑	↑
Volume (vph)	1435	440	397	815	124	223
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No			No	
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1435	440	397	815	124	223
Lane Utilization Factor	0.95	1.00	1.00	0.95	0.97	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	1360	1520	3046	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	56.5	38.8	31.3	32.1		19.7
Adj Reference Time (s)	61.0	43.3	35.8	36.6		24.2
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	154	
Reference Time A (s)	56.5		470.1	32.1	48.4	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	56.5			470.1		
Adj Reference Time (s)	61.0			474.6		
Split Option						
Ref Time Combined (s)	56.5		31.3	32.1	3.2	
Ref Time Seperate (s)	56.5		31.3	32.1	3.2	
Reference Time (s)	56.5		32.1	32.1	3.2	
Adj Reference Time (s)	61.0		36.6	36.6	9.5	
Summary						
	EB WB		NB		Combined	
Protected Option (s)	96.9		NA			
Permitted Option (s)	474.6		Err			
Split Option (s)	97.6		9.5			
Minimum (s)	96.9		9.5		106.4	
Right Turns						
	EBR		NBR			
Adj Reference Time (s)	43.3		24.2			
Cross Thru Ref Time (s)	0.0		61.0			
Oncoming Left Ref Time (s)	35.8		0.0			
Combined (s)	79.2		85.2			

Intersection Summary

Intersection Capacity Utilization 88.6% ICU Level of Service E
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
 11: Live Oak Avenue (East) & Arrow Highway

Horizon Year (2040) With Project - Option 2
 PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↵	↑↑↑	↑↑	↵	↵↵	↵
Volume (vph)	72	1553	997	646	1306	153
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	72	1553	997	646	1306	153
Lane Utilization Factor	1.00	0.91	0.95	1.00	0.97	1.00
Turning Factor (vph)	0.95	1.00	1.00	0.85	0.95	0.85
Saturated Flow (vph)	1520	4358	3046	1360	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	5.7	42.8	39.3	57.0		13.5
Adj Reference Time (s)	10.2	47.3	43.8	61.5		18.0
Permitted Option						
Adj Saturation A (vph)	101	1453	1523		154	
Reference Time A (s)	85.3	42.8	39.3		509.7	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		85.3	39.3			
Adj Reference Time (s)		89.8	43.8			
Split Option						
Ref Time Combined (s)	5.7	42.8	39.3		34.0	
Ref Time Seperate (s)	5.7	42.8	39.3		34.0	
Reference Time (s)	42.8	42.8	39.3		34.0	
Adj Reference Time (s)	47.3	47.3	43.8		38.5	
Summary						
	EB WB		SB		Combined	
Protected Option (s)	54.0		NA			
Permitted Option (s)	89.8		Err			
Split Option (s)	91.0		38.5			
Minimum (s)	54.0		38.5		92.4	
Right Turns						
	WBR	SBR				
Adj Reference Time (s)	61.5	18.0				
Cross Thru Ref Time (s)	0.0	43.8				
Oncoming Left Ref Time (s)	10.2	0.0				
Combined (s)	71.7	61.8				

Intersection Summary

Intersection Capacity Utilization 77.0% ICU Level of Service D
 Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
12: Rivergrade Road & Arrow Highway

Horizon Year (2040) With Project - Option 2
PM Peak Hour



Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↑↑	↑	↵	↑↑	↵↵	↵
Volume (vph)	1592	143	46	684	165	18
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No				No
Ideal Flow	1600	1600	1600	1600	2500	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1592	143	46	684	165	18
Lane Utilization Factor	0.95	1.00	1.00	0.95	0.97	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	1360	1520	3046	4612	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	62.7	12.6	3.6	26.9		1.6
Adj Reference Time (s)	67.2	17.1	9.5	31.4		9.5
Permitted Option						
Adj Saturation A (vph)	1523		101	1523	154	
Reference Time A (s)	62.7		54.5	26.9	64.4	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	62.7			54.5		
Adj Reference Time (s)	67.2			59.0		
Split Option						
Ref Time Combined (s)	62.7		3.6	26.9	4.3	
Ref Time Seperate (s)	62.7		3.6	26.9	4.3	
Reference Time (s)	62.7		26.9	26.9	4.3	
Adj Reference Time (s)	67.2		31.4	31.4	9.5	
Summary	NW SE		NE		Combined	
Protected Option (s)	76.7		NA			
Permitted Option (s)	67.2		Err			
Split Option (s)	98.7		9.5			
Minimum (s)	67.2		9.5		76.7	
Right Turns	SER	NER				
Adj Reference Time (s)	17.1	9.5				
Cross Thru Ref Time (s)	0.0	67.2				
Oncoming Left Ref Time (s)	9.5	0.0				
Combined (s)	26.6	76.7				

Intersection Summary

Intersection Capacity Utilization 63.9% ICU Level of Service B
Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization
13: San Gabriel River Trail & Arrow Highway

Horizon Year (2040) With Project - Option 2
PM Peak Hour



Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations	↑↑			↑↑		
Volume (vph)	1795	0	0	905	0	0
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right		No			No	
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.0	4.0	4.5	4.0	4.0
Minimum Green (s)	5.0	4.0	4.0	5.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	1795	0	0	905	0	0
Lane Utilization Factor	0.95	1.00	1.00	0.95	1.00	1.00
Turning Factor (vph)	1.00	0.85	0.95	1.00	0.95	0.85
Saturated Flow (vph)	3046	0	0	3046	0	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)	0.00			0.00	0.00	
Protected Option Allowed	Yes			Yes	No	
Reference Time (s)	70.7	0.0	0.0	35.6		0.0
Adj Reference Time (s)	75.2	0.0	0.0	40.1		0.0
Permitted Option						
Adj Saturation A (vph)	1523		0	1523	0	
Reference Time A (s)	70.7		0.0	35.6	0.0	
Adj Saturation B (vph)	NA		NA	NA	NA	
Reference Time B (s)	NA		NA	NA	NA	
Reference Time (s)	70.7			35.6		
Adj Reference Time (s)	75.2			40.1		
Split Option						
Ref Time Combined (s)	70.7		0.0	35.6	0.0	
Ref Time Seperate (s)	70.7		0.0	35.6	0.0	
Reference Time (s)	70.7		35.6	35.6	0.0	
Adj Reference Time (s)	75.2		40.1	40.1	0.0	
Summary	NW SE		NE		Combined	
Protected Option (s)	75.2		NA			
Permitted Option (s)	75.2		Err			
Split Option (s)	115.4		0.0			
Minimum (s)	75.2		0.0		75.2	
Right Turns						
Adj Reference Time (s)						
Cross Thru Ref Time (s)						
Oncoming Left Ref Time (s)						
Combined (s)						

Intersection Summary

Intersection Capacity Utilization 62.7% ICU Level of Service B
Reference Times and Phasing Options do not represent an optimized timing plan.

HCM 6th TWSC
 15: Live Oak Lane & Arrow Highway

Horizon Year (2040) With Project - Option 2
 PM Peak Hour

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	1817	10	0	496	0	49
Future Vol, veh/h	1817	10	0	496	0	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1975	11	0	539	0	53

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	-	-	-	993
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	244
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	244
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	23.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	244	-	-	-
HCM Lane V/C Ratio	0.218	-	-	-
HCM Control Delay (s)	23.8	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.8	-	-	-

HCM 6th Signalized Intersection Summary
 17: Arrow Highway & I605 SB Off-Ramp

Horizon Year (2040) With Project - Option 2
 PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↙	↗
Traffic Volume (veh/h)	0	1634	500	0	349	304
Future Volume (veh/h)	0	1634	500	0	349	304
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1600	1600	0	1600	1600
Adj Flow Rate, veh/h	0	1720	526	0	367	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	0	1829	1829	0	434	
Arrive On Green	0.00	0.60	0.60	0.00	0.28	0.00
Sat Flow, veh/h	0	3200	3200	0	1524	1356
Grp Volume(v), veh/h	0	1720	526	0	367	0
Grp Sat Flow(s),veh/h/ln	0	1520	1520	0	1524	1356
Q Serve(g_s), s	0.0	41.0	6.6	0.0	18.0	0.0
Cycle Q Clear(g_c), s	0.0	41.0	6.6	0.0	18.0	0.0
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1829	1829	0	434	
V/C Ratio(X)	0.00	0.94	0.29	0.00	0.85	
Avail Cap(c_a), veh/h	0	1864	1864	0	434	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	14.4	7.6	0.0	26.7	0.0
Incr Delay (d2), s/veh	0.0	9.9	0.1	0.0	18.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	14.1	1.9	0.0	8.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	24.4	7.7	0.0	44.8	0.0
LnGrp LOS	A	C	A	A	D	
Approach Vol, veh/h		1720	526		367	
Approach Delay, s/veh		24.4	7.7		44.8	
Approach LOS		C	A		D	
Timer - Assigned Phs				4	6	8
Phs Duration (G+Y+Rc), s				52.1	27.0	52.1
Change Period (Y+Rc), s				4.5	4.5	4.5
Max Green Setting (Gmax), s				48.5	22.5	48.5
Max Q Clear Time (g_c+I1), s				43.0	20.0	8.6
Green Ext Time (p_c), s				4.5	0.3	4.0
Intersection Summary						
HCM 6th Ctrl Delay			23.9			
HCM 6th LOS			C			
Notes						
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.						

Intersection Capacity Utilization

Horizon Year (2040) With Project - Option 2

18: Spanish Oak Drive/Avenida Barbosa & Arrow Highway

PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	286	952	0	225	579	313	6	31	269	763	9	475
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	2500	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	286	952	0	225	579	313	6	31	269	763	9	475
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1520	4358	0	1520	4358	1360	1520	1600	1360	4612	1600	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			Yes			Yes	
Reference Time (s)	22.6	26.2	0.0	17.8	15.9	27.6	0.5	2.3	23.7	19.9	0.7	41.9
Adj Reference Time (s)	27.1	30.7	0.0	22.3	20.4	32.1	9.5	9.5	28.2	24.4	9.5	46.4
Permitted Option												
Adj Saturation A (vph)	101	1453		101	1453		101	1600		154	1600	
Reference Time A (s)	338.7	26.2		266.4	15.9		7.1	2.3		297.8	0.7	
Adj Saturation B (vph)	NA	NA		NA	NA		0	1600		0	1600	
Reference Time B (s)	NA	NA		NA	NA		8.5	2.3		27.9	0.7	
Reference Time (s)		338.7			266.4			7.1			27.9	
Adj Reference Time (s)		343.2			270.9			11.6			32.4	
Split Option												
Ref Time Combined (s)	22.6	26.2		17.8	15.9		0.5	2.3		19.9	0.7	
Ref Time Seperate (s)	22.6	26.2		17.8	15.9		0.5	2.3		19.9	0.7	
Reference Time (s)	26.2	26.2		17.8	17.8		2.3	2.3		19.9	19.9	
Adj Reference Time (s)	30.7	30.7		22.3	22.3		9.5	9.5		24.4	24.4	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	53.0		33.9									
Permitted Option (s)	343.2		32.4									
Split Option (s)	53.0		33.9									
Minimum (s)	53.0		32.4		85.3							
Right Turns												
	WBR		NBR		SBR							
Adj Reference Time (s)	32.1		28.2		46.4							
Cross Thru Ref Time (s)	9.5		30.7		20.4							
Oncoming Left Ref Time (s)	27.1		24.4		9.5							
Combined (s)	68.7		83.3		76.4							
Intersection Summary												
Intersection Capacity Utilization			71.1%		ICU Level of Service				C			
Reference Times and Phasing Options do not represent an optimized timing plan.												

Intersection Capacity Utilization
19: Valley Oak Lane & Live Oak Avenue

Horizon Year (2040) With Project - Option 2
PM Peak Hour

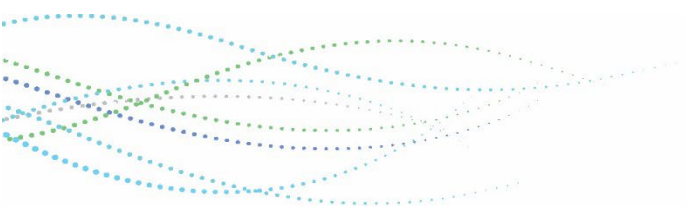


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑			↕			↕	
Volume (vph)	0	1270	0	21	1193	1	6	0	32	0	0	1
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	1270	0	21	1194	0	0	38	0	0	1	0
Lane Utilization Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	0.87	0.85	0.95	0.85	0.85
Saturated Flow (vph)	1520	4358	0	1520	4358	0	0	1387	0	0	1360	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			No			No	
Reference Time (s)	0.0	35.0	0.0	1.7	32.9	0.0			0.0			0.0
Adj Reference Time (s)	9.5	39.5	0.0	9.5	37.4	0.0			0.0			0.0
Permitted Option												
Adj Saturation A (vph)	101	1453		101	1453		0	411		0	1360	
Reference Time A (s)	0.0	35.0		24.9	32.9		0.0	11.1		0.0	0.1	
Adj Saturation B (vph)	NA	NA		NA	NA		0	0		0	1360	
Reference Time B (s)	NA	NA		NA	NA		8.5	11.3		0.0	0.1	
Reference Time (s)		35.0			32.9			11.1			0.1	
Adj Reference Time (s)		39.5			37.4			15.6			9.5	
Split Option												
Ref Time Combined (s)	0.0	35.0		1.7	32.9		0.0	3.3		0.0	0.1	
Ref Time Seperate (s)	0.0	35.0		1.7	32.9		0.5	0.0		0.0	0.0	
Reference Time (s)	35.0	35.0		32.9	32.9		3.3	3.3		0.1	0.1	
Adj Reference Time (s)	39.5	39.5		37.4	37.4		9.5	9.5		9.5	9.5	
Summary												
	EB WB		NB SB		Combined							
Protected Option (s)	49.0		NA									
Permitted Option (s)	39.5		15.6									
Split Option (s)	76.8		19.0									
Minimum (s)	39.5		15.6		55.1							
Right Turns												
Adj Reference Time (s)												
Cross Thru Ref Time (s)												
Oncoming Left Ref Time (s)												
Combined (s)												
Intersection Summary												
Intersection Capacity Utilization			45.9%		ICU Level of Service		A					
Reference Times and Phasing Options do not represent an optimized timing plan.												

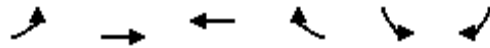


Horizon Year (2040) With Project – Project Option 1 (Mitigation Measures)

LOS Calculation Sheets



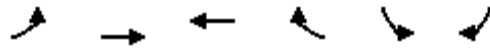
Intersection Capacity Utilization Horizon Year (2040) With Project - Option 1 with Mitigation
 7: Live Oak Avenue & Live Oak Lane AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	196	806	1345	118	19	120
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	196	806	1345	118	139	0
Lane Utilization Factor	1.00	0.95	0.95	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	1.00	0.85	0.86	0.85
Saturated Flow (vph)	1520	3046	3046	1360	1383	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	15.5	31.7	53.0	10.4		0.0
Adj Reference Time (s)	20.0	36.2	57.5	14.9		0.0
Permitted Option						
Adj Saturation A (vph)	101	1523	1523		92	
Reference Time A (s)	232.1	31.7	53.0		180.9	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		232.1	53.0			
Adj Reference Time (s)		236.6	57.5			
Split Option						
Ref Time Combined (s)	15.5	31.7	53.0		12.1	
Ref Time Seperate (s)	15.5	31.7	53.0		1.6	
Reference Time (s)	31.7	31.7	53.0		12.1	
Adj Reference Time (s)	36.2	36.2	57.5		16.6	
Summary	EB WB		SB		Combined	
Protected Option (s)	77.5		NA			
Permitted Option (s)	236.6		Err			
Split Option (s)	93.7		16.6			
Minimum (s)	77.5		16.6		94.0	
Right Turns	WBR					
Adj Reference Time (s)	14.9					
Cross Thru Ref Time (s)	0.0					
Oncoming Left Ref Time (s)	20.0					
Combined (s)	34.9					

Intersection Summary
 Intersection Capacity Utilization 78.3% ICU Level of Service D
 Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection Capacity Utilization Horizon Year (2040) With Project - Option 1 with Mitigation
 7: Live Oak Avenue & Live Oak Lane PM Peak Hour

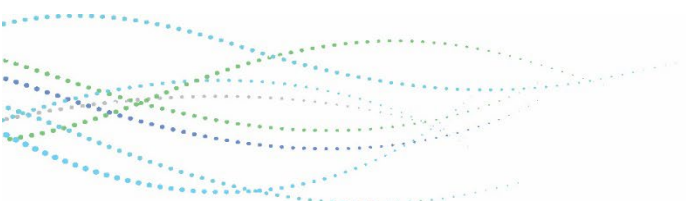


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	72	1737	950	36	63	161
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	72	1737	950	36	224	0
Lane Utilization Factor	1.00	0.95	0.95	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	1.00	0.85	0.88	0.85
Saturated Flow (vph)	1520	3046	3046	1360	1407	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	5.7	68.4	37.4	3.2		0.0
Adj Reference Time (s)	10.2	72.9	41.9	9.5		0.0
Permitted Option						
Adj Saturation A (vph)	101	1523	1523		94	
Reference Time A (s)	85.3	68.4	37.4		286.5	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		85.3	37.4			
Adj Reference Time (s)		89.8	41.9			
Split Option						
Ref Time Combined (s)	5.7	68.4	37.4		19.1	
Ref Time Seperate (s)	5.7	68.4	37.4		5.4	
Reference Time (s)	68.4	68.4	37.4		19.1	
Adj Reference Time (s)	72.9	72.9	41.9		23.6	
Summary						
	EB WB		SB		Combined	
Protected Option (s)	72.9		NA			
Permitted Option (s)	89.8		Err			
Split Option (s)	114.8		23.6			
Minimum (s)	72.9		23.6		96.5	
Right Turns						
	WBR					
Adj Reference Time (s)	9.5					
Cross Thru Ref Time (s)	0.0					
Oncoming Left Ref Time (s)	10.2					
Combined (s)	19.7					
Intersection Summary						
Intersection Capacity Utilization		80.4%		ICU Level of Service		D
Reference Times and Phasing Options do not represent an optimized timing plan.						

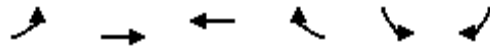


Horizon Year (2040) With Project – Project Option 2 (Mitigation Measures)

LOS Calculation Sheets

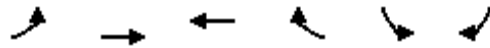


Intersection Capacity Utilization Horizon Year (2040) With Project - Option 2 with Mitigation
 7: Live Oak Avenue & Live Oak Lane AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	151	806	1345	87	14	107
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	151	806	1345	87	121	0
Lane Utilization Factor	1.00	0.95	0.95	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	1.00	0.85	0.86	0.85
Saturated Flow (vph)	1520	3046	3046	1360	1380	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	11.9	31.7	53.0	7.7		0.0
Adj Reference Time (s)	16.4	36.2	57.5	12.2		0.0
Permitted Option						
Adj Saturation A (vph)	101	1523	1523		92	
Reference Time A (s)	178.8	31.7	53.0		157.9	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		178.8	53.0			
Adj Reference Time (s)		183.3	57.5			
Split Option						
Ref Time Combined (s)	11.9	31.7	53.0		10.5	
Ref Time Seperate (s)	11.9	31.7	53.0		1.2	
Reference Time (s)	31.7	31.7	53.0		10.5	
Adj Reference Time (s)	36.2	36.2	57.5		15.0	
Summary						
	EB WB		SB		Combined	
Protected Option (s)	73.9		NA			
Permitted Option (s)	183.3		Err			
Split Option (s)	93.7		15.0			
Minimum (s)	73.9		15.0		88.9	
Right Turns						
	WBR					
Adj Reference Time (s)	12.2					
Cross Thru Ref Time (s)	0.0					
Oncoming Left Ref Time (s)	16.4					
Combined (s)	28.6					
Intersection Summary						
Intersection Capacity Utilization		74.1%		ICU Level of Service		D
Reference Times and Phasing Options do not represent an optimized timing plan.						

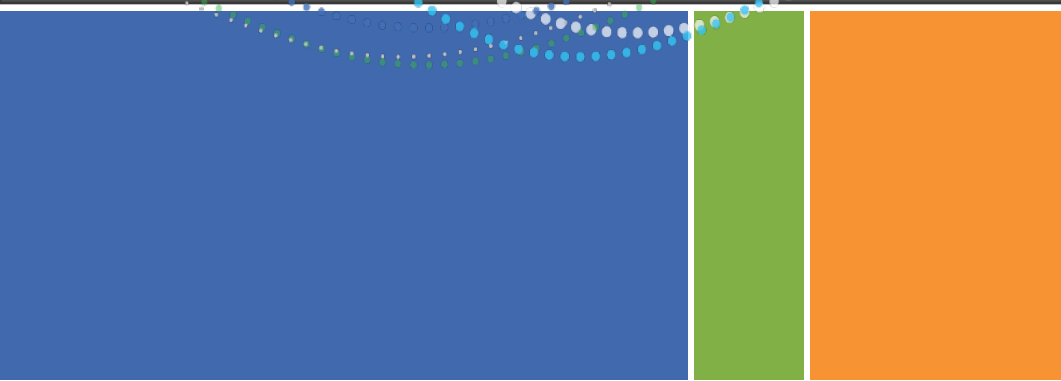
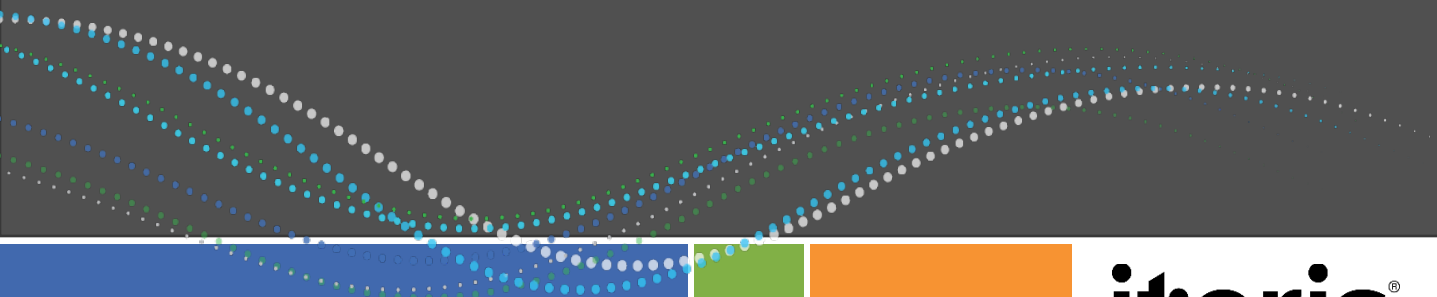
Intersection Capacity Utilization Horizon Year (2040) With Project - Option 2 with Mitigation
 7: Live Oak Avenue & Live Oak Lane PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	58	1737	950	27	40	106
Pedestrians						
Ped Button						
Pedestrian Timing (s)						
Free Right				No		No
Ideal Flow	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.0
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120
Volume Combined (vph)	58	1737	950	27	146	0
Lane Utilization Factor	1.00	0.95	0.95	1.00	1.00	1.00
Turning Factor (vph)	0.95	1.00	1.00	0.85	0.88	0.85
Saturated Flow (vph)	1520	3046	3046	1360	1406	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00	0.00		0.00	
Protected Option Allowed		Yes	Yes		No	
Reference Time (s)	4.6	68.4	37.4	2.4		0.0
Adj Reference Time (s)	9.5	72.9	41.9	9.5		0.0
Permitted Option						
Adj Saturation A (vph)	101	1523	1523		94	
Reference Time A (s)	68.7	68.4	37.4		186.9	
Adj Saturation B (vph)	NA	NA	NA		NA	
Reference Time B (s)	NA	NA	NA		NA	
Reference Time (s)		68.7	37.4			
Adj Reference Time (s)		73.2	41.9			
Split Option						
Ref Time Combined (s)	4.6	68.4	37.4		12.5	
Ref Time Seperate (s)	4.6	68.4	37.4		3.4	
Reference Time (s)	68.4	68.4	37.4		12.5	
Adj Reference Time (s)	72.9	72.9	41.9		17.0	
Summary						
	EB WB		SB		Combined	
Protected Option (s)	72.9		NA			
Permitted Option (s)	73.2		Err			
Split Option (s)	114.8		17.0			
Minimum (s)	72.9		17.0		89.9	
Right Turns						
	WBR					
Adj Reference Time (s)	9.5					
Cross Thru Ref Time (s)	0.0					
Oncoming Left Ref Time (s)	9.5					
Combined (s)	19.0					

Intersection Summary

Intersection Capacity Utilization 74.9% ICU Level of Service D
 Reference Times and Phasing Options do not represent an optimized timing plan.



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