APPENDIX P1:
TRANSPORTATION IMPACT STUDY



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TRANSPORTATION IMPACT STUDY

IRWINDALE BREW YARD SPECIFIC PLAN

Irwindale, California
April 30, 2026

Prepared for:

PLACEWORKS
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LLG Ref: 1-26-4728-1



Under the Supervision of:

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LIST OF ABBREVIATIONS

ABBREVIATION	MEANING
ABM	Activity Based Model
ADA	Americans With Disabilities Act
APN	Assessor's Parcel Number
AWSC	All-Way Stop Control
CAPCOA	California Air Pollution Control Officer's Association
CEQA	California Environmental Quality Act
CMP	Congestion Management Plan
CSTMP	Construction and Staging Traffic Management Plan
CY	Cubic Yards
FAR	Floor Area Ratio
HBW	Home-Based Work
HCM	Highway Capacity Manual
ICU	Intersection Capacity Utilization
IMC	Irwindale Municipal Code
ITE	Institute of Transportation Engineers
LDR	Local Development Review
LOS	Level of Service
LPI	Leading Pedestrian Interval
MUTCD	Manual on Uniform Traffic Control Devices
NOP	Notice of Preparation
OPR	California Governor's Office of Planning and Research
PA	Production-Attraction
PCE	Passenger Car Equivalent
PDF	Project Design Feature
PeMS	Performance Measurement System
PHF	Peak Hour Factor
PRC	Public Resources Code

ABBREVIATION	MEANING
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SB	Senate Bill
SCAG	Southern California Association of Governments
SED	Socio-Economic Data
SHS	State Highway System
SP	Service Population
TAZ	Transportation Analysis Zone
TDM	Transportation Demand Management
TISG	Transportation Impact Study Guidelines
TPA	Transit Priority Area
TWSC	Two-Way Stop Control
VMT	Vehicle Miles Traveled

1.0 INTRODUCTION

This transportation impact study has been conducted to identify and evaluate the potential transportation impacts of the proposed Irwindale Brew Yard Specific Plan ("Specific Plan"). The Specific Plan site is located in the City of Irwindale, California. The approximately 150.1 acre site is generally bound by the I-210 Freeway to the north, First Street to the south, the existing Irwindale Brew Yard and Irwindale Avenue to the east, and the Santa Fe Dam Recreation Area to the west. The Specific Plan site and general vicinity are shown in ***Figure 1-1***.

The transportation impact analysis follows the requirements set forth in the City of Irwindale's "Transportation Study Guidelines for Vehicle Miles Traveled and Level of Service Assessment" [1] ("Guidelines"). Specifically, in compliance with California Environmental Quality Act (CEQA) Sections 15064.3 and 15064.7, this transportation impact analysis utilizes Vehicle Miles Traveled (VMT) for the purpose of analyzing transportation impacts under CEQA. In addition, the City of Irwindale requires additional site access studies in order to identify a proposed project's effect on local transportation infrastructure. The site access studies prepared for the Specific Plan evaluate potential project-related effects on intersection operations and Level of Service (LOS) at 24 key intersections in the vicinity of the project site. The study intersections were determined in consultation with City of Irwindale staff. Further, an impact analysis was also completed as it relates to the State Highway System and nine (9) freeway ramp intersections under the jurisdiction of the California Department of Transportation.

In summary, this report (i) presents the Specific Plan's existing transportation network context, (ii) presents existing traffic volumes, (iii) forecasts cumulative baseline conditions, (iv) forecasts project-generated traffic, (v) assesses the potential for project-related transportation impacts consistent with the required CEQA metrics and recommends transportation mitigation measures as necessary, and (vi) assesses non-CEQA-based metrics and recommends transportation network improvement measures, where necessary.

1.1 Study Methodology

The CEQA and non-CEQA analysis criteria for this transportation impact report were identified in consultation with City of Irwindale staff. The analysis criteria were determined based on the City's Guidelines, the Specific Plan description and location, and the characteristics of the

[1] "City of Irwindale Transportation Study and Guidelines for Vehicle Miles Traveled and Level of Service Assessment", 2021.

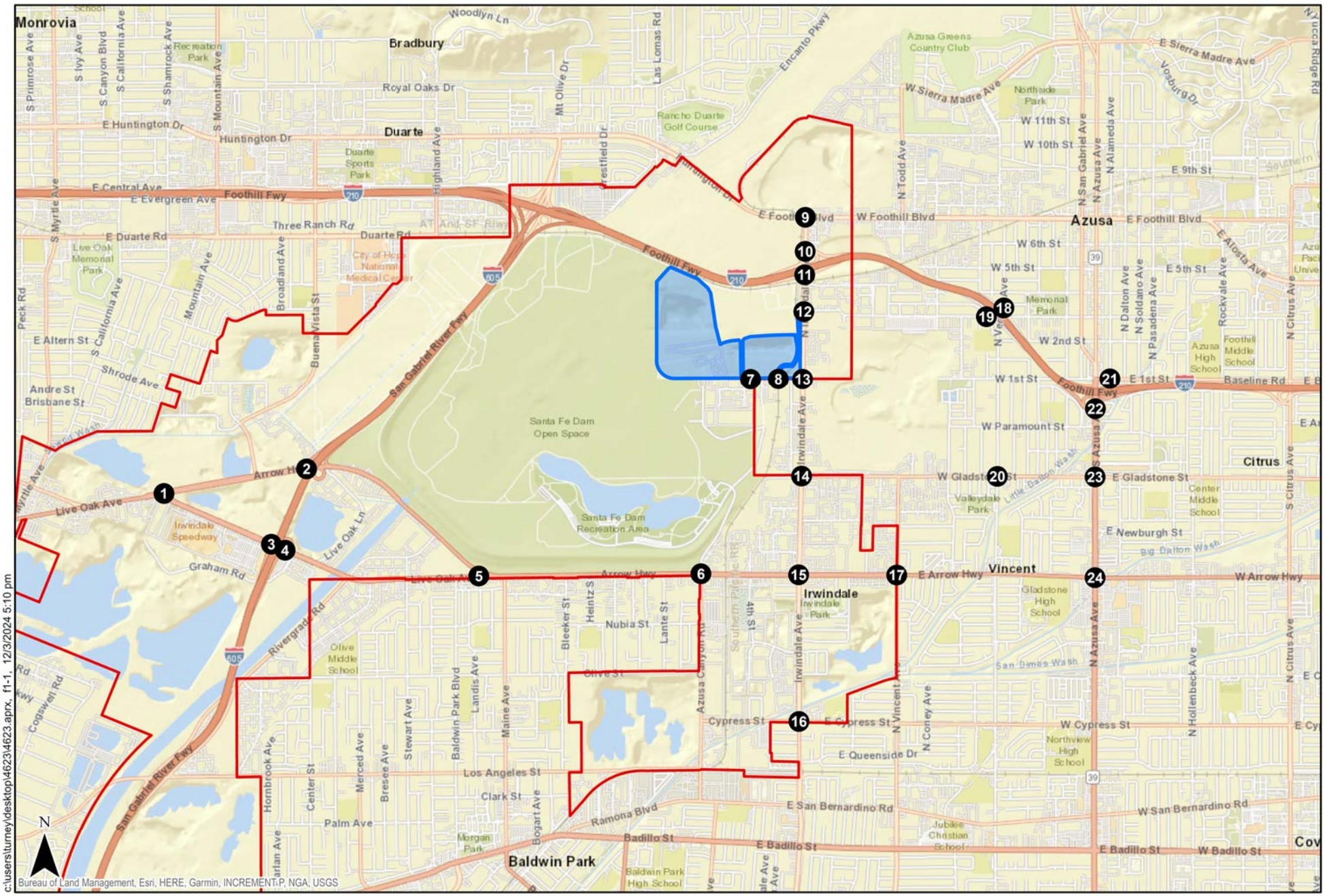


Figure 1-1
Vicinity Map

Irwindale Brew Yard Specifc Plan

surrounding transportation system. Additionally, the study criteria were developed to address comments received following the issuance of the Notice of Preparation (NOP) of the environmental documents. The NOP and related transportation comment letters are provided in ***Appendix A***.

On September 27, 2013, Governor Brown signed Senate Bill (SB) 743 (Steinberg, 2013). Among other things, SB 743 initiated a change in the methodology to analyze transportation impacts under CEQA (Public Resources Code Section [PRC] 21000 and following). Through PRC Section 21099, which states in part that "automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment," SB 743 directed the Governor's Office of Planning and Research (OPR) to identify a new metric for evaluating transportation impacts. OPR identified VMT as the most appropriate metric, and developed the *Technical Advisory on Evaluating Transportation Impacts in CEQA* ("*Technical Advisory*"), which provides non-binding recommendations on the implementation of VMT analysis methodology that has significantly informed the way VMT analyses are conducted in the State. State-wide implementation of the new metric was required by July 1, 2020. Pursuant to current statutes, the City of Irwindale adopted Resolution No. 2020-53-3163, establishing VMT as the metric for determining environmental impacts in compliance with SB 743.

The passage of SB 743 and the resulting implementation of VMT does not prevent agencies from continuing to analyze delay or LOS outside of CEQA review for other transportation planning or analysis purposes (i.e., general plans, impact fee programs, corridor studies, congestion reduction, or ongoing network monitoring). The City of Irwindale therefore also requires additional studies of the local transportation network. Specifically, the City of Irwindale requires an operational analysis of intersections in the vicinity of a Specific Plan site in order to evaluate site access and circulation constraints that may be caused or worsened by project-generated traffic. For purposes of this analysis, a total of 24 study intersections were selected in coordination with City of Irwindale staff. The study intersections are summarized in ***Table 1-1***, along with the current traffic controls and the agencies which have jurisdiction at each intersection, and are also illustrated in *Figure 1-1*. This assessment utilizes the Intersection Capacity Utilization (ICU) methodology to evaluate LOS at signalized study intersections, and utilizes the latest version of the Highway Capacity Manual[2] (HCM) methodology to evaluate LOS at unsignalized study intersections.

As required by State law, the California Department of Transportation (Caltrans) has also formally adopted VMT as the metric for evaluating the transportation impacts of local development projects on the State Highway System. Caltrans' "Transportation Impact Study Guide"[3] (TISG) relies on the December 2018 *Technical Advisory* prepared by OPR as the basis for its guidance on VMT

[2] *Highway Capacity Manual, 7th Edition*, National Academies of Sciences, Engineering, and Medicine, Transportation Research Board. Washington D.C., 2022.
[3] "Vehicle Miles Traveled-Focused Transportation Impact Study Guide," Caltrans, May 20, 2020.

Table 1-1
LIST OF STUDY INTERSECTIONS

NO.	INTERSECTION	TRAFFIC CONTROL	JURISDICTION(S)
1	Arrow Highway/ Live Oak Avenue (West)	Signalized	City of Irwindale
2	I-605 Freeway Southbound Off-Ramp/ Arrow Highway	Signalized	City of Irwindale Caltrans
3	I-605 Freeway Southbound On-Ramp/ Live Oak Avenue	Signalized	City of Irwindale Caltrans
4	I-605 Freeway Northbound Off-Ramp/ Live Oak Avenue	Signalized	City of Irwindale Caltrans
5	Arrow Highway/ Live Oak Avenue (East)	Signalized	City of Irwindale City of Baldwin Park
6	Azusa Canyon Road/ Arrow Highway	Signalized	City of Irwindale City of Baldwin Park
7	Martin Road/ First Street	Unsignalized	City of Irwindale City of Azusa
8	Irwindale Brew Yard Driveway/ First Street	Unsignalized	City of Irwindale City of Azusa
9	Irwindale Avenue/ Foothill Boulevard	Signalized	City of Irwindale
10	Irwindale Avenue/ I-210 Freeway Westbound Off-Ramp	Signalized	City of Irwindale Caltrans
11	Irwindale Avenue/ I-210 Freeway Eastbound Ramps	Signalized	City of Irwindale Caltrans
12	Irwindale Avenue/ Jardin De Roca-Irwindale Road	Signalized	City of Irwindale
13	Irwindale Avenue/ First Street	Signalized	City of Irwindale City of Azusa
14	Irwindale Avenue/ Gladstone Street	Signalized	City of Irwindale City of Azusa
15	Irwindale Avenue/ Arrow Highway	Signalized	City of Irwindale
16	Irwindale Avenue/ Cypress Street	Signalized	City of Irwindale Los Angeles County
17	Vincent Avenue/ Arrow Highway	Signalized	Cities of Irwindale, Azusa Los Angeles County
18	Vernon Avenue/ I-210 Freeway Westbound Ramps	Unsignalized	City of Azusa Caltrans
19	I-210 Freeway Eastbound Off-Ramp/ Third Street	Unsignalized	City of Azusa Caltrans
20	Vernon Avenue-Lark Ellen Avenue/ Gladstone Street	Signalized	City of Azusa Los Angeles County
21	Alameda Avenue-I-210 Freeway Westbound Ramps/ First Street	Signalized	City of Azusa Caltrans
22	Azusa Avenue/ I-210 Freeway Eastbound Off-Ramp	Signalized	City of Azusa Caltrans
23	Azusa Avenue/ Gladstone Street	Signalized	City of Azusa Los Angeles County
24	Azusa Avenue/ Arrow Highway	Signalized	City of Azusa City of Covina

assessment. For the purpose of this transportation impact analysis, it is understood that the VMT analysis prepared for the City of Irwindale satisfies Caltrans' VMT analysis requirements as well. Therefore, no separate VMT analysis has been prepared for Caltrans' review of the Specific Plan. Caltrans' TISG states, "Additional future guidance will include the basis for requesting transportation impact analysis that is not based on VMT. This guidance will include a simplified safety analysis approach that reduces risks to all road users and that focuses on multi-modal conflict analysis as well as access management issues." Caltrans has subsequently released the "Local Development Review (LDR) Safety Review Practitioner's Guidance."[4] The Specific Plan site does not take direct access to/from a State facility; however, it is situated in the vicinity of the I-210 and I-605 Freeways and is expected to generate net new project trips at nearby ramp intersections. The off-ramp locations selected for further study are summarized in *Table 1-1*. Therefore, the Caltrans Safety Review Practitioner's Guidance was reviewed and analyses relevant to the Specific Plan were identified for inclusion in the transportation impact analysis.

In summary, the Specific Plan's CEQA transportation impacts have been evaluated based on the VMT screening criteria, methodology, and thresholds set forth in the City's Guidelines. In order to evaluate the Specific Plan's effect on local transportation infrastructure, a non-CEQA analysis of 24 study intersections has been conducted for the weekday AM and PM peak hours, utilizing the City-approved ICU and HCM operational methodologies. Further, the I-210 and I-605 Freeway ramp intersections under Caltrans' jurisdiction were also evaluated based on HCM operational analysis methodologies.

[4] "Local Development Review (LDR) Safety Review Practitioner's Guidance", Caltrans Division of Safety Programs, February 2024.

2.0 IRWINDALE BREW YARD SPECIFIC PLAN DESCRIPTION[5]

2.1 Project Location

The Irwindale Brew Yard Specific Plan is located in the City of Irwindale, California. The Specific Plan site consists of several parcels totaling approximately 150.1 acres, including all or portions of Assessor Parcel Numbers (APNs) 8533-009-025, 8533-009-026, 8533-009-027, 8533-009-028, 8533-009-029, and 8533-011-052. The Specific Plan site does not have an assigned street address, but is situated adjacent to the Irwindale Brew Yard facility located at 15801 First Street. The Specific Plan area and general vicinity are shown in *Figure 1-1*.

2.2 Existing Land Use

The existing site is currently occupied by two non-operational gravel mining sites, an overflow truck parking area and ancillary buildings associated with the adjacent Irwindale Brew Yard, and a solar panel array located adjacent to First Street. The existing mining sites are planned to be filled and the ancillary brewery uses are planned to be relocated onto the Irwindale Brew Yard site. All current improvements at the project site will be removed in order to accommodate development of the proposed Specific Plan.

The existing project site is currently designated as Industrial/Business Park and is zoned for M-2: Heavy Manufacturing land uses in the City of Irwindale General Plan[6]. An aerial photograph of the existing project site is presented in ***Figure 2-1***.

2.3 Specific Plan Description

The Irwindale Brew Yard Specific Plan consists of the development of two separate planning areas that allow for a range of development types envisioned for the Specific Plan area. The Specific Plan development envelope includes 3,000,000 square feet of new industrial and business park uses within the approximately 144.1-acre Planning Area 1, and 12,000 square feet of commercial uses within the approximately 6.0-acre Planning Area 2. In addition to structures, the development will include loading docks, truck trailer and automobile parking, vehicular and pedestrian circulation, landscaping and associated infrastructure improvements.

Each of the planning areas are distinguished by their location and expected primary uses. Planning Area 1 is expected to accommodate one or a combination of light industrial buildings, e-commerce and logistics distribution, warehouse, light manufacturing, research and development, or showroom space. Planning Area 2 is expected to accommodate a mix of commercial uses designed to activate the frontage along Irwindale Avenue in support of the surrounding community and the industrial land uses developed in Planning Area 1. The location of each Planning Area and a

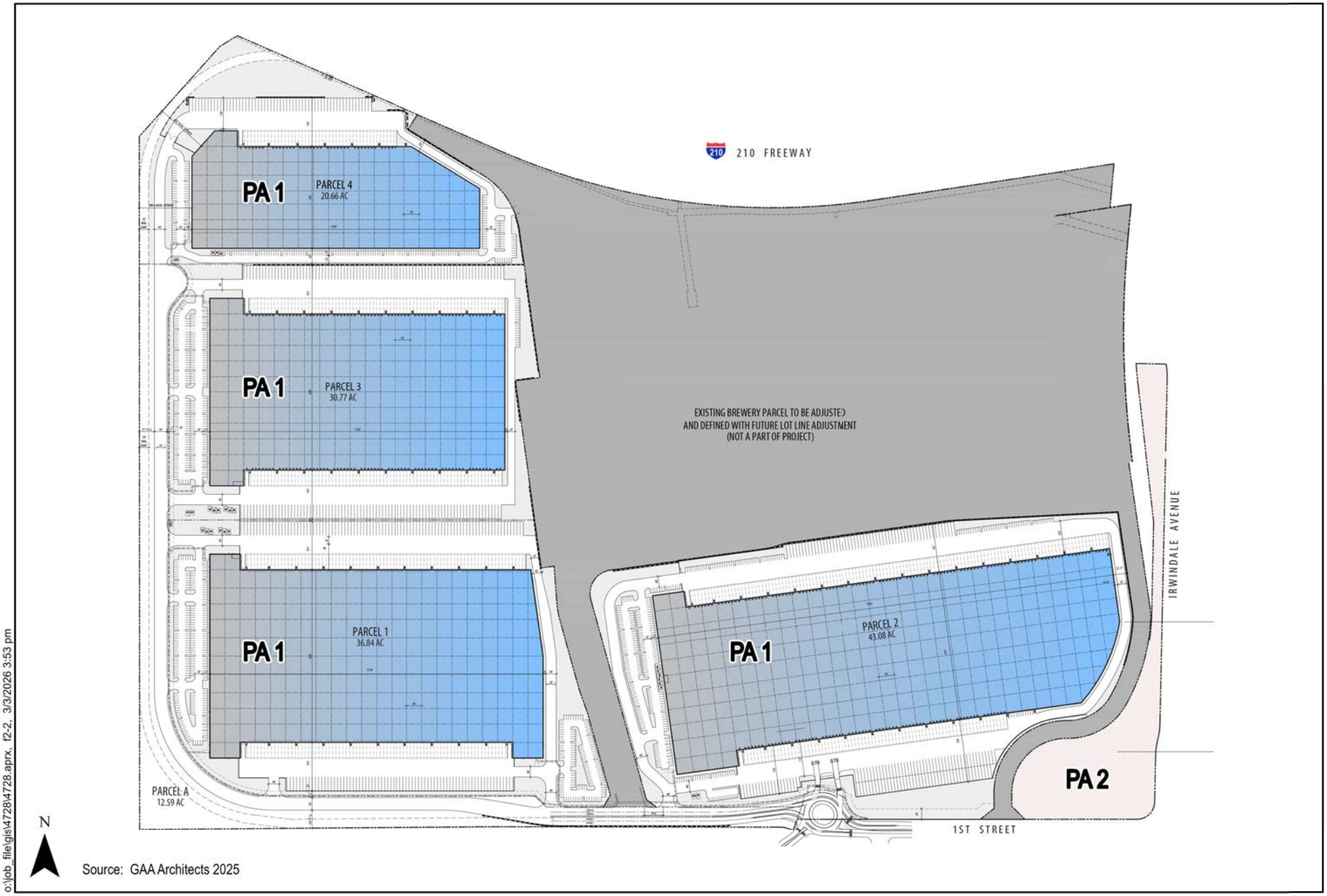
[5] Specific Plan description obtained from the Draft Irwindale Brew Yard Specific Plan, developed by Yellow Iron Real Estate and prepared by Kimely-Horn & Associates, January 2024.
[6] City of Irwindale 2030 General Plan Update, June 2008.

conceptual layout of potential buildings in Planning Area 1 is illustrated in ***Figure 2-2***. The conceptual layout for commercial uses in Planning Area 2 is illustrated in ***Figure 2-3***.



Specific Plan Boundary

Figure 2-1
Aerial Photograph of Existing Project Site



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Figure 2-2
Conceptual Site Plan



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Source: Herdman Architecture + Design, December 2025

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Figure 2-3
Conceptual Commercial Area Site Plan
Planning Area 2
Irwindale Brew Yard Specific Plan

Table 2-1 summarizes the land use assumptions utilized for the Specific Plan at full build-out, based on information provided to the City of Irwindale by the project Applicant.

Table 2-1
SPECIFIC PLAN BUILD-OUT LAND USE ASSUMPTIONS

PLANNING AREA	LAND USE TYPE	SIZE (SF)
1	High-Cube Cold Storage Warehouse	535,000
1	High-Cube Fulfillment Center Warehouse (Sort)	1,555,500
1	Warehouse	454,750
1	High-Cube Short-Term Storage Warehouse	454,750
2	Strip Retail Plaza	12,000

The Specific Plan is planned to be constructed in multiple phases related to the filling of the two abandoned gravel mining pits. Based on information provided by the project Applicant, it is understood that the southeast pit will be filled with on-site material while the north pit will be filled via the import of approximately 8,000,000 cubic yards of material. Buildings located in the southern portion of the site may be constructed and occupied by year 2027, while the final buildings located in the northern portion of the site are expected to be constructed and occupied by year 2030. For the purposes of the transportation analyses presented herein, the Specific Plan will be analyzed in one phase corresponding to full project build-out in year 2030. Further discussion of project construction and material importing activities is provided in *Section 8.0*.

2.4 Specific Plan Objectives

The Specific Plan's stated project objectives are intended to help ensure the continued operation of the Irwindale Brew Yard as one of the City's most iconic businesses while allowing for compatible high-quality industrial development. The goals for the Irwindale Brew Yard Specific Plan are as follows:

- Add new uses which complement the operations of the existing Irwindale Brew Yard facilities while increasing economic and employment opportunities within Irwindale.

- Increase adjacent warehouse space to the existing Brewery in response to insufficient storage capacity.

- Provide economic opportunities and economic and job growth in the City of Irwindale by diversifying the City's available range of industrial, commercial, and employment-generating uses.

- Provide for a master-planned, job-producing development in close proximity to Interstate-210 freeway to accommodate uses that benefit from access to the regional transportation system.

- Allow for the accommodation of industrial, manufacturing and assembly, warehouse distribution, logistics, and fulfillment center buildings that are designed to attract a wide range of users and are economically competitive with other contemporary buildings of these types in the region.

- Provide the opportunity for neighborhood serving commercial uses at the corner of Irwindale Avenue and First Street to benefit employees and visitors of the onsite uses as well as commuters traveling through the City on Irwindale Avenue.

- Identify and provide for the installation, operation, and ongoing maintenance of water, sewer, drainage, and road facility infrastructure to adequately service the Specific Plan area.

- Provide guidelines and standards for architecture, walls, fencing, signage, lighting, and entry treatments within the Irwindale Brew Yard Specific Plan area that provide a well-defined identity for the development.

- Provide guidelines and standards for landscaping and building systems that are aimed at reducing unnecessary water use, energy use, and fossil fuel consumption in the Irwindale Brew Yard Specific Plan area.

- Create a comprehensive master plan for the filling of two former sand and gravel quarries to provide a mix of industrial, business park, and commercial uses.

2.5 Project Site Access

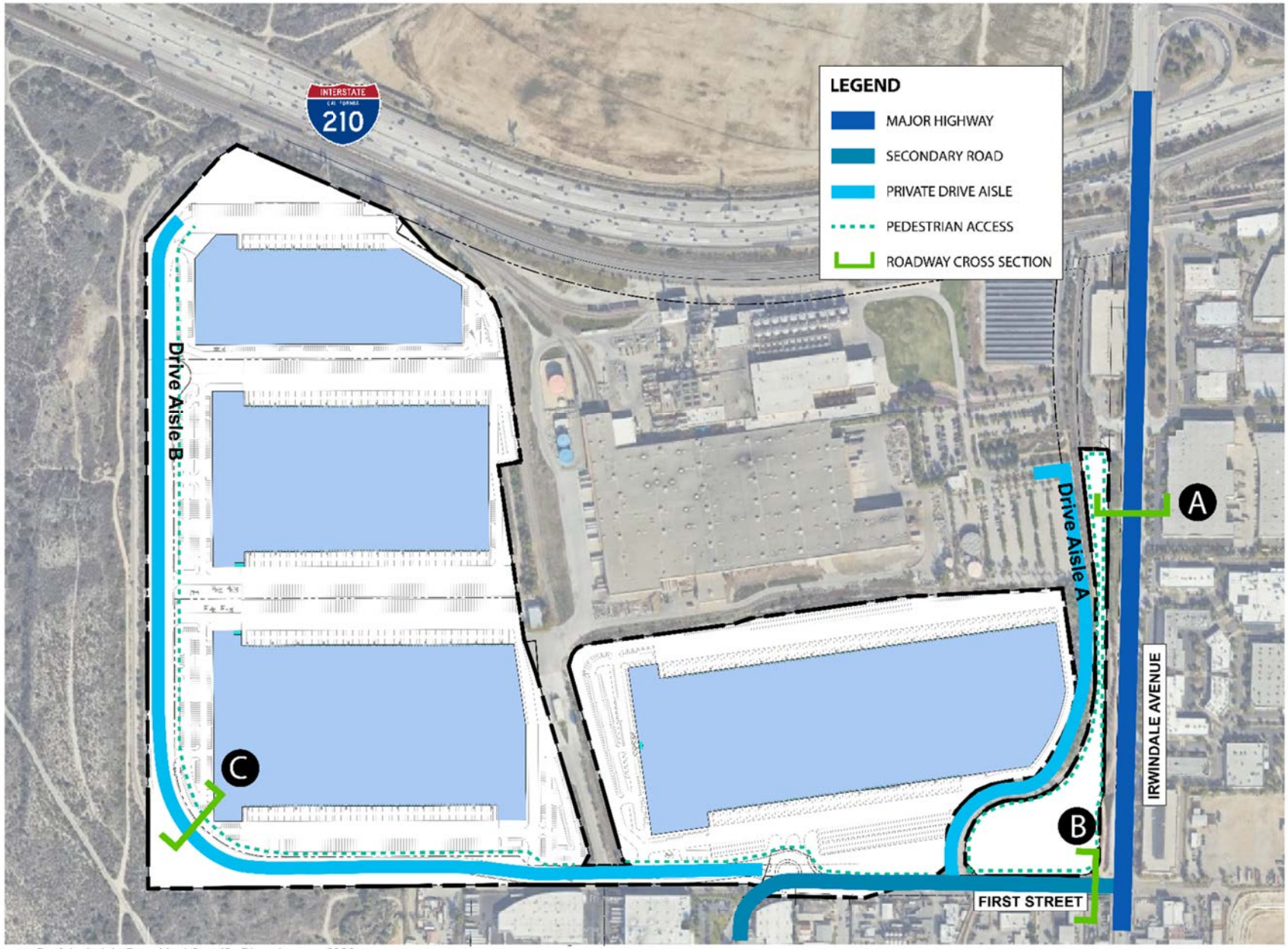
2.5.1 *Vehicular Site Access*

Vehicular access to the Specific Plan area is proposed to be accommodated by two access points along First Street. A description of the proposed access points is provided in the following paragraphs:

- Access to the industrial warehousing component planned to be provided in Planning Area 1 will be accommodated by the existing intersection of First Street and Martin Road. The current stop-controlled intersection is planned to be improved to provide a roundabout intersection in order to accommodate access to and from Planning Area 1 via the north and west legs of the intersection.

- Access to the commercial component planned to be provided in Planning Area 2 will be accommodated by the existing Irwindale Brew Yard driveway located on the north side of First Street.

New private drive aisles will be constructed on-site within each Planning Area in order to connect the proposed buildings and associated surface parking lots with the existing street network. The conceptual circulation plan is provided in ***Figure 2-4***.



Source: Draft Irwindale Brew Yard Specific Plan, January 2026

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Figure 2-4
Conceptual Circulation Plan

2.5.2 *Pedestrian and Bicycle Site Access*

Pedestrian access to the Specific Plan area will be accommodated by the existing network of public sidewalks provided in the vicinity of the Specific Plan area (refer to *Section 3.1* for further discussion). Where public sidewalks are not currently provided adjacent to the Specific Plan area, such as along the west side of Irwindale Avenue and the north side of First Street, it is recommended that the project Applicant provide public sidewalk, curb, and gutter. As shown in *Figure 2-4*, within the Specific Plan area, sidewalks are planned to be provided along the primary private drive aisles in order to accommodate pedestrian access between the proposed buildings and the existing street network.

2.6 Project Trip Generation and Distribution

2.6.1 *Project Trip Generation Forecast*

Traffic trip generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. The traffic volumes anticipated to be generated by the proposed project were forecast for the typical weekday AM and PM peak commute hours as well as over a daily (i.e., 24-hour) period. Trip generation rate information provided in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 11th Edition[7] per 1,000 square feet of floor area were utilized to prepare the trip generation forecast. Specifically, trip generation average rates for the following ITE Land Use Codes were used to forecast the traffic volumes expected to be generated by the proposed project:

- Land Use 150: Warehousing
- Land Use 154: High-Cube Transload and Short-Term Storage Warehouse
- Land Use 155: High-Cube Fulfillment Center Warehouse (Sort)
- Land Use 157: High-Cube Cold Storage Warehouse
- Land Use 822: Strip Retail Plaza (<40K)

The trip rates published in the *Trip Generation Manual* account for all vehicle trips generated by the land use. In the case of the proposed warehouse land uses, it is expected that a proportion of the vehicles accessing the project site would consist of delivery trucks and/or tractor-trailer trucks in addition to passenger vehicles. Truck trips associated with the warehousing component of the project were forecast utilizing truck trip generation average rates for each of the ITE Land Uses listed above. The truck mix ratios by number of axles identified in the City of Fontana's *Truck Trip Generation Study*[8] for Heavy Warehouse land uses (i.e., warehousing greater than 100,000 square feet), along with a passenger car equivalent (PCE) factor based on the number of axles, was

[7] Institute of Transportation Engineers *Trip Generation Manual*, 11th Edition, Washington D.C., 2021.
[8] *Truck Trip Generation Study, City of Fontana, County of San Bernardino, State of California*, prepared by Transportation Engineering and Planning, Inc., August 2003.

applied to the truck trip forecast to account for the effect of the larger vehicles on intersection traffic operations.

The trip generation forecast for the proposed project is summarized in ***Table 2-2***. As presented in *Table 2-2***,** the proposed project is expected to generate 1,656 PCE-adjusted trips (1,294 inbound trips and 362 outbound trips) during the weekday AM peak hour. During the weekday PM peak hour, the proposed project is expected to generate 2,238 PCE-adjusted trips (866 inbound trips and 1,372 outbound trips). On a daily basis (i.e., over a 24-hour period), the proposed project is forecast to generate 14,845 PCE-adjusted daily trips (approximately 7,423 inbound trips and 7,422 outbound trips) on a typical weekday.

2.6.2 *Project Trip Distribution and Assignment*

Project traffic volumes both entering and exiting the site have been distributed and assigned to the adjacent street system based on the following considerations:

- The site's proximity to major traffic corridors (i.e., I-210 and I-605 Freeways, Irwindale Avenue, Vincent Avenue, Vernon Avenue, Azusa Avenue, Foothill Boulevard, Gladstone Street, Arrow Highway, etc.);
- Expected localized traffic flow patterns based on adjacent roadway channelization and presence of traffic signals;
- Existing intersection traffic volumes;
- Truck route designations;
- Planned access scheme for the proposed Specific Plan;
- Nearby population and employment centers; and,
- Input from City of Irwindale staff.

The general, directional traffic distribution patterns for the proposed project are presented in ***Figures 2-5*** and ***2-6***. *Figure 2-5* presents the distribution pattern for passenger vehicles traveling to and from the Specific Plan area. *Figure 2-6* presents the distribution pattern for trucks traveling to and from the Specific Plan area. The forecast weekday AM and PM peak hour project traffic volumes at the study intersections associated with the proposed project are presented in ***Figure 2-7***. The traffic volume assignments presented in *Figure 2-7* reflect the traffic distribution characteristics shown in *Figures 2-5* and *2-6* and the project trip generation forecasts presented in *Table 2-2*.

Table 2-2
PROJECT TRIP GENERATION FORECAST

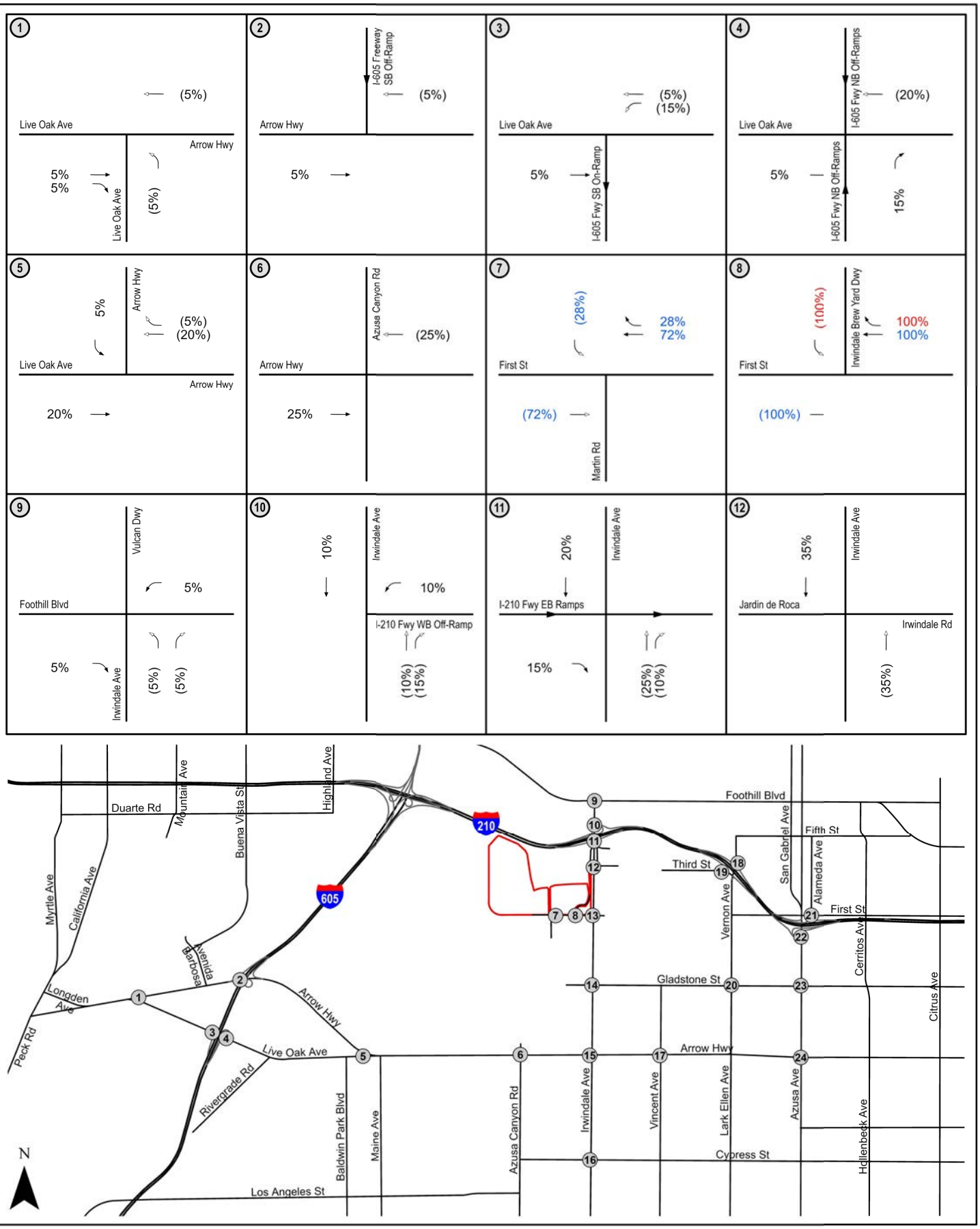
TRIP GENERATION RATES [1]									
	ITE			WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR		
ITE LAND USE CATEGORY	LAND USE CODE	VARIABLE	WEEKDAY DAILY	IN (%)	OUT (%)	TOTAL	IN (%)	OUT (%)	TOTAL
Warehousing	150	Per 1,000 SF	1.71	77%	23%	0.17	28%	72%	0.18
	150-T	Per 1,000 SF	0.60	52%	48%	0.02	52%	48%	0.03
High-Cube Transload and Short-Term Storage Warehouse	154	Per 1,000 SF	1.40	77%	23%	0.08	28%	72%	0.10
	154-T	Per 1,000 SF	0.22	49%	51%	0.02	47%	53%	0.01
High-Cube Fulfillment Center Warehouse (Sort)	155	Per 1,000 SF	6.44	81%	19%	0.87	39%	61%	1.20
	155-T	Per 1,000 SF	0.19	50%	50%	0.02	46%	54%	0.02
High-Cube Cold Storage Warehouse	157	Per 1,000 SF	2.12	77%	23%	0.11	28%	72%	0.12
	157-T	Per 1,000 SF	0.75	33%	67%	0.03	52%	48%	0.03
Strip Retail Plaza (<40K)	822	Per 1,000 SF	54.45	60%	40%	2.36	50%	50%	6.59

PROJECT TRIP GENERATION FORECAST									
	ITE		WEEKDAY	WEEKDAY AM PEAK HOUR VOLUMES [2]			WEEKDAY PM PEAK HOUR VOLUMES [2]		
LAND USE	LAND USE CODE	SIZE	DAILY VOLUMES [2]	IN	OUT	TOTAL	IN	OUT	TOTAL
High-Cube Cold Storage Warehouse									
[A] All Vehicle Trip Ends	157	535,000 GSF	1,134	45	14	59	18	46	64
[B] Truck Trip Ends	157-T		401	5	11	16	8	8	16
- 2-Axle (16.95% of All Trucks) [3]			68	1	2	3	1	1	2
- 3-Axle (22.71% of All Trucks) [3]			91	1	2	3	2	2	4
- 4+-Axle (60.34% of All Trucks) [3]			242	3	7	10	5	5	10
- 2-Axle (1.5 PCE)			102	2	3	5	2	2	4
- 3-Axle (2.0 PCE)			182	2	4	6	4	4	8
- 4-Axle (3.0 PCE)			726	9	21	30	15	15	30
[C] Subtotal Trucks (PCE-Adjusted)			***1,010***	***13***	***28***	***41***	***21***	***21***	***42***
[A-B] Passenger Vehicle Trip Ends			***733***	***40***	***3***	***43***	***10***	***38***	***48***
Subtotal High-Cube Cold Storage Warehouse [4]			***1,743***	***53***	***31***	***84***	***31***	***59***	***90***
High-Cube Fulfillment Center Warehouse (Sort)									
[A] All Vehicle Trip Ends	155	1,555,500 GSF	10,017	1,096	257	1,353	728	1,139	1,867
[B] Truck Trip Ends	155-T		296	16	15	31	14	17	31
- 2-Axle (16.95% of All Trucks) [3]			50	3	3	6	2	3	5
- 3-Axle (22.71% of All Trucks) [3]			67	4	3	7	3	4	7
- 4+-Axle (60.34% of All Trucks) [3]			179	10	9	19	8	10	18
- 2-Axle (1.5 PCE)			75	5	5	10	3	5	8
- 3-Axle (2.0 PCE)			134	8	6	14	6	8	14
- 4-Axle (3.0 PCE)			537	30	27	57	24	30	54
[C] Subtotal Trucks (PCE-Adjusted)			***746***	***43***	***38***	***81***	***33***	***43***	***76***
[A-B] Passenger Vehicle Trip Ends			***9,721***	***1,080***	***242***	***1,322***	***714***	***1,122***	***1,836***
Subtotal High-Cube Fulfillment Center Warehouse (Sort) [4]			***10,467***	***1,123***	***280***	***1,403***	***747***	***1,165***	***1,912***
Warehouse									
[A] All Vehicle Trip Ends	150	454,750 GSF	778	59	18	77	23	59	82
[B] Truck Trip Ends	150-T		273	5	4	9	7	7	14
- 2-Axle (16.95% of All Trucks) [3]			46	1	1	2	1	1	2
- 3-Axle (22.71% of All Trucks) [3]			62	1	1	2	2	2	4
- 4+-Axle (60.34% of All Trucks) [3]			165	3	2	5	4	4	8
- 2-Axle (1.5 PCE)			69	2	2	4	2	2	4
- 3-Axle (2.0 PCE)			124	2	2	4	4	4	8
- 4-Axle (3.0 PCE)			495	9	6	15	12	12	24
[C] Subtotal Trucks (PCE-Adjusted)			***688***	***13***	***10***	***23***	***18***	***18***	***36***
[A-B] Passenger Car Trip Ends			***505***	***54***	***14***	***68***	***16***	***52***	***68***
Subtotal Warehouse [4]			***1,193***	***67***	***24***	***91***	***34***	***70***	***104***

Table 2-2
PROJECT TRIP GENERATION FORECAST

PROJECT TRIP GENERATION FORECAST									
	ITE		WEEKDAY	WEEKDAY AM PEAK HOUR VOLUMES [2]			WEEKDAY PM PEAK HOUR VOLUMES [2]		
LAND USE	LAND USE CODE	SIZE	DAILY VOLUMES [2]	IN	OUT	TOTAL	IN	OUT	TOTAL
High-Cube Short-Term Storage Warehouse									
[A] All Vehicle Trip Ends	154	454,750 GSF	637	28	8	36	13	32	45
[B] Truck Trip Ends	154-T		100	4	5	9	2	3	5
- 2-Axle (16.95% of All Trucks) [3]			17	1	1	2	0	1	1
- 3-Axle (22.71% of All Trucks) [3]			23	1	1	2	0	1	1
- 4+-Axle (60.34% of All Trucks) [3]			60	2	3	5	1	2	3
- 2-Axle (1.5 PCE)			26	2	2	4	0	2	2
- 3-Axle (2.0 PCE)			46	2	2	4	0	2	2
- 4-Axle (3.0 PCE)			180	6	9	15	3	6	9
[C] Subtotal Trucks (PCE-Adjusted)			***252***	***10***	***13***	***23***	***3***	***10***	***13***
[A-B] Passenger Car Trip Ends			***537***	***24***	***3***	***27***	***11***	***29***	***40***
Subtotal High-Cube Short-Term Storage Warehouse [4]			***789***	***34***	***16***	***50***	***14***	***39***	***53***
Strip Retail Plaza	822	12,000 GSF	653	17	11	28	40	39	79
Subtotal Strip Retail Plaza			***653***	***17***	***11***	***28***	***40***	***39***	***79***
PROJECT TRIPS			***14,845***	***1,294***	***362***	***1,656***	***866***	***1,372***	***2,238***

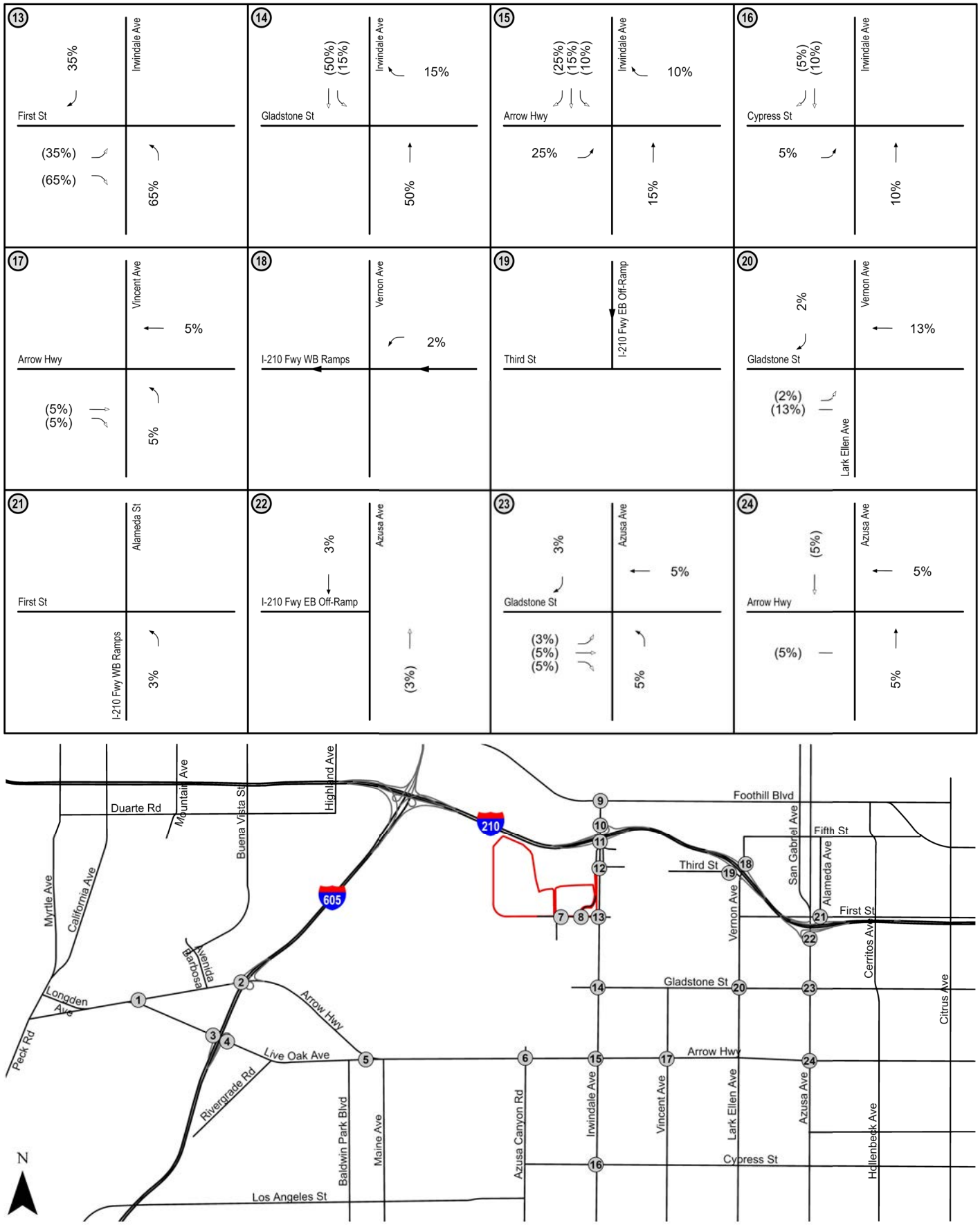
[1] Source: ITE "Trip Generation Manual", 11th Edition, 2021.
[2] Trips are one-way traffic movements, entering or leaving.
[3] Based on information contained in the "Truck Trip Generation Study for City of Fontana, County of San Bernardino, State of California" prepared by Transportation Engineering and Planning, Inc., August 2003 for Heavy Warehouse land uses. A PCE factor of 1.5 was applied to all 2-axle trucks, a PCE factor of 2.0 was applied to all 3-axle trucks, and a PCE factor of 3.0 was applied to all 4 or more axle trucks.
[4] The weekday daily, AM, and PM peak hour trip subtotals represent the sum of the passenger vehicle trip ends and the PCE-adjusted truck trip ends ([A-B] + [C]).



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XX% = Inbound Distribution
(XX%) = Outbound Distribution
X% = Warehouse Trips Only
X% = Retail Trips Only

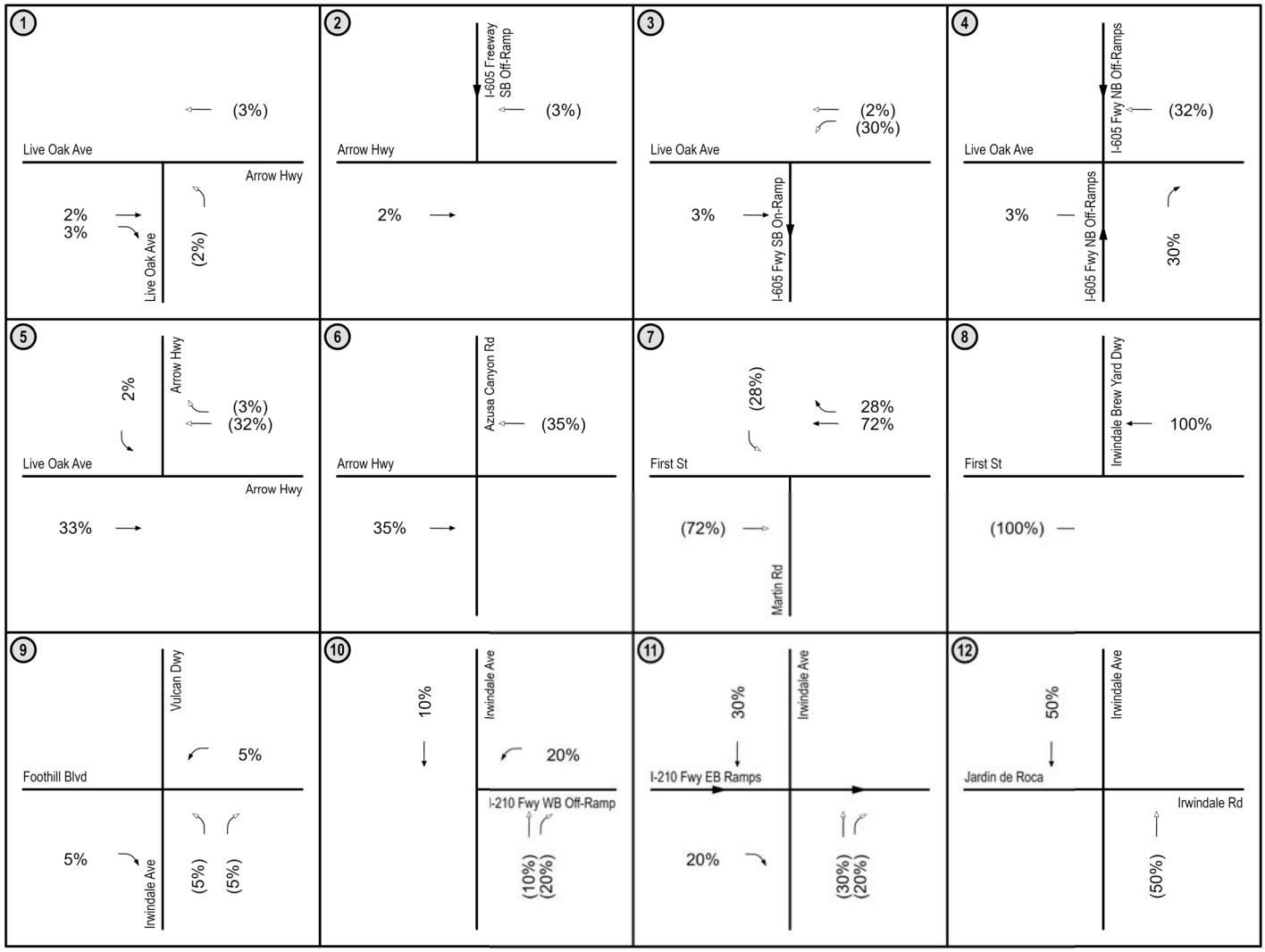
Figure 2-5
Project Trip Distribution - Passenger Vehicles
(Page 1 of 2)
Irwindale Brew Yard Specific Plan



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XX% = Inbound Distribution
(XX%) = Outbound Distribution
X% = Warehouse Trips Only
X% = Retail Trips Only

Figure 2-5
Project Trip Distribution - Passenger Vehicles
(Page 2 of 2)
Irwindale Brew Yard Specific Plan

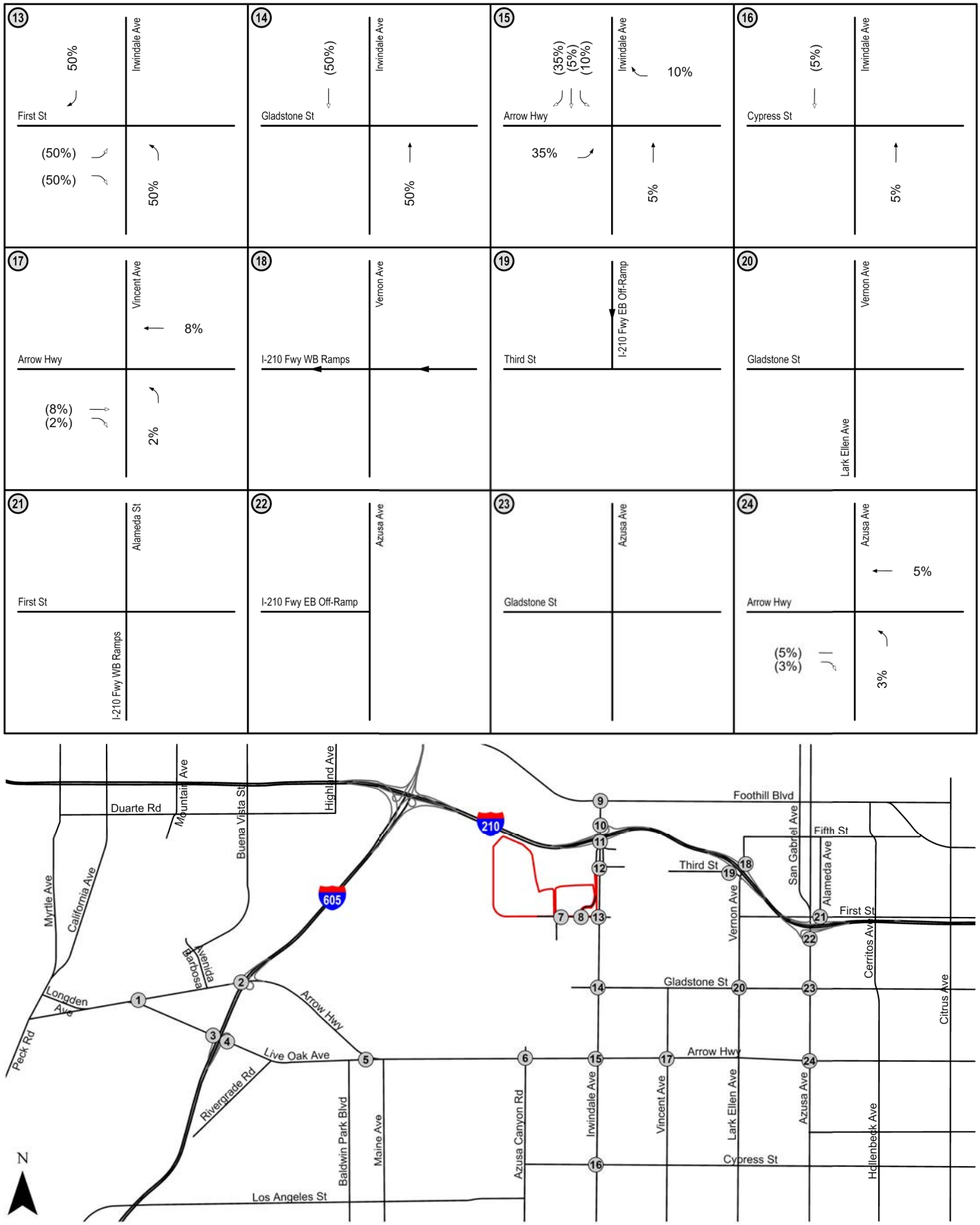




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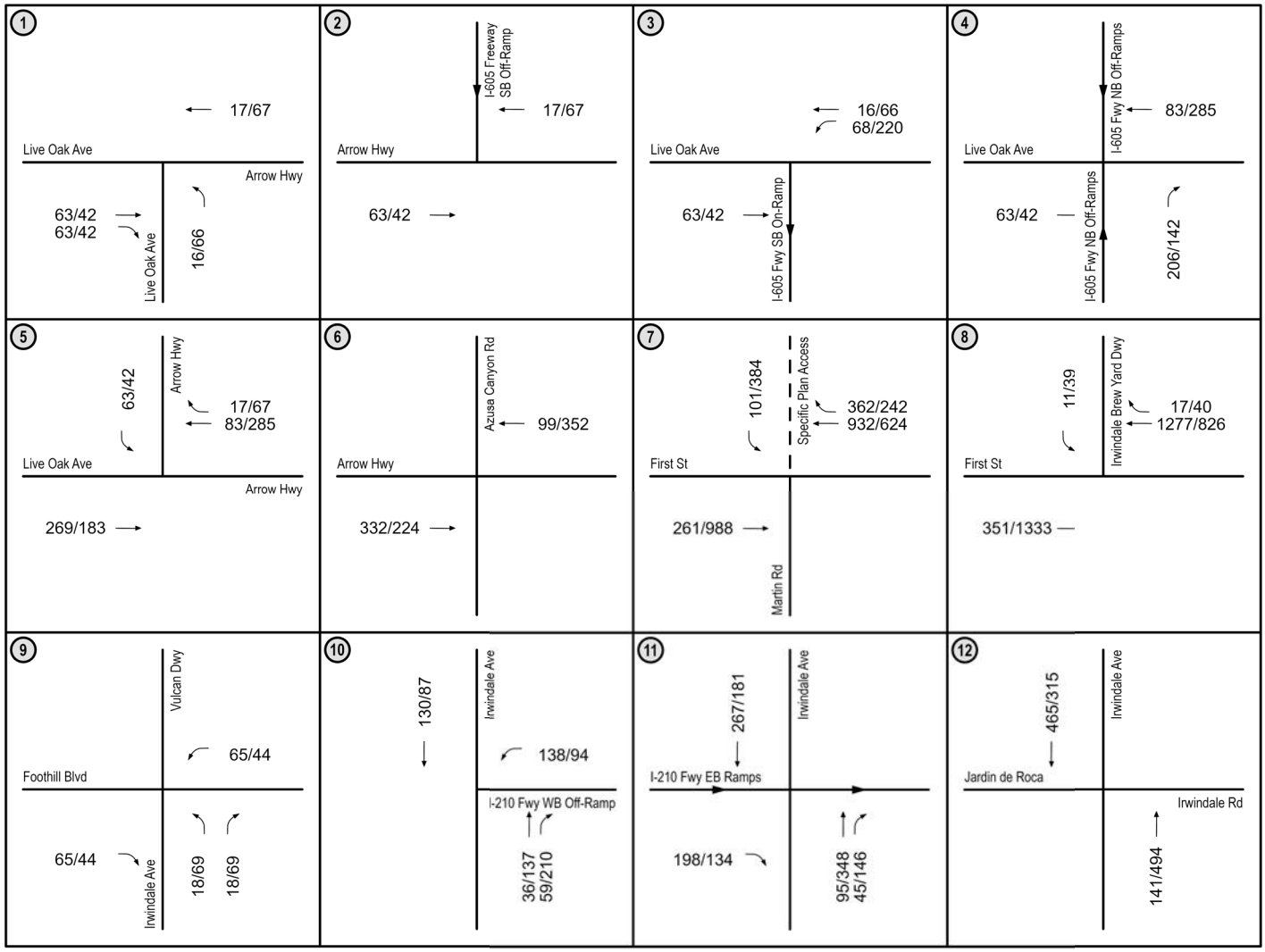
XX% = Inbound Distribution
(XX%) = Outbound Distribution

Figure 2-6
Project Trip Distribution - Trucks
(Page 1 of 2)
Irwindale Brew Yard Specific Plan



XX% = Inbound Distribution
(XX%) = Outbound Distribution

Figure 2-6
Project Trip Distribution - Trucks
(Page 2 of 2)
Irwindale Brew Yard Specific Plan

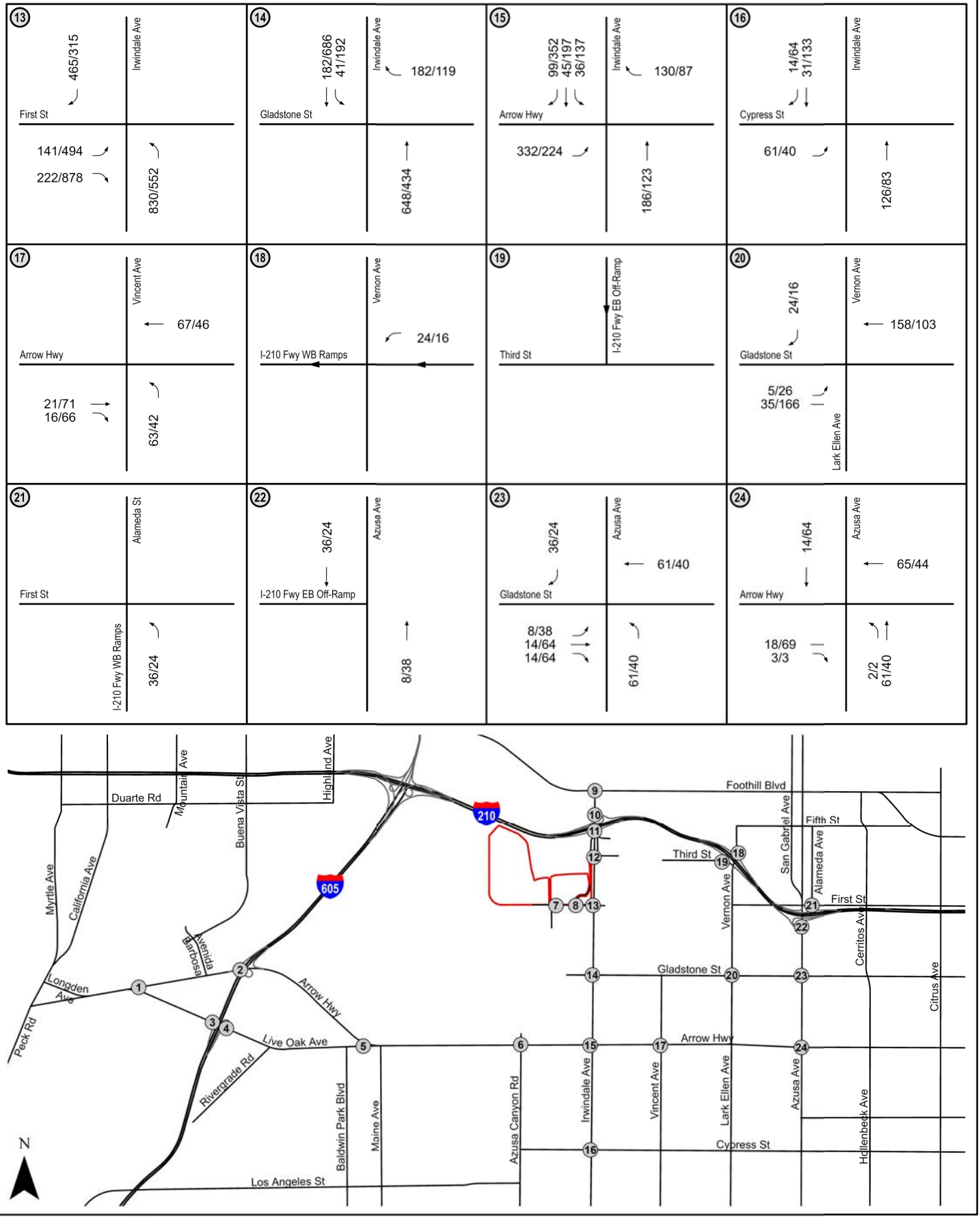




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XX/XX = Weekday AM/PM Peak Hours

Figure 2-7
Project Traffic Volumes
(Page 1 of 2)
Irwindale Brew Yard Specific Plan



XX/XX = Weekday AM/PM Peak Hours

Figure 2-7
Project Traffic Volumes
(Page 2 of 2)

Irwindale Brew Yard Specific Plan

3.0 PROJECT SITE CONTEXT

The project site is located within a well-established transportation network maintained by the City of Irwindale. The following sections will provide an overview of the transportation infrastructure in the vicinity of the proposed project, including infrastructure which supports both motorized and non-motorized transportation modes.

3.1 Active Transportation Network

Active transportation generally encompasses walking, biking, and other active transportation modes. Distinct facilities are often provided for these non-vehicular modes. Most prominently, paved sidewalks are typically provided to facilitate pedestrian travel outside of the roadway. In some cases, bicycle facilities such as painted bike lanes or separated bike paths are provided within the roadway in order to separate bike traffic from vehicular traffic. Roadways which are designed to prioritize non-vehicular transportation modes utilize complimentary non-vehicular infrastructure in order to promote comfortable, safe travel for both pedestrians and bicyclists. A review of the pedestrian and bicycle infrastructure provided in the vicinity of the project site is provided below.

3.1.1 *Pedestrian Network*

Pedestrian infrastructure consists of facilities such as sidewalks, crosswalks, pedestrian signals, curb access ramps, Americans with Disabilities Act (ADA) compliant tactile warning strips, and curb extensions, among other things. The City of Irwindale Active Transportation Plan [9] finds that there are noticeable gaps in pedestrian infrastructure throughout the City, including inconsistent placement of sidewalks, curbs and pedestrian amenities. Where sidewalks have been provided, the pedestrian facilities are not designed to accommodate high levels of pedestrian activity and do not provide buffers from adjacent vehicular traffic for perceived and substantive safety.

In the vicinity of the Specific Plan area, it is noted that sidewalks are not provided on the west side of Irwindale Avenue from south of Foothill Boulevard to First Street, while approximately 5-foot sidewalks adjacent to the vehicular travel lanes are provided along the east side of Irwindale Avenue. Additionally, sidewalks are not provided on the north side of First Street from the westerly terminus to Irwindale Avenue. Other roadways with missing sidewalks or sidewalks on only one side of the roadway include portions of Arrow Highway, portions of Live Oak Avenue, Jardine de Roca, and Irwindale Road.

Where sidewalks and pedestrian crossing facilities are provided, the majority of crossings are striped with standard "parallel bar"-style crosswalks. At signalized intersections, pedestrian signals activated by push-buttons are provided across at least one leg. In addition, the majority of the existing sidewalk curb ramps are improved with ADA-compliant tactile dome pads.

[9] "City of Irwindale Active Transportation Plan", prepared by PlaceWorks, January 2021.

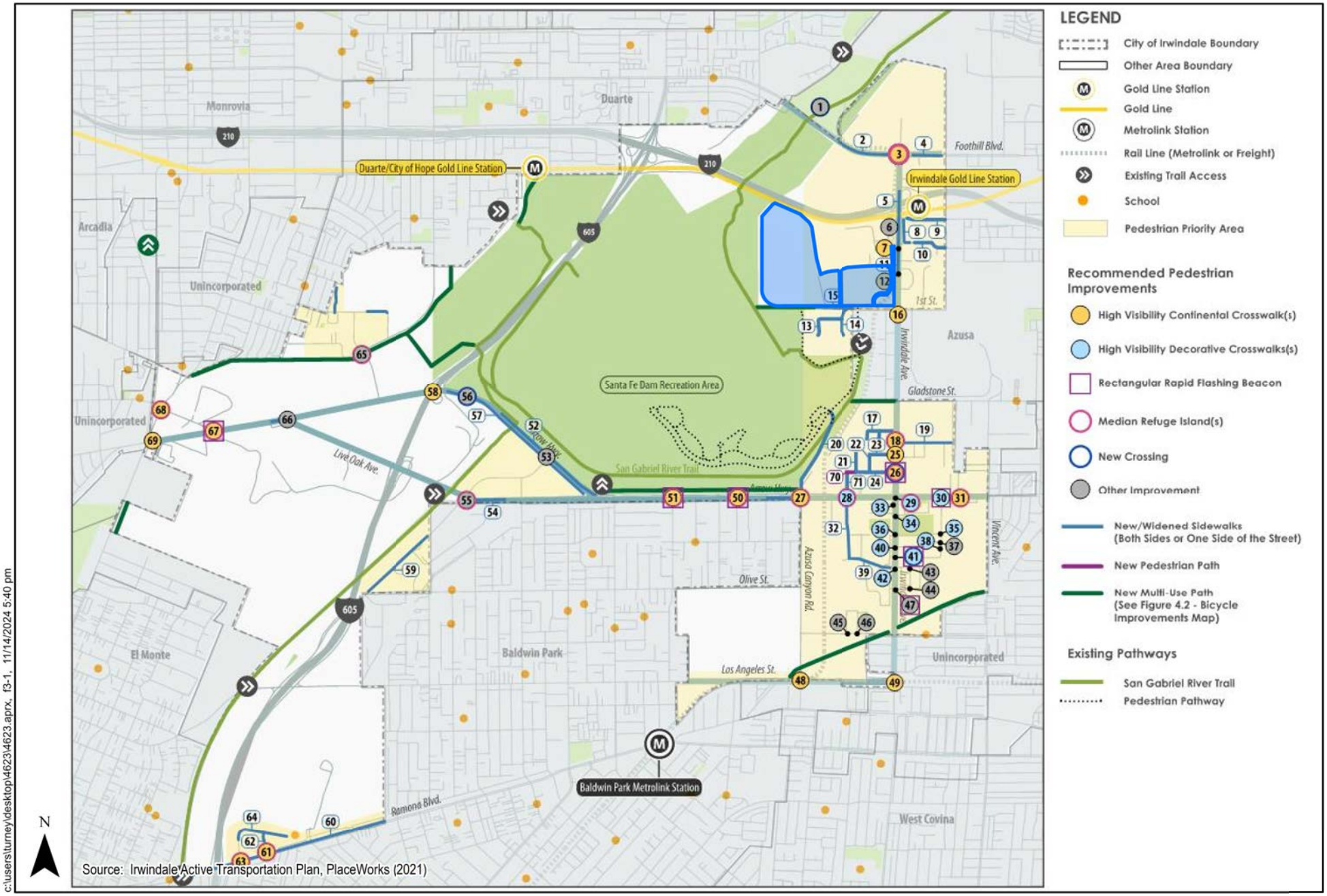
The City's Active Transportation Plan identifies a number of pedestrian improvements in the vicinity of the Specific Plan area, including pedestrian improvements along Irwindale Avenue north of First Street and along First Street adjacent to the Specific Plan area. Additional sidewalk improvements are proposed along Foothill Boulevard and Arrow Highway, while additional pedestrian crossing improvements are proposed along Live Oak Avenue, Arrow Highway, and Irwindale Avenue. The proposed pedestrian improvements in the City of Irwindale are presented in ***Figure 3-1***.

Currently, no public sidewalks are provided adjacent to the Specific Plan area. It is recommended that the project Applicant provide public sidewalks adjacent to the site's frontage along Irwindale Avenue and First Street. The sidewalk should be constructed to the City of Irwindale's current design standards. It is further recommended that the project Applicant fund or install certain pedestrian crossing improvements in the vicinity of the Metro A (previously L/Gold) Line Irwindale Station (e.g., an east-west crosswalk at the Irwindale Avenue/Jardine de Roca-Irwindale Road intersection) in order to accommodate safe pedestrian access to/from the Specific Plan area. The specific pedestrian improvements shall be determined by the City.

3.1.2 *Bicycle Network*

Bicycle infrastructure consists of both facilities within the roadway as well as public bicycle parking spaces. The Federal and State transportation systems recognize three primary bikeway facilities: Bicycle Paths (Class I), Bicycle Lanes (Class II), Bicycle Routes (Class III), and Separated Bikeways (Class IV). Bicycle Paths (Class I) are exclusive car free facilities that are typically not located within a roadway area. Bicycle Lanes (Class II) are part of the street design that is dedicated only for bicycles and identified by a striped lane separating vehicle lanes from bicycle lanes. Bicycle Routes (Class III) are preferably located on collector and lower volume arterial streets. Separated Bikeways (Class IV), also referred to as cycle tracks, are bicycle lanes that are provided adjacent to or within the roadway which are physically separated from adjacent traffic by a buffer (e.g., bollards, curb, on-street parking, or grade separation).

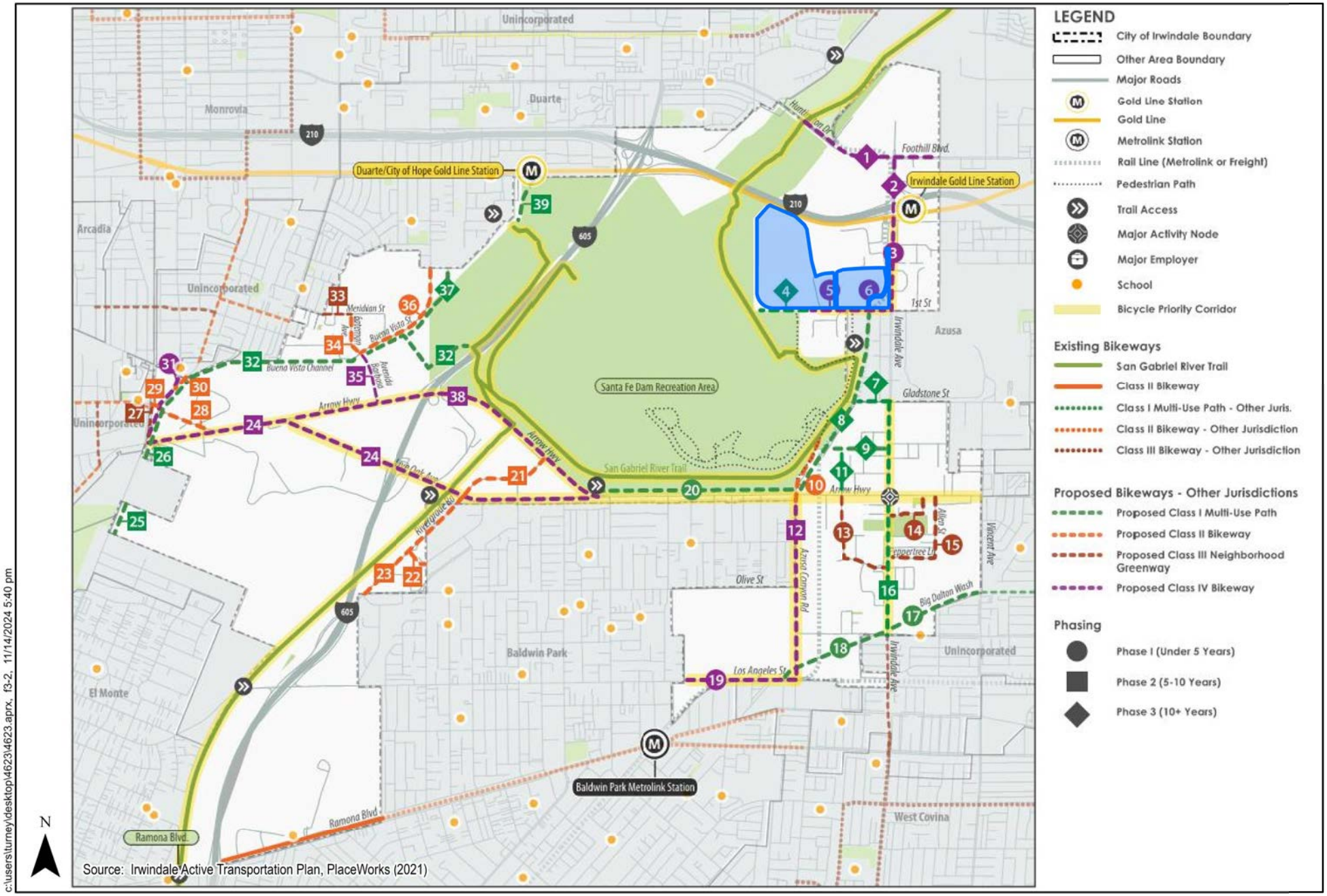
Currently, the San Gabriel River Bicycle Path, a Class I facility, is provided west and south of the project site. A connection to the San Gabriel River Bicycle Path is provided at the southerly terminus of Peckham Road. The City's Active Transportation Plan identifies a number of proposed bicycle facilities throughout the City, including high priority Class IV separated bikeways along Irwindale Avenue between the Metro A (previously L/Gold) Line Irwindale Station and First Street and along First Street adjacent to the Specific Plan area. Additional Class IV separated bikeways are proposed along Foothill Boulevard, Live Oak Avenue, Arrow Highway, Azusa Canyon Road, and Irwindale Avenue north of the I-210 Freeway. Class I bike paths are proposed between First Street and Arrow Highway and along Arrow Highway south of the Santa Fe Dam as well as along Irwindale Avenue south of Gladstone Street. The proposed bicycle facilities in the City of Irwindale are presented in ***Figure 3-2***.



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Specific Plan Boundary

Figure 3-1
Proposed Pedestrian Improvements



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Specific Plan Boundary

Figure 3-2
Proposed Bicycle Improvements

Currently, there are no existing bicycle facilities providing direct access to the Specific Plan area. Therefore, bicyclists traveling to or from the Specific Plan area will be required to utilize the existing roadway network along with all other moving vehicles as provided in the California Vehicle Code.

3.2 Transit Network

Public transit services are provided within the project study area by Foothill Transit and Los Angeles County Metropolitan Transportation Authority (LA Metro). The existing public transit routes in the vicinity of the project site are illustrated in ***Figure 3-3***. A summary of the existing transit service within approximately 1.0 mile of the project site, including the transit line number, corridor(s) served, nearest stop, and typical number of buses or trains per hour is presented in ***Table 3-1***. As summarized in *Table 3-1*, a total of five (5) public transit bus routes provide service in the vicinity of the project site. Each line provides service approximately every 15-30 minutes during the morning and evening peak commute hours.

Regular bus transit service is provided along Irwindale Avenue adjacent to the Specific Plan area by Foothill Transit Line 185. The nearest bus transit stop is provided on the southwest and southeast corners of the Irwindale Avenue/McKinley Street intersection located approximately 0.1 miles (or a three-minute walk) south of the Irwindale Avenue/First Street intersection. No transit supportive street furniture (e.g., bus benches, shelters, or public trash receptacles) is provided at these transit stops. Additional bus transit service is provided north of the Specific Plan area along Foothill Boulevard by Foothill Transit Line 187, and south of the Specific Plan area along Arrow Highway by Foothill Transit Lines 272 and 492. Bus transit stops are provided on the northeast and southeast corners of the Irwindale Avenue/Arrow Highway intersection located approximately one mile (or a 20-minute walk) south of the Irwindale Avenue/First Street intersection. Bus shelters, benches, and trash receptacles are provided at each of the transit stops located at this intersection.

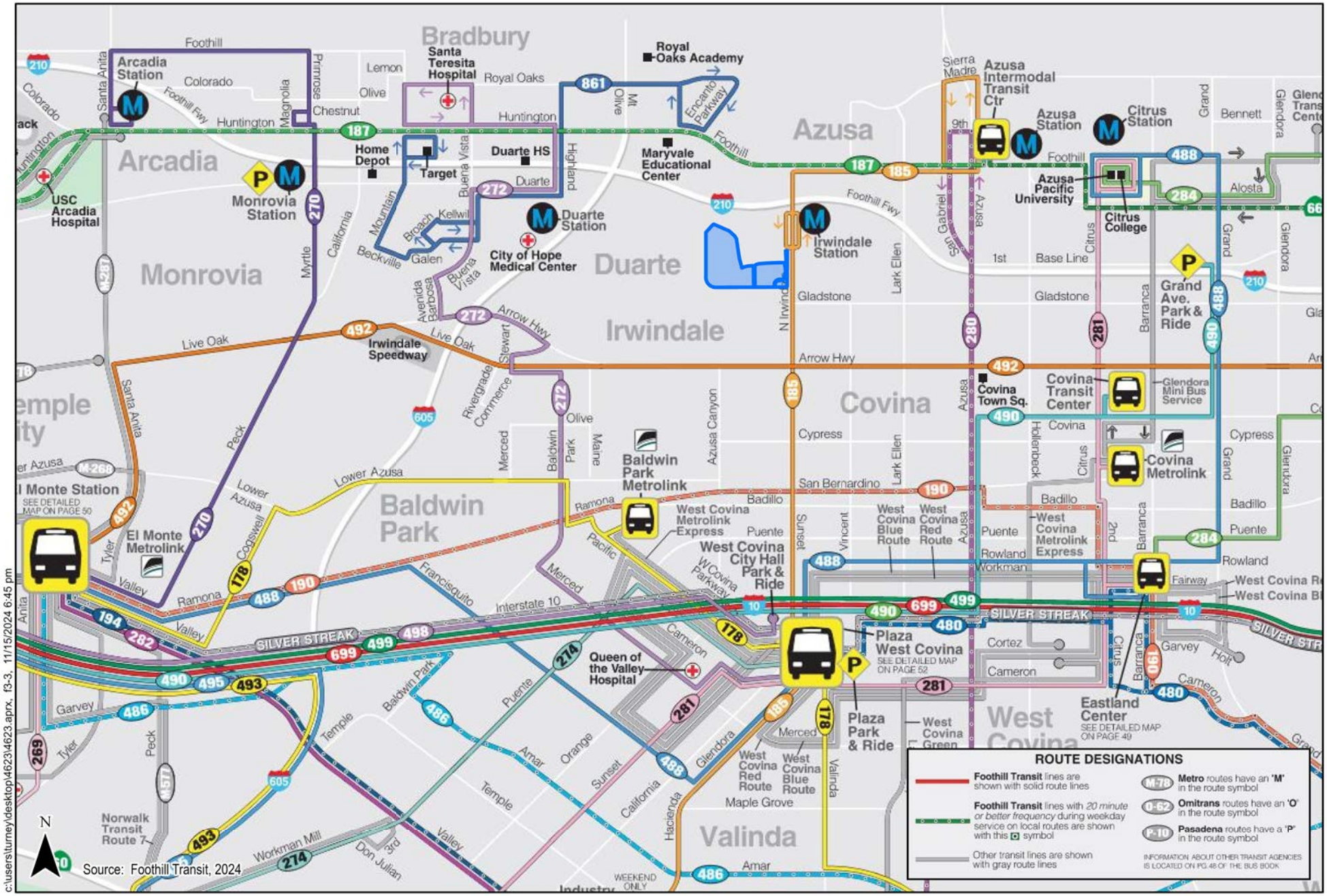
As summarized in *Table 3-1*, public light rail transit is provided in the vicinity by the LA Metro A (previously L/Gold) Line. The Irwindale Station is located approximately 0.5 miles north of the Irwindale Avenue/First Street intersection. Light rail transit service is provided approximately every 7 to 8 minutes during the morning and evening peak commute hours.

3.3 Vehicle Network

3.3.1 *Roadway Classifications*

The City of Irwindale utilizes the roadway categories recognized by regional, state and federal transportation agencies. There are four general categories in the roadway hierarchy, ranging from freeways with the highest capacity to two-lane undivided roadways with the lowest capacity. The roadway categories are summarized as follows:

- *Freeways* are limited-access and high speed travel ways included in the state and federal highway systems. Their purpose is to carry regional through-traffic. Access is provided by



Specific Plan Boundary

Figure 3-3
Existing Transit Routes

Table 3-1
EXISTING TRANSIT ROUTES [1]

ROUTE	DESTINATIONS	TRANSIT CORRIDOR(S) IN VICINITY OF SITE	TRANSIT STOP NEAREST TO SITE	NO. OF BUSES/TRAINS DURING PEAK HOUR		
				DIR	AM	PM
Foothill Transit 185	Azusa - West Covina - Puente Hills Mall via Irwindale	Foothill Boulevard, Irwindale Avenue	Irwindale Avenue/ McKinley Street	NB SB	2 2	2 2
Foothill Transit 187	Azusa - Arcadia - Pasadena	Foothill Boulevard	Irwindale Avenue/ Foothill Boulevard	EB WB	4 4	4 4
Foothill Transit 272	Duarte - Baldwin Park - West Covina	Arrow Highway, Live Oak	Stewart Avenue/ Live Oak Avenue	NB SB	2 2	1 2
Foothill Transit 280	Azusa - Puente Hills Mall via Azusa Ave	Azusa Avenue	Azusa Avenue/ Gladstone Street	NB SB	4 4	4 4
Foothill Transit 492	El Monte Station - Arcadia - Montclair Transit Center via Arrow Highway	Arrow Highway	Arrow Highway/ Irwindale Avenue	EB WB	3 3	3 3
Metro A Line	Azusa to Long Beach via Duarte, Arcadia, Pasadena, Los Angeles, Florence, Watts, Willow Brook, Compton, Carson	A Line Corridor	Irwindale Station (Irwindale Road/ Avenida Padilla)	NB SB	8 7	8 8
TOTAL					**45**	**45**

[1] Sources: Foothill Transit and Los Angeles County Metropolitan Transportation Authority (LA Metro) websites, 2024.

interchanges with typical spacing of one mile or greater. No local access is provided to adjacent land uses.

- *Arterial* roadways are major streets that primarily serve regional, subregional, and intra-City through-traffic and provide access to abutting properties as a secondary function. Arterials are generally designed with four to six travel lanes and their major intersections are signalized. Within the City of Irwindale, this roadway type is divided into two categories: major and secondary arterials. Major arterials are typically four to six lane roadways with landscaped medians with an 84-foot roadway width within a 100-foot right-of-way. Secondary arterials are typically four lane undivided streets and may accommodate on-street parking with a 64-foot roadway width within an 80-foot right-of-way.

- *Collector* roadways connect local streets to freeways and major or secondary arterials and are typically designed with two through travel lanes and may accommodate on-street parking with a 40-foot roadway width within a 60-foot right-of-way. They may also provide access to abutting properties.

- *Local* roadways provide access to individual parcels and are not intended for use as a through-street or a link between higher capacity facilities such as collector or arterial roadways. Local streets are typically designed with two through travel lanes and on-street parking with a 40-foot roadway width within a 60-foot right-of-way.

3.3.2 *Regional Highway Access*

Regional access is provided by the I-210 (Foothill) Freeway and I-605 (San Gabriel River) Freeway as shown in *Figure 1-1*. Brief descriptions of the I-210 Freeway and I-605 Freeway are provided in the following paragraphs.

The *I-210 (Foothill) Freeway* is a major east-west freeway located north of the Specific Plan area. The I-210 Freeway connects the foothill communities from the westerly terminus in Sylmar to the easterly terminus in Redlands. In the vicinity of the Specific Plan area, four mixed-flow mainline lanes and one High Occupancy Vehicle lane are provided in each direction on the I-210 Freeway. Full access interchanges (i.e., eastbound and westbound on- and off-ramps) are provided at Irwindale Avenue, Vernon Avenue, and Azusa Avenue.

The *I-605 (San Gabriel River) Freeway* is a north-south freeway located west of the Specific Plan area. The I-605 Freeway connects from the I-210 Freeway at its northerly terminus to the I-405 Freeway and SR-22 Freeway at its southerly terminus. In the vicinity of the Specific Plan area, four mixed-flow mainline lanes are provided in each direction on the I-605 Freeway. Partial access interchanges are provided at Arrow Highway and Live Oak Avenue, with the Arrow Highway interchange providing a southbound off-ramp and northbound on-ramps and the Live Oak Avenue interchange providing a southbound on-ramp and northbound off-ramps.

3.3.3 *Roadway Descriptions*

The current lane configurations and traffic control measures at each study intersection are presented in ***Figure 3-4***. Descriptions of the roadways which make up the study area are provided in ***Table 3-2***, including the roadway classification, number of lanes, median types, and speed limits designated by the City of Irwindale and other agencies with jurisdiction over the roadways in the study area.

3.4 Vehicle, Pedestrian, and Bicycle Count Data

Manual counts of vehicle, pedestrian, and bicycle volumes were conducted at each of the 24 study intersections during the weekday morning (AM) and afternoon (PM) peak periods to determine the peak hour traffic volumes. The manual counts were conducted in May 2024 by an independent traffic count subconsultant (Counts Unlimited, Inc.) at the study intersections on a typical weekday from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM to determine the AM and PM peak commute hours, respectively. It is noted that all traffic counts were conducted when local schools were in regular, in-person session.

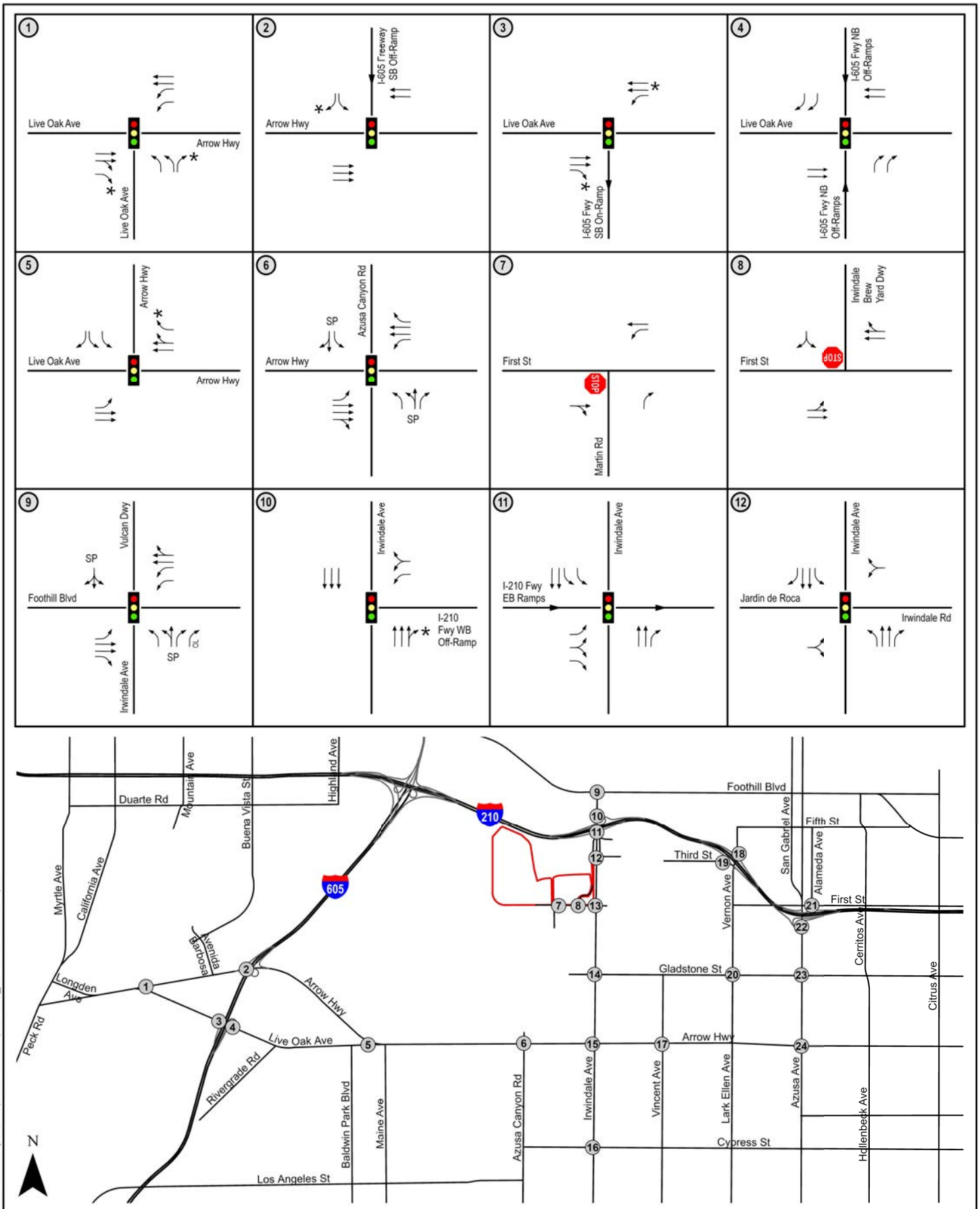
In conjunction with the manual turning movement vehicle counts, a count of bicycle and pedestrian volumes were collected during the peak periods at all 24 study intersections. Based on the pedestrian and bicycle counts, it is noted that pedestrian activity is low in the immediate vicinity of the Specific Plan area, however greater pedestrian activity was documented in the south and east portions of the study area, including along Arrow Highway in the vicinity of Azusa Canyon Road and Irwindale Avenue, as well as at study intersections located in the City of Azusa.

The existing weekday AM and PM peak hour intersection vehicle volumes by approach are summarized in ***Table 3-3***. The existing traffic volumes at the study intersections during the weekday AM and PM peak hours are shown in ***Figure 3-5***. Summary data worksheets of the manual traffic counts at the study intersections are provided in ***Appendix B***.

3.5 Future Cumulative Traffic Forecast

The forecast of future cumulative pre-project conditions was prepared in accordance to procedures outlined in Section 15130 of the CEQA Guidelines. Specifically, the CEQA Guidelines provide two options for developing the future traffic volume forecast:

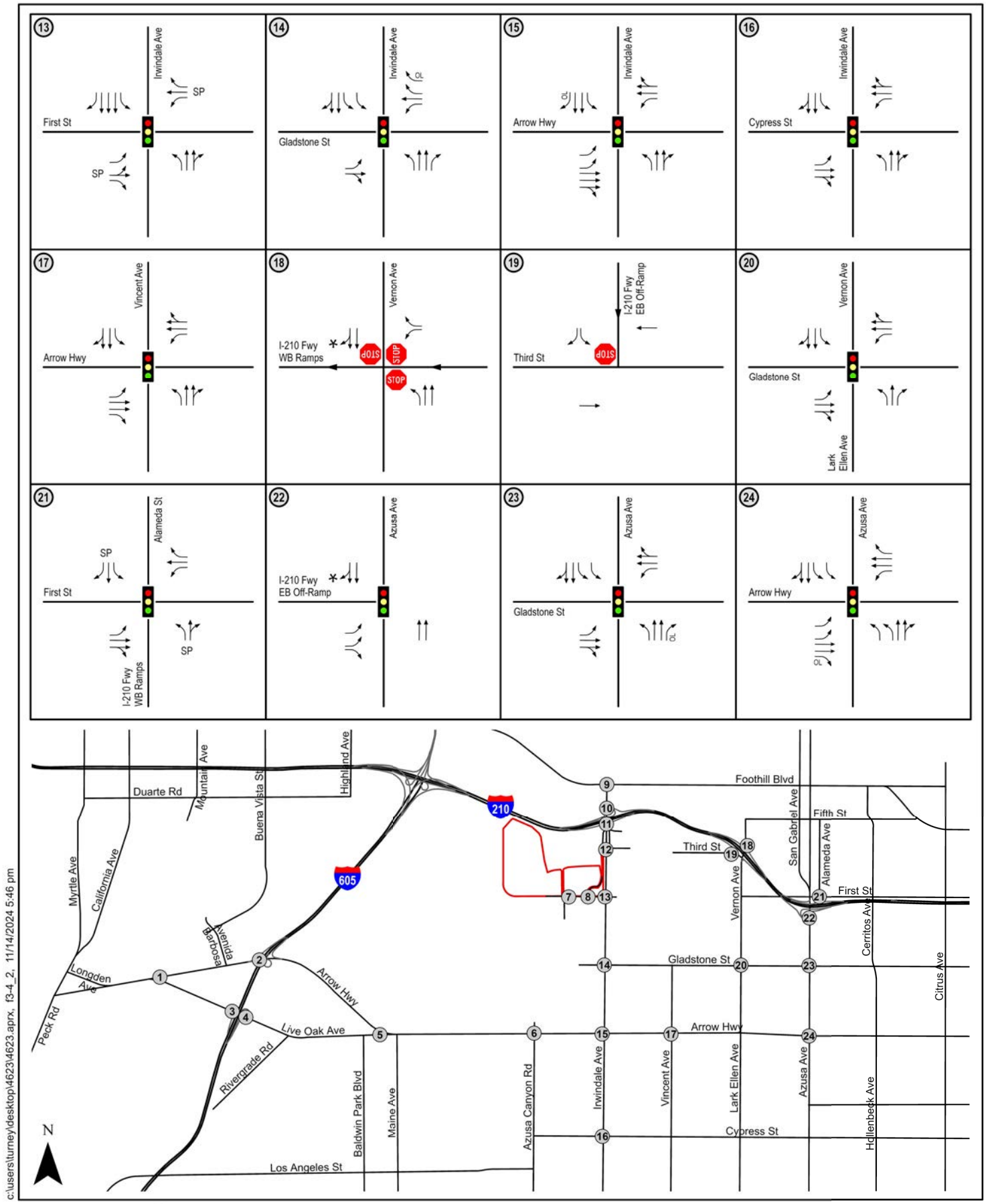
> "(A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the [lead] agency, or
>
> (B) A summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include: a general plan, regional transportation plan, or plans for the reduction of greenhouse gas emissions. A summary of projections may also be contained in an adopted or certified prior environmental document for such a plan. Such projections may be supplemented with additional information such as a regional modeling



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* Free-Flow Right-Turn
OL Right-Turn Overlap Phase
SP Split Phase

Figure 3-4
Existing Lane Configurations
(Page 1 of 2)



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* Free-Flow Right-Turn
OL Right-Turn Overlap Phase
SP Split Phase

Figure 3-4
Existing Lane Configurations
(Page 2 of 2)

Irwindale Brew Yard Specific Plan

Table 3-2
EXISTING ROADWAY DESCRIPTIONS

ROADWAY	CLASSIFICATION [1]	TRAVEL LANES		MEDIAN TYPES [4]	SPEED LIMIT
		DIRECTION [2]	NO. LANES [3]		
Azusa Canyon Road	Secondary Arterial	N-S	2 to 4	None/TWLT	30
Irwindale Avenue					
- North of Arrow Highway	Major Arterial	N-S	4 to 6	RMI/TWLT	40
- South of Arrow Highway	Secondary Arterial	N-S	4	RMI	35
Vincent Avenue	Secondary Arterial	N-S	4	None/TWLT	45
Vernon Avenue	Collector	N-S	2 to 4	None	25-35
Lark Ellen Avenue	Collector	N-S	4	None	35
Azusa Avenue	Major Arterial	N-S	4	RMI	35
Foothill Boulevard	Major Arterial	E-W	4	RMI/TWLT	45
Jardin de Roca	Local Street	E-W	2	None	25
Irwindale Road	Local Street	E-W	2	None	25
Third Street	Local Street	E-W	2	None	25
First Street					
- Vicinity of Irwindale Avenue	Local Street	E-W	4	TWLT	25
- Vicinity of Azusa Avenue	Secondary Arterial	E-W	2 to 4	None/RMI	35
Gladstone Street	Secondary Arterial	E-W	4	None/TWLT	40-45
Live Oak Avenue					
- West of Arrow Highway	Secondary Arterial	E-W	4 to 6	RMI/TWLT	45
- Arrow Highway to East Terminus	Major Arterial	E-W	4 to 6	RMI	45
Arrow Highway					
- West Terminus to Live Oak Avenue	Secondary Arterial	E-W	4 to 6	RMI/TWLT	45
- East of Live Oak Avenue	Major Arterial	E-W	4 to 6	RMI	45
Cypress Street					
- West of Irwindale Avenue	Local Street	E-W	4	TWLT	35
- East of Irwindale Avenue	Secondary Arterial	E-W	4	None	40

[1] Roadway classifications obtained from the *City of Irwindale 2020 General Plan Infrastructure Element* (June 2008) and *City of Azusa General Plan* (April 2004).
[2] Direction of roadways in the project area: N-S = north-south; E-W = east-west.
[3] Number of lanes in both directions on the roadway.
[4] Median type of the road: RMI = Raised Median Island; TWLT = Two-Way Left-Turn lane; None = No Median.

Table 3-3
EXISTING TRAFFIC VOLUMES [1]

NO.	INTERSECTION	DATE	DIR	AM PEAK HOUR		PM PEAK HOUR	
				BEGAN	VOLUME	BEGAN	VOLUME
1	Arrow Highway/ Live Oak Avenue (West)	05/22/2024	NB SB EB WB	7:30 AM	1,165 0 1,046 1,059	4:45 PM	742 0 2,198 655
2	I-605 Freeway Southbound Off-Ramp/ Arrow Highway	05/22/2024	NB SB EB WB	7:45 AM	0 773 634 882	4:45 PM	0 618 1,012 337
3	I-605 Freeway Southbound On-Ramp/ Live Oak Avenue	05/22/2024	NB SB EB WB	7:15 AM	0 0 745 1,775	4:45 PM	0 0 1,853 1,274
4	I-605 Freeway Northbound Off-Ramp/ Live Oak Avenue	05/22/2024	NB SB EB WB	7:15 AM	459 631 206 1,139	4:15 PM	744 607 693 677
5	Arrow Highway/ Live Oak Avenue (East)	05/22/2024	NB SB EB WB	7:00 AM	0 351 702 2,646	5:00 PM	0 890 1,335 1,030
6	Azusa Canyon Road/ Arrow Highway	05/22/2024	NB SB EB WB	7:00 AM	749 36 811 1,660	4:30 PM	294 65 1,949 930
7	Martin Road/ First Street	05/22/2024	NB SB EB WB	7:00 AM	68 0 9 115	4:30 PM	118 0 8 51
8	Irwindale Brew Yard Driveway/ First Street	05/22/2024	NB SB EB WB	7:00 AM	0 8 92 155	4:30 PM	0 17 151 56
9	Irwindale Avenue/ Foothill Boulevard	05/22/2024	NB SB EB WB	7:30 AM	1,164 53 514 1,652	5:00 PM	1,103 12 1,711 1,193
10	Irwindale Avenue/ I-210 Freeway Westbound Off-Ramp	05/22/2024	NB SB EB WB	7:30 AM	1,422 970 0 317	4:30 PM	1,339 1,353 0 371

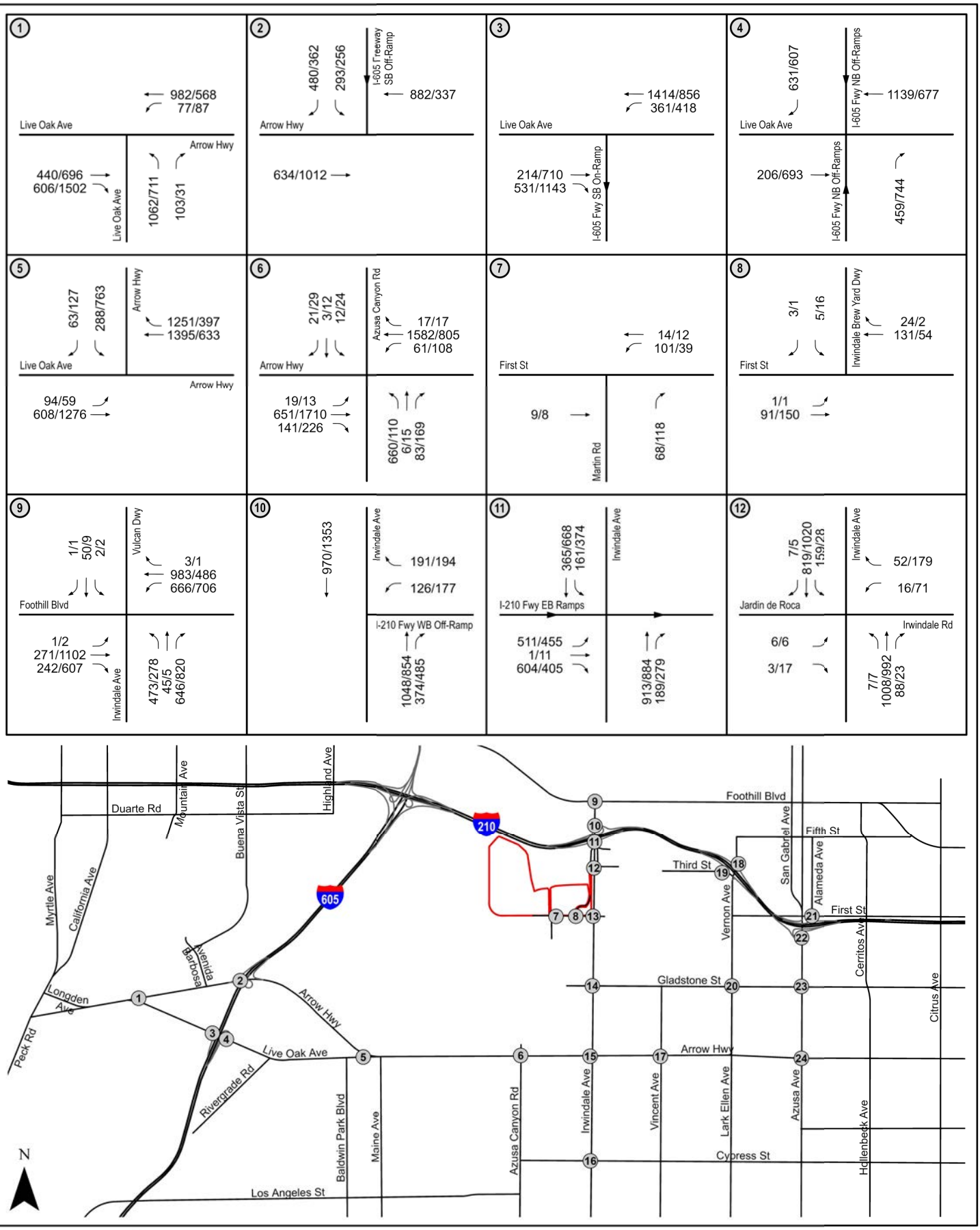
Table 3-3
EXISTING TRAFFIC VOLUMES [1]

NO.	INTERSECTION	DATE	DIR	AM PEAK HOUR		PM PEAK HOUR	
				BEGAN	VOLUME	BEGAN	VOLUME
11	Irwindale Avenue/ I-210 Freeway Eastbound Ramps	05/22/2024	NB SB EB WB	7:30 AM	1,102 526 1,116 0	4:30 PM	1,163 1,042 871 0
12	Irwindale Avenue/ Jardin De Roca-Irwindale Road	05/22/2024	NB SB EB WB	7:30 AM	1,103 985 9 68	4:30 PM	1,022 1,053 23 250
13	Irwindale Avenue/ First Street	05/22/2024	NB SB EB WB	7:00 AM	1,252 719 97 2	4:45 PM	841 1,121 176 9
14	Irwindale Avenue/ Gladstone Street	05/22/2024	NB SB EB WB	7:00 AM	738 598 8 1,098	4:30 PM	946 1,163 52 231
15	Irwindale Avenue/ Arrow Highway	05/22/2024	NB SB EB WB	7:30 AM	816 886 704 1,096	4:30 PM	640 1,138 1,952 579
16	Irwindale Avenue/ Cypress Street	05/22/2024	NB SB EB WB	7:30 AM	1,145 566 278 957	4:30 PM	723 1,049 807 373
17	Vincent Avenue/ Arrow Highway	05/22/2024	NB SB EB WB	7:30 AM	643 228 490 1,145	4:00 PM	392 369 1,661 582
18	Vernon Avenue/ I-210 Freeway Westbound Ramps	05/22/2024	NB SB EB WB	7:00 AM	603 597 0 112	4:30 PM	493 507 0 285
19	I-210 Freeway Eastbound Off-Ramp/ Third Street	05/22/2024	NB SB EB WB	7:30 AM	0 251 109 131	4:45 PM	0 261 212 61
20	Vernon Avenue-Lark Ellen Avenue/ Gladstone Street	05/22/2024	NB SB EB WB	7:30 AM	629 502 291 891	4:45 PM	539 464 924 322

Table 3-3
EXISTING TRAFFIC VOLUMES [1]

NO.	INTERSECTION	DATE	DIR	AM PEAK HOUR		PM PEAK HOUR	
				BEGAN	VOLUME	BEGAN	VOLUME
21	Alameda Avenue- I-210 Freeway Westbound Ramps/ First Street	05/22/2024	NB SB EB WB	7:00 AM	96 204 613 898	5:00 PM	512 109 627 424
22	Azusa Avenue/ I-210 Freeway Eastbound Off-Ramp	05/22/2024	NB SB EB WB	7:30 AM	1,215 883 454 0	4:15 PM	1,111 962 490 0
23	Azusa Avenue/ Gladstone Street	05/22/2024	NB SB EB WB	7:30 AM	858 788 425 969	4:30 PM	849 881 875 462
24	Azusa Avenue/ Arrow Highway	05/22/2024	NB SB EB WB	7:30 AM	636 707 815 986	4:45 PM	923 815 1,323 701

[1] Counts conducted by Counts Unlimited

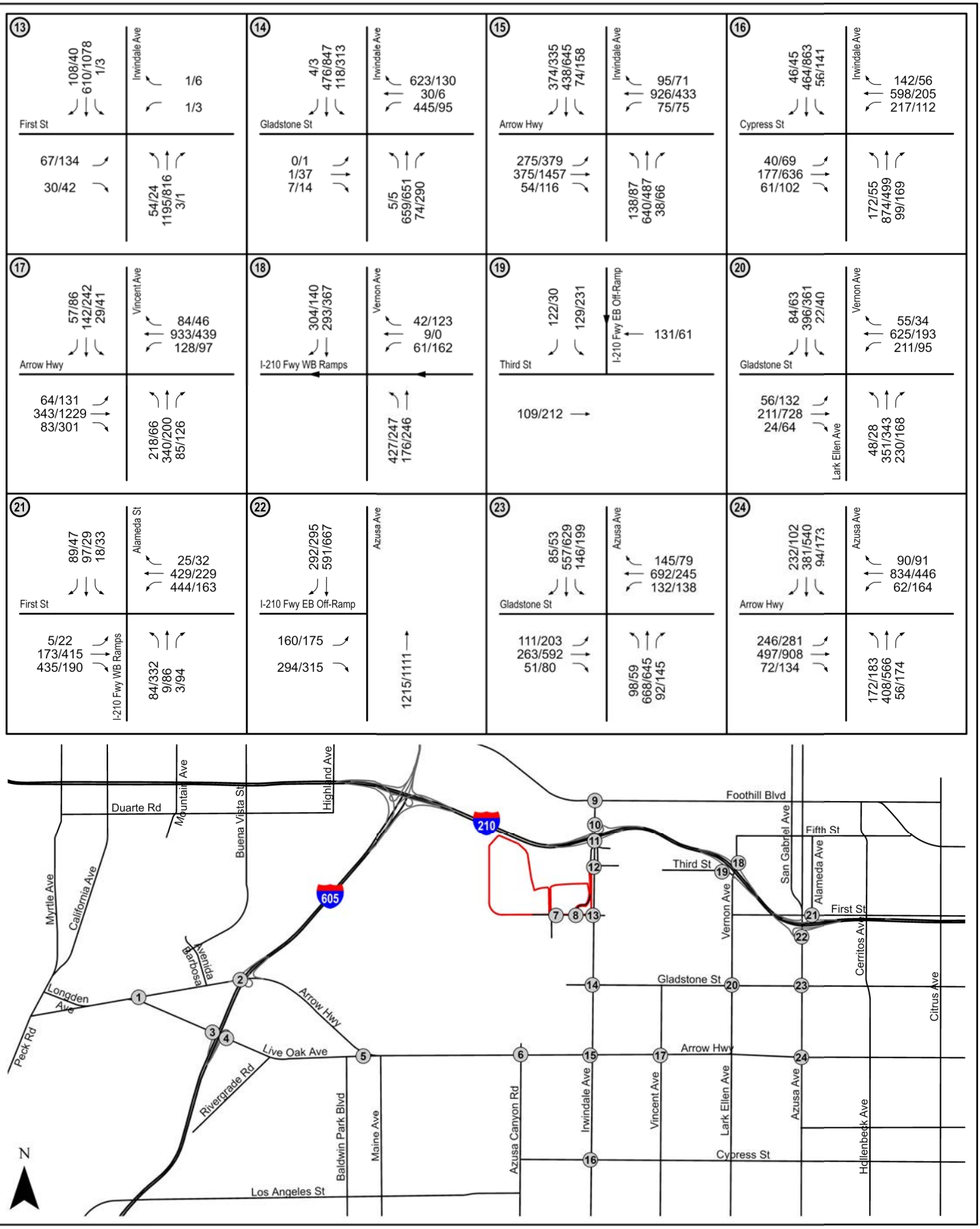


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XX/XX = Weekday AM/PM Peak Hours

Figure 3-5
Existing Traffic Volumes
(Page 1 of 2)

Irwindale Brew Yard Specific Plan



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XX/XX = Weekday AM/PM Peak Hours

Figure 3-5
Existing Traffic Volumes
(Page 2 of 2)

Irwindale Brew Yard Specific Plan

program. Any such document shall be referenced and made available to the public at a location specified by the lead agency."

While traffic forecasts for the purpose of intersection congestion and delay analyses are no longer required to comply with CEQA, this traffic analysis provides a forecast of future cumulative traffic volumes through incorporation of traffic associated with other known development projects located in the project study area as well as an ambient traffic growth rate (i.e., option "A" and "B" above).

3.5.1 *Cumulative Development Projects*

A forecast of future on-street traffic conditions was prepared by incorporating the potential trips associated with other known development projects (related projects) in the area (i.e., within an approximate 1.0-mile radius from the project site and within an approximate 0.5-mile radius from any study intersection). With this information, the potential impact of the proposed project can be evaluated within the context of the cumulative impacts of all ongoing development. The related projects research was based on information on file with the Cities of Irwindale, Azusa, Baldwin Park, Duarte, and with the County of Los Angeles. The list of related projects in the project site area is presented in ***Table 3-4***. The location of the related projects is shown in ***Figure 3-6***.

Traffic volumes expected to be generated by the related projects were calculated using rates provided in the ITE *Trip Generation Manual*, or they were obtained from other transportation studies as noted. The related projects' respective traffic generation for the weekday AM and PM peak hours, as well as on a daily basis for a typical weekday, is summarized in *Table 3-4*. The related projects traffic volumes were distributed and assigned to the street system based on the projects' locations in relation to the study intersections, their proximity to major traffic corridors, proposed land uses, nearby population and employment centers, etc. The assignment of the related projects traffic volumes to the study intersections during the weekday AM and PM peak hours are displayed in ***Figure 3-7***.

3.5.2 *Ambient Growth Factor*

In order to account for area-wide regional growth beyond the listed related projects, the existing traffic volumes were increased at an annual compounding rate of 0.5 percent (0.5%) between existing year 2024 and the future build-out year of 2030, resulting in a total growth factor of 3.04% applied to the existing year 2024 traffic volumes. The ambient growth factor was based on general traffic growth factors provided in the Los Angeles County 2010 Congestion Management Program (CMP) manual for the project study area (i.e., RSA 26, which is generally bounded by Azusa, Glendora, West Covina, Diamond Bar, and Hacienda Heights) and determined in consultation with City of Irwindale staff. Based on information provided by the CMP manual, existing traffic volumes are expected to increase at an annual compounding rate of 0.38% per year between the years 2020 and 2025 (i.e., [1.066/1.046]^(1/5) = 1.0038 or 0.38%), and at an annual compounding rate of 0.37% between the years 2025 and 2030 (i.e., [1.086/1.066]^(1/5) = 1.0037 or 0.37%). In order to forecast the future year 2030 traffic conditions, a conservative growth rate of 0.50% per

Table 3-4
RELATED PROJECTS LIST AND TRIP GENERATION [1]

MAP NO.	PROJECT STATUS	PROJECT NAME/NUMBER ADDRESS/LOCATION	LAND USE DATA		PROJECT DATA SOURCE	DAILY TRIP ENDS [2]	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
			LAND-USE	SIZE		VOLUMES	IN	OUT	TOTAL	IN	OUT	TOTAL
City of Azusa												
A1	Approved	230 S. Irwindale Avenue	Industrial	6,380 GSF	[3]	31	4	1	5	1	3	4
A2	Proposed	300 W. Foothill Boulevard	Townhomes	7 DU	[4]	47	1	2	3	3	1	4
			Commercial	633 GLSF	[5]	34	1	0	1	2	2	4
A3	Proposed	326 N. Azusa Avenue	Townhomes	8 DU	[4]	54	1	2	3	3	1	4
A4	Under Construction	333 N. Azusa Avenue	Townhomes	4 DU	[4]	27	0	2	2	1	1	2
			Retail	1,000 GLSF	[5]	54	1	1	2	4	3	7
A5	Under Construction	573-577 E. Arrow Highway	Townhomes	10 DU	[4]	67	1	3	4	3	2	5
A6	Under Construction	Azusa Self-Storage 900 W. Foothill Boulevard	Self-Storage	138,454 GSF	[6]	201	7	5	12	10	11	21
A7	Under Construction	OneLegacy 1303 Optical Drive	Office	45,000 GSF	[7]	488	60	8	68	11	54	65
A8	Approved	243 N. Azusa Avenue	Condominiums	4 DU	[4]	27	0	2	2	1	1	2
A9	Proposed	742 N. Todd Avenue	Warehousing	16,040 GSF	[8]	27	2	1	3	1	2	3
A10	Approved	120 N. Aspan Avenue	Single Family Residential	22 DU	[9]	207	4	11	15	13	8	21
A11	Approved	175 N. Azusa Avenue	Condominiums	4 DU	[4]	27	0	2	2	1	1	2
A12	Approved	229 S. Azusa Avenue	Hotel	23 Rooms	[10]	184	6	5	11	7	7	14
A13	Proposed	125 S. Peckham Road	Industrial	28,000 GSF	[3]	136	18	3	21	3	15	18
City of Baldwin Park												
BP1	Approved	5121 Lante Street	Public Garden/Ampitheater	0.4 Acres	[11]	Nom.	Nom.	Nom.	Nom.	Nom.	Nom.	Nom.
Los Angeles County												
LA1	Proposed	16940 W. Gladstone Street	Car Wash	1 Tunnel	[12]	780	Nom.	Nom.	Nom.	39	39	78

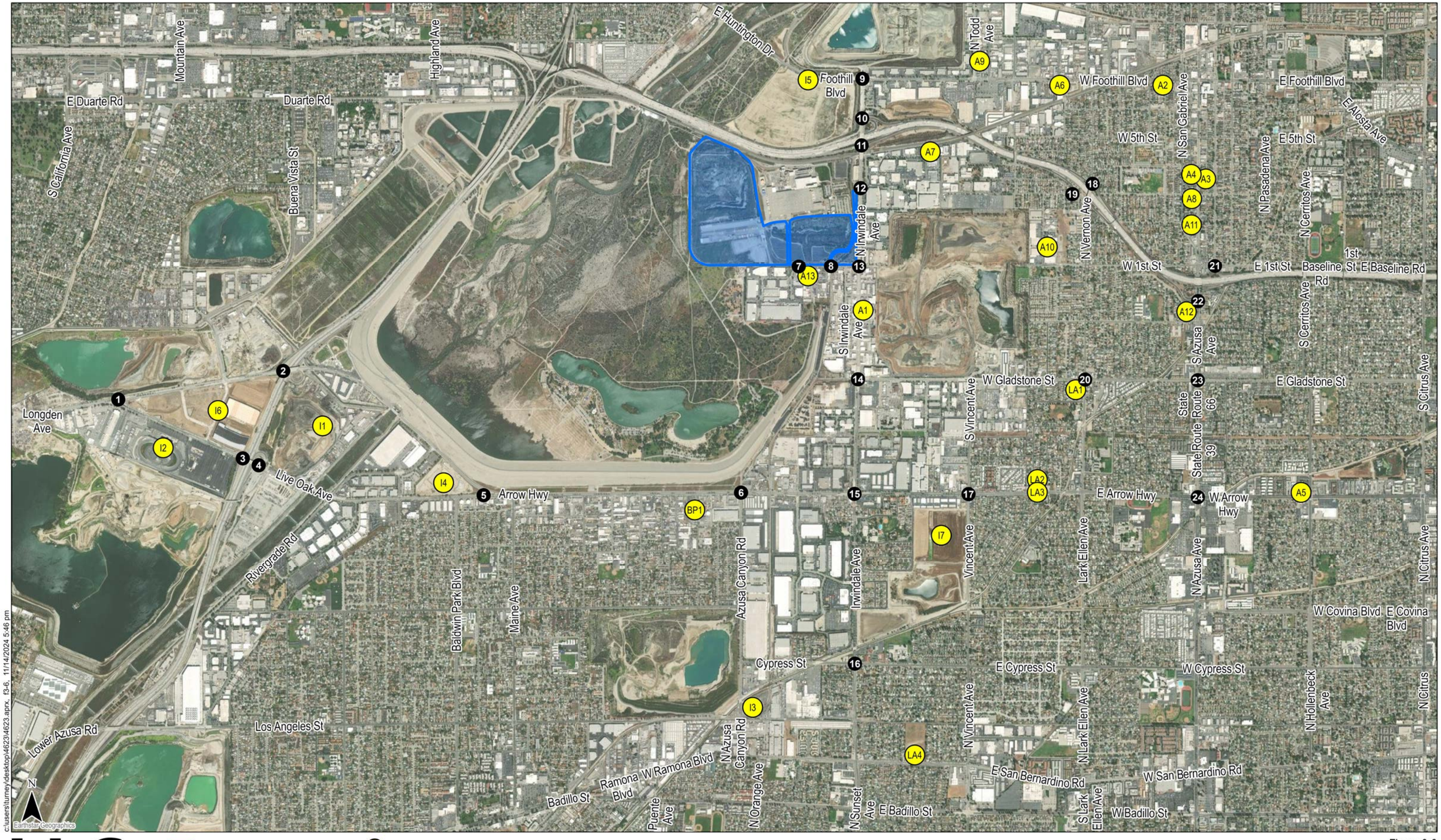
Table 3-4
RELATED PROJECTS LIST AND TRIP GENERATION [1]

MAP NO.	PROJECT STATUS	PROJECT NAME/NUMBER ADDRESS/LOCATION	LAND USE DATA		PROJECT DATA SOURCE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
			LAND-USE	SIZE			IN	OUT	TOTAL	IN	OUT	TOTAL
Los Angeles County *(Continued)*												
LA2	Approved	5210 N. Clydebank Avenue	Recycling Collection Center	192 GSF	[13]	20	1	1	2	1	1	2
LA3	Proposed	16711 E. Arrow Highway	Tire Store	1,246 GSF	[14]	34	2	1	3	2	3	5
LA4	Approved	16209 E. San Bernardino Road	Single Family Residential	68 DU	[9]	641	12	36	48	40	24	64
City of Irwindale												
I1	Proposed	Irwindale Gateway Specific Plan 13620 Live Oak Lane	Warehouse Office	954,796 GSF 43,000 GSF	[15]	3,250	238	62	300	87	238	325
I2	Proposed	Speedway Commerce Center Specific Plan 500 Speedway Drive	Industrial Commercial	1,220,000 GSF 158,994 GLSF	[3] [16]	5,941 5,884	795 83	108 51	903 134	111 260	682 281	793 541
I3	Under Construction	Azusa Canyon Road Warehouse 4416 Azusa Canyon Road	Warehouse Manufacturing	112,830 GSF 17,000 GSF	[17]	362	34	11	45	12	34	46
I4	Under Construction	Materials Recovery Facility and Transfer Station 2200 Arrow Highway	Materials Recovery and Transfer Convenience Store/Fueling Facility Visitor Center and Maintenance	228,432 GSF 2,390 GSF 15,200 GSF	[18]	8,333	350	314	664	336	328	664
I5	Proposed	Reliance II Specific Plan 15990 Foothill Boulevard	Industrial Park Commercial	1,853,500 GSF 10,000 GLSF	[19] [5]	6,246 545	510 14	120 10	630 24	139 33	491 33	630 66
I6	Under Construction	The Park at Live Oak 1270 Arrow Highway	High-Cube Fulfillment Center High-Cube Warehouse Fast Food Restaurant (Drive Thru) Fast Food Restaurant (No Drive Thru) Shopping Center Gas Station Industrial Warehouse Manufacturing Coffee Shop (Drive Thru)	412,500 GSF 630,900 GSF 8,700 GSF 19,000 GSF 69,500 GLSF 8 VFP 54,600 GSF 251,400 GSF 102,000 GSF 3,000 GSF	[20]	15,867	863	417	1,280	625	1,019	1,644

Table 3-4
RELATED PROJECTS LIST AND TRIP GENERATION [1]

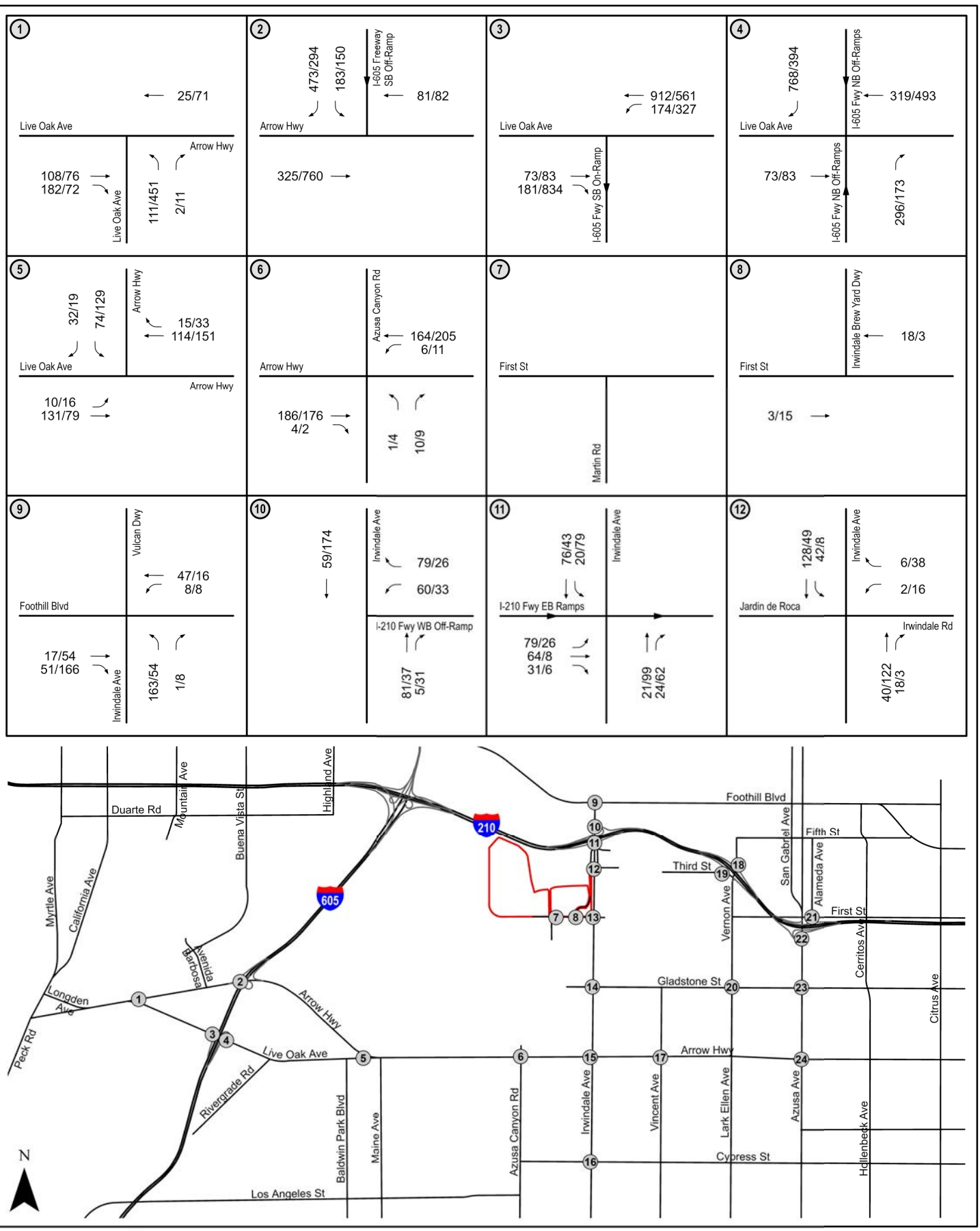
MAP NO.	PROJECT STATUS	PROJECT NAME/NUMBER ADDRESS/LOCATION	LAND USE DATA		PROJECT DATA SOURCE	DAILY TRIP ENDS [2]	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
			LAND-USE	SIZE		VOLUMES	IN	OUT	TOTAL	IN	OUT	TOTAL
City of Irwindale *(Continued)*												
I7	Proposed	Vincent Avenue Industrial Building 5175 Vincent Avenue	Industrial	545,735 GSF	[21]	3,437	427	58	485	57	379	436
TOTAL						52,951	3,435	1,237	4,672	1,806	3,664	5,470

[1] Sources: City of Azusa Economic & Community Development Department - Planning Division, City of Baldwin Park Community Development Department - Planning Division, City of Duarte Community Development Department - Planning Division, City of Irwindale Community Development - Planning Department, and County of Los Angeles. The traffic volumes were forecast utilizing trip data provided in the ITE "Trip Generation Manual", 11th Edition, 2021, except as noted below. It is noted that the City of Duarte did not have records of related projects within the project study
[2] Trips are one-way traffic movements, entering or leaving. "Nom." indicates nominal trips.
[3] ITE Land Use Code 110 (General Light Industrial) trip generation average rates.
[4] ITE Land Use Code 220 (Multifamily Housing (Low-Rise) Not Close to Rail Transit) trip generation average rates.
[5] ITE Land Use Code 822 (Strip Retail Plaza (<40k)) trip generation average rates.
[6] ITE Land Use Code 151 (Mini-Warehouse) trip generation average rates.
[7] ITE Land Use Code 710 (General Office) trip generation average rates.
[8] ITE Land Use Code 150 (Warehousing) trip generation average rates.
[9] ITE Land Use Code 210 (Single-Family Detached Housing) trip generation average rates.
[10] ITE Land Use Code 310 (Hotel) trip generation average rates.
[11] ITE Land Use Code 411 (Public Park) trip generation average rates.
[12] ITE Land Use Code 948 (Automated Car Wash) trip generation average rates. Daily and AM Peak Hour trip rates not provided for this land use. The PM peak hour trips are assumed to represent 10 percent (10%) of daily trips.
[13] ITE Land Use Code 895 (Beverage Container Recycling Depot) trip generation average rates. AM and PM peak hour rates from Peak Hour of Generator. Daily trip rates not provided for this land use. The PM peak hour trips are assumed to represent 10 percent (10%) of daily trips.
[14] ITE Land Use Code 848 (Tire Store) trip generation average rates.
[15] Source: Irwindale Gateway Specific Plan Traffic Impact Analysis Draft Report, prepared by Iteris, Inc., December 2023. Daily trips not provided. The PM peak hour trips are assumed to represent 10 percent (10%) of daily trips.
[16] ITE Land Use Code 820 (Shopping Center (>150k)) trip generation average rates.
[17] Source: Azusa Canyon Road Warehouse Transportation Analysis, prepared by Urban Crossroads, Inc., July 2021.
[18] Source: Athens-Irwindale Materials Recovery Facility and Transfer Station Updated Traffic Impact Analysis, prepared by Urban Crossroads, Inc., March 2016.
[19] ITE Land Use Code 130 (Industrial Park) trip generation average rates.
[20] Source: The Park at Live Oak Traffic Impact Analysis, prepared by Urban Crossroads, Inc., December 2018.
[21] Source: Vincent Avenue Industrial Building Traffic Impact Analysis, prepared by Ganddini Group, Inc., December 2020.



Specific Plan Boundary
Study Intersections
(I) City of Irwindale Related Project
(A) City of Azusa Related Project
(BP) City of Baldwin Park Related Project
(LA) Los Angeles County Related Project

Figure 3-6
Location of Related Projects

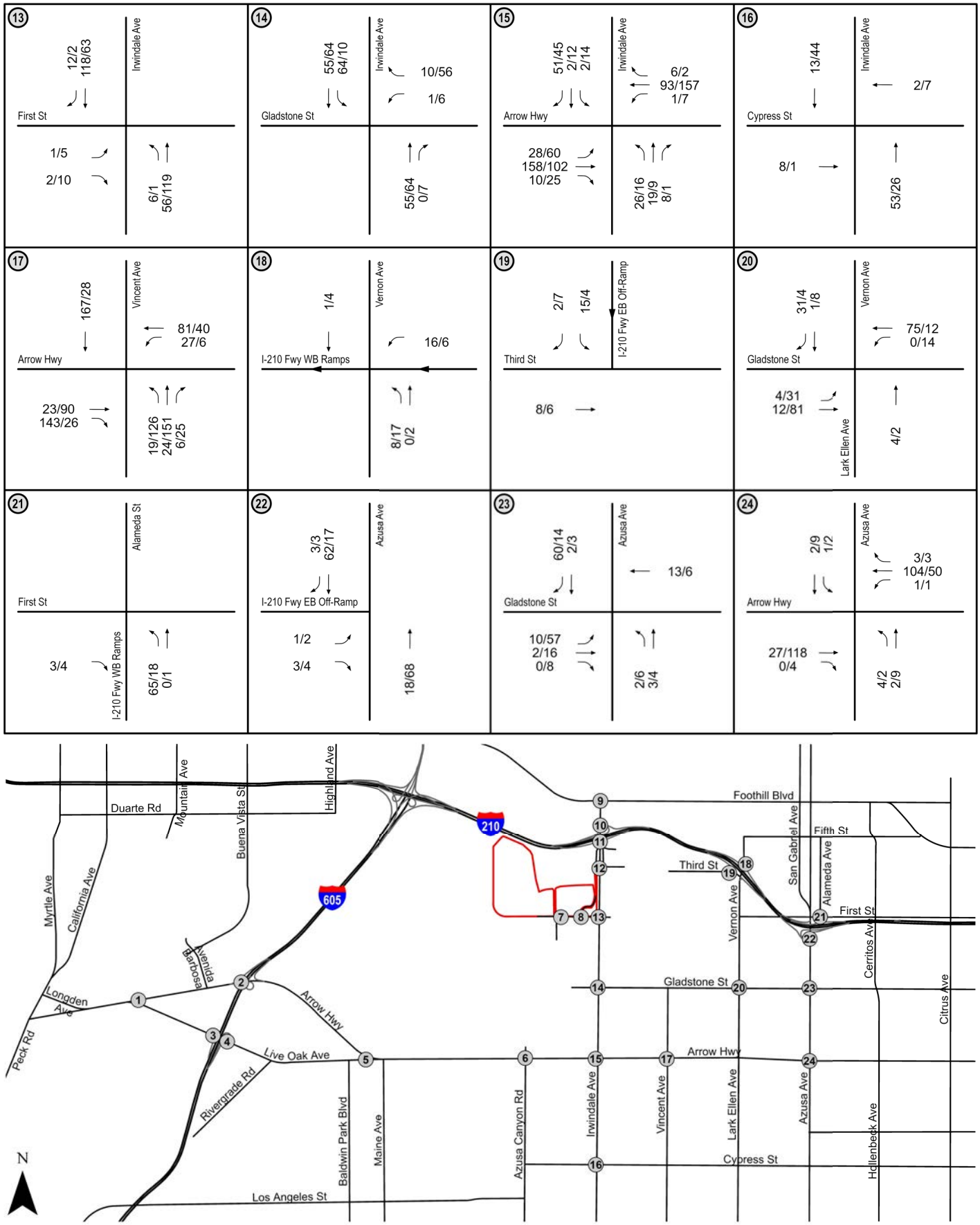


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XX/XX = Weekday AM/PM Peak Hours

Figure 3-7
Related Projects Traffic Volumes
(Page 1 of 2)

Irwindale Brew Yard Specific Plan



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XX/XX = Weekday AM/PM Peak Hours

Figure 3-7
Related Projects Traffic Volumes
(Page 2 of 2)

Irwindale Brew Yard Specific Plan

year was applied between the years 2024 and 2030, resulting in a total growth factor of 3.04% (i.e., [1+0.0050]^(2030-2024) = 1.0304 or 3.04%). Thus, application of this annual growth factor in addition to the forecast traffic generated by the related projects allows for a conservative forecast of future baseline year 2030 traffic volumes in the project study area, as incorporation of both (i.e., an ambient traffic growth rate and a detailed list of cumulative development projects) is expected to overstate potential future traffic volumes. The cumulative development projects should already be incorporated as part of the growth rate projection per the adopted local and regional planning documents (i.e., which account for the future population, housing, and employment projections).

4.0 VEHICLE MILES TRAVELED ANALYSIS

As described in *Section 1.1*, in compliance with the current statutory requirements for analysis of transportation impacts under CEQA and the City's adopted Resolution No. 2020-53-3163, the City's Guidelines set forth the VMT screening criteria, impact criteria, and methodology applicable to proposed development projects and land use plans. The following sections discuss the VMT screening criteria, impact thresholds, methodology, and analysis for the Irwindale Brew Yard Specific Plan.

4.1 VMT Screening

Traditionally, public agencies have set certain thresholds to determine whether a project requires detailed transportation analysis or if it can be assumed to have less than significant environmental impacts without additional study. In the *Technical Advisory*, OPR recommends various screening criteria which may be applied to screen proposed land use projects out of detailed VMT analysis. Consistent with the recommendations provided in the *Technical Advisory*, the City's Guidelines recognize three screening criteria which may be applied to screen proposed land use projects out of detailed VMT analysis. Proposed projects are not required to satisfy all of the screening criteria in order to screen out of further VMT analysis; satisfaction of one criterion is generally sufficient for screening purposes. Projects, or project components, which are screened out of detailed VMT assessment based on these criteria are presumed to have less than significant transportation impacts. Projects or project components which are not screened out would be required to conduct a formal Transportation Impact Analysis to determine the significance of project impacts.

4.1.1 *Transit Priority Area Screening*

CEQA Guidelines Section 15064.3(b)(1) states in part: "Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high-quality transit corridor should be presumed to cause a less than significant transportation impact." The *Technical Advisory* recommends additional screening criteria for projects which meet the statutory screening threshold, noting that certain project-specific or location-specific information might indicate that the presumption is not appropriate.

In keeping with the statutory presumption of less than significant impacts due to nearby high-quality transit and OPR's recommended secondary criteria, the City's Guidelines include a Transit Priority Area (TPA) screening criterion. A TPA is defined in Public Resources Code Section 21099(a)(7) as the half-mile area around an existing major transit stop[10]. Land use development projects may be presumed to have a less than significant impact if located within 0.5-miles of a TPA; however, the presumption may not be appropriate if the project:

1. Has a Floor Area Ratio (FAR) of less than 0.75;

[10] Major transit stops and high-quality transit corridors are defined by Public Resources Code Sections 21064.3 and 21155, respectively.

2. Includes more parking for use by residents, customers, or employees of the project than required by the City;

3. Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Southern California Association of Governments [SCAG]); or

4. Replaces affordable residential units with a smaller number of moderate- or high-income residential units.

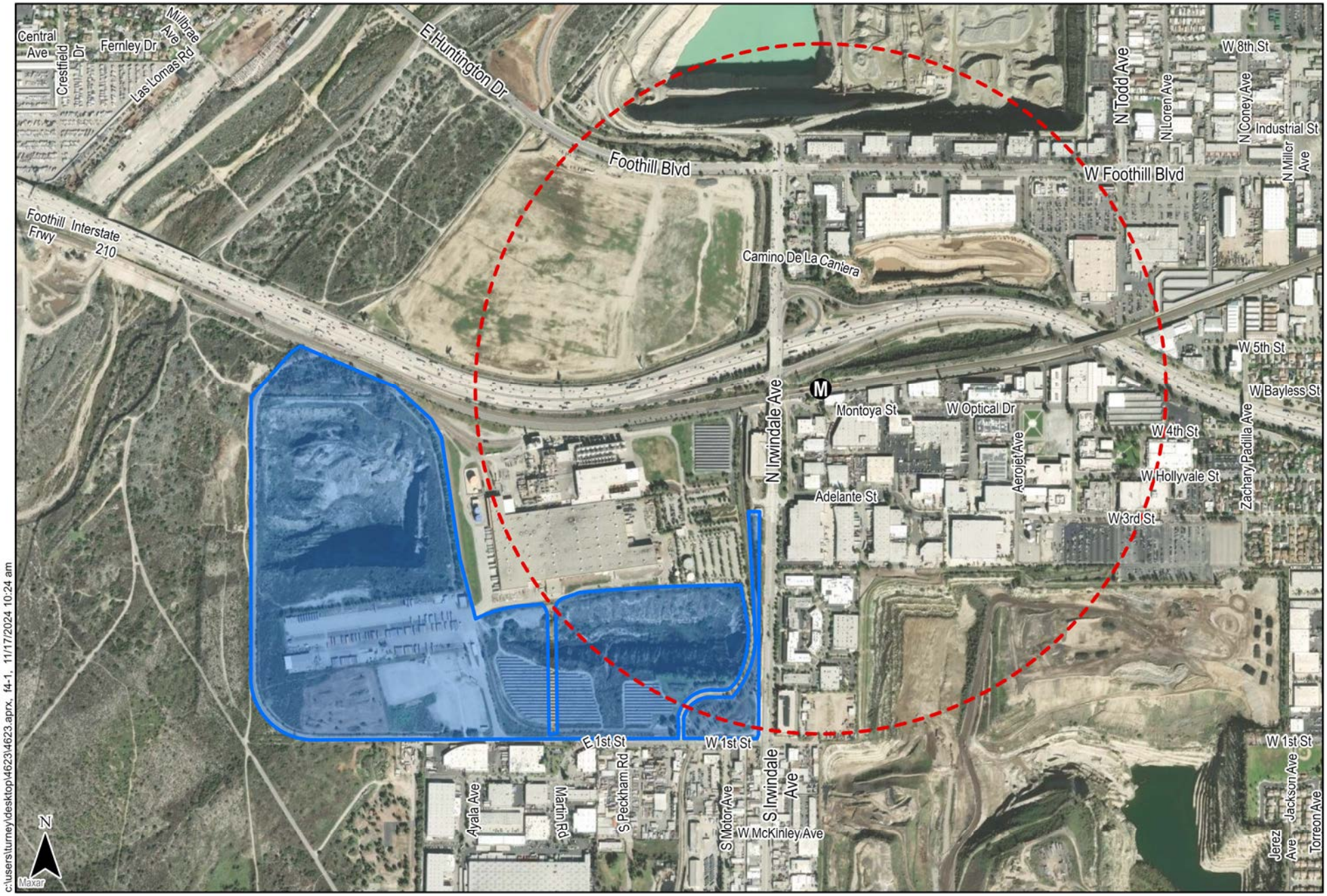
Portions of the proposed Specific Plan area are located within 0.5-miles of the existing Metro A (previously L/Gold) Line Irwindale Station, as shown in ***Figure 4-1***. However, it is noted that the majority of the Specific Plan area falls outside of the 0.5-mile radius. Further, the answers to the subsequent screening questions require project-specific information such as the proposed FAR and proposed parking. No specific development projects are proposed as part of the Irwindale Brew Yard Specific Plan; therefore, the answer to these screening questions cannot be determined as of the preparation of this study. Because the screening criterion cannot be adequately assessed at this time, it is conservatively assumed that the Transit Priority Area screening criterion is not satisfied.

4.1.2 *Low VMT Area Screening*

It is assumed that projects located within areas which currently exhibit low VMT, and that incorporate similar features pertaining to density, land use mix, and transit availability, will tend to exhibit similarly low VMT. In areas where the existing VMT generation already falls below the applicable thresholds, and where projects are likely to generate similar levels of VMT, projects may be screened out of preparing detailed VMT analysis. The *Technical Advisory* notes that such screening is appropriate for residential and office projects. The City's Guidelines indicate that other employment-related land use projects may qualify for the use of this screening criterion if the proposed project can reasonably be expected to generate VMT which is similar to the existing land uses in the low VMT area.

The Specific Plan area is situated within Traffic Analysis Zone (TAZ) 22281100. The boundaries of TAZ 22281100 are displayed in ***Figure 4-2***. As shown in *Figure 4-2*, the TAZ primarily includes industrial and warehousing land uses, mining and mineral resources extraction land uses, the San Gabriel River and Santa Fe Dam Recreation Area, and the Irwindale Spreading Grounds. Therefore, it is appropriate to assume that the VMT generated by the Specific Plan will be similar to the existing land uses within the TAZ.

The SCAG 2016-2045 Activity Based Model (ABM) (discussed in further detail in *Section 4.2*) was used to establish the existing VMT performance for individual TAZs. The VMT values for the subject TAZ were compared to the applicable City thresholds to determine if the TAZ can be considered a low VMT area. The VMT metric and applicable thresholds utilized for screening purposes are discussed in greater detail in *Section 4.3*.



Metro Irwindale Station
Transit Priority Area
Specific Plan Boundary

Figure 4-1
Transit Priority Area



TAZ Boundary

Specific Plan Boundary

Figure 4-2
Transportation Analysis Zone

Irwindale Brew Yard Specific Plan

As previously stated, the Specific Plan is located within TAZ 22281100. The TAZ exhibits 28.97 home-based work VMT per employee in year 2024, which is higher than the threshold of 24.64 home-based work VMT per employee. The calculation of the home-based work VMT per employee without the Specific Plan is presented in ***Appendix C***. Therefore, the TAZ does not currently exhibit VMT below the applicable thresholds and cannot be considered a low VMT area. The Specific Plan site therefore does not satisfy the low VMT area screening criterion.

4.1.3 *Project Type Screening*

The City's Guidelines identify a list of land use types which may be presumed to have a less than significant impact. Absent substantial evidence to the contrary, the listed land uses are assumed to be local serving in their nature and therefore would not generate new demand; rather, projects of these types would meet existing demand, shortening the distance that residents, employees, customers, or visitors would need to travel. For example, the City's Guidelines identify local serving schools, public parks, day care centers, places of worship, public libraries, and more, as examples of local serving land uses. In addition, the City's Guidelines identify projects which are expected to generate less than 110 net new daily vehicle trips as being presumed to have a less than significant impact.

The *Technical Advisory* states that local serving retail may be presumed to cause less than significant impacts. By adding retail opportunities into the urban fabric and improving retail destination proximity, local serving retail developments tend to shorten trips and reduce VMT. The *Technical Advisory* suggests that the threshold for local serving versus regional serving retail (which may lead to substitution of longer regional trips instead of shorter local ones) is 50,000 square feet. Consistent with the presumption of less than significant impacts for local serving retail presented in the *Technical Advisory*, the City's Project Type screening criterion also includes local serving retail projects of less than 50,000 square feet.

Planning Area 2 of the Specific Plan is expected to accommodate up to 12,000 square-feet of commercial floor area, which would fall below the 50,000 square-foot threshold for retail land uses. However, it is understood that Planning Area 2 is intended to accommodate a variety of commercial uses that are supportive of the surrounding community and of the industrial land uses in Planning Area 1, which may not be appropriately classified as retail. Since no specific development projects are proposed as part of the Irwindale Brew Yard Specific Plan, the determination of a local-serving retail use cannot be determined as of the preparation of this study. Because the screening criterion cannot be adequately assessed at this time, it is conservatively assumed that the criterion is not satisfied for Planning Area 2.

The proposed industrial warehousing land uses included in Planning Area 1 do not qualify as local-serving land uses. The Specific Plan is expected to generate a total of 14,845 PCE-adjusted daily trips (refer to *Subsection 2.5.1*), which exceeds the daily trip generation criteria. The Specific Plan therefore does not satisfy the Project Type screening criterion.

4.1.4 *Summary of Screening Conclusions*

The Specific Plan does not satisfy any of the screening criteria and is not screened out of further analysis. Therefore, a VMT analysis is required to determine whether the Specific Plan will result in any significant transportation impacts.

4.2 Methodology

As determined in consultation with City of Irwindale staff, the Irwindale Brew Yard Specific Plan was evaluated using the SCAG Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) travel demand forecast model to determine if it will have a significant impact on VMT. The SCAG travel demand model available as of the preparation of this study is the 2016-2045 Activity-Based Model (ABM), which includes a baseline year of 2016 and a future cumulative year of 2045 (assuming full build-out of the RTP/SCS).

The level of project-generated daily VMT is determined by converting the Specific Plan's development totals into corresponding Socio-Economic Data (SED) and entering the SED into the TAZ in which the project is located. The modified model is then run in order to generate a "With Project" VMT forecast. The "Without Project" VMT forecast obtained from the unmodified model outputs is subtracted from the "With Project" forecast to determine the VMT expected to be generated by the proposed project. The VMT methodology utilized in the project-level analysis is the Production-Attraction (PA) VMT method, which accounts for trips generated by specific population groups (e.g., employees, residents) based on trip purpose (e.g., home-based trips to/from work, home-based trips to/from other locations, non-home-based trips to/from other locations, etc.).

The project's effect on cumulative VMT is determined by comparing the future cumulative VMT "Without Project" obtained from the unmodified model outputs to the future cumulative VMT "With Project" obtained from the modified model outputs. The VMT methodology utilized in the cumulative analysis is the boundary VMT method assessed at the Citywide scale, which accounts for all vehicle travel into, out of, and through the City, including the portions of trips which begin and end outside of the City.

4.3 Impact Criteria

According to the City's adopted VMT thresholds, the following thresholds apply to land use plans:

1. "Project Impact: A significant impact would occur if the VMT rate for the plan would exceed a level of 15% below the applicable baseline VMT rate.

2. Cumulative Project Effect: A significant impact would occur if the project increases total regional VMT compared to cumulative no project conditions.

3. A significant impact would occur if the project is inconsistent with the RTP/SCS (SCAG Regional Transportation Plan/Sustainable Communities Strategy).

The baseline VMT rate is defined as the City of Irwindale average VMT rate per applicable service population (service population is defined as employee and/or resident population). The baseline VMT is subject to change pending updates to the SCAG RTP model."

The Specific Plan is proposed to include industrial warehousing and commercial land uses only; therefore, the applicable service population for the project-level VMT analysis of the Specific Plan is employees. Consistent with the recommendations provided in the *Technical Advisory* and the City's Guidelines, the VMT metric utilized in the project-level analysis is home-based work (HBW) VMT per employee.

The applicable City of Irwindale average HBW VMT per employee has been derived from the unmodified SCAG ABM scenarios for years 2016 and 2045, and interpolated to reflect year 2024 conditions. The baseline HBW VMT per employee and relevant thresholds for determining project-level impacts are provided in ***Table 4-1*** below. The calculation and interpolation of the thresholds is summarized in *Appendix Table C-1*.

Table 4-1
THRESHOLDS OF SIGNIFICANCE

YEAR	BASELINE HBW VMT/Emp	THRESHOLD [1]
2024 (Existing)	28.99	24.64

[1] Threshold represents 15.0% below the baseline VMT/Emp.

Consistent with the City's Guidelines, the VMT metric utilized in the cumulative VMT analysis is the citywide boundary VMT per applicable service population. Since boundary VMT reflects all vehicle travel into, out of, and through the City, the applicable service population consists of both residents and employees (collectively referred to as "service population" [SP]).

4.4 Municipal Code Trip Reduction and Travel Demand Measures

The City of Irwindale Municipal Code (IMC) Chapter 17.41 – *Trip Reduction and Travel Demand Measures* sets forth requirements for non-residential land use development projects to provide transportation demand and trip reduction measures. Project applicants are required to make provision for the applicable transportation demand management (TDM) and trip reduction measures prior to approval of the development project, and all facilities constructed or otherwise required to be provided are to be maintained in a state of good repair.

The IMC Section 17.41.030(B) requires the following measures, based on increasing square-footage of non-residential development:

1. Nonresidential development of twenty-five thousand square feet or more shall provide the following to the satisfaction of the city:

a. A bulletin board, display case or kiosk displaying transportation information located where the greatest number of employees are likely to see it. Information in the area shall include, but is not limited to, the following:

i. Current maps, routes and schedules for public transit routes serving the site;

ii. Telephone numbers for referrals on transportation information including numbers for the regional ridesharing agency and local transit operators;

iii. Ridesharing promotional material supplied by commuter-oriented organizations;

iv. Bicycle route and facility information, including regional/local bicycle maps and bicycle safety information;

v. A listing of facilities available at the site for carpoolers, vanpoolers, bicyclists, transit riders and pedestrians.

2. Nonresidential development of fifty thousand square feet or more shall comply with subsection (B)(1) of this section, and shall provide all of the following measures to the satisfaction of the city:

a. Not less than ten percent of employee parking area(s) shall be located as close as is practical to the employee entrance(s) and shall be reserved for use by potential carpool/vanpool vehicles, without displacing handicapped and customer parking needs. This preferential carpool/vanpool parking area shall be identified on the site plan upon application for a building permit, to the satisfaction of the city. A statement that preferential carpool/vanpool spaces for employees are available and a description of the method for obtaining access to such spaces must be included on the required transportation information board. Spaces will be signed/striped as demand warrants; provided that at all times at least one space for projects fifty thousand square feet to one hundred thousand square feet and two spaces for projects over one hundred thousand square feet will be signed/striped for carpool/vanpool vehicles.

b. Preferential parking spaces reserved for vanpools must be accessible to vanpool vehicles. When located within a parking structure, a minimum vertical interior clearance of seven feet two inches shall be provided for such spaces and accessways to be used by such vehicles. Adequate turning radii and parking space dimensions shall also be included in vanpool parking areas.

c. Bicycle racks or other secure bicycle parking shall be provided to accommodate four bicycles per the first fifty thousand square feet of nonresidential development and one bicycle per each additional fifty thousand square feet of nonresidential development.

Calculations which result in a fraction of 0.5 or higher shall be rounded up to the nearest whole number.

3. Nonresidential development of one hundred thousand square feet or more shall comply with subsections (B)(1) and (2) of this section, and shall provide all of the following measures to the satisfaction of the city:

    a. A safe and convenient zone in which vanpool and carpool vehicles may deliver or board their passengers;

    b. Sidewalks or other designated pathways following direct and safe routes from the external pedestrian circulation system to each building in the development;

    c. If determined necessary by the city to mitigate the project impact, bus stop improvements must be provided. The city will consult with the local bus service providers in determining appropriate improvements. When locating bus stops and/or planning building entrances, entrances must be designed to provide safe and efficient access to nearby transit stations/stops;

    d. Safe and convenient access from the external circulation system to bicycle parking facilities on-site.

While no specific development projects are proposed as part of the Irwindale Brew Yard Specific Plan, it assumed that future developments proposed within Planning Area 1 will exceed 100,000 square-feet of floor area and will be required to provide all of the above TDM measures stated by the IMC. Many of the required measures are expected to result in quantifiable VMT reductions, as discussed in the following section.

4.4.1 *CAPCOA 2021 Handbook*

The California Air Pollution Control Officers Association's (CAPCOA) *Handbook for Analyzing Greenhouse Gas Emissions Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity* ("2021 Handbook" herein) provides a comprehensive set of guidelines for assessing and quantifying reductions in greenhouse gas emissions. The emissions reduction measures are grouped by emission sector into nine categories, including transportation, energy, water, and other related areas. Transportation emissions can be reduced by improving the emissions profile of the vehicle fleet, or by reducing VMT. Reductions in VMT are achieved when any of the following occurs: 1) vehicle ownership declines, 2) vehicle trips are reduced, 3) vehicle trip lengths are reduced, or 4) any combination of the first three variables. The 2021 Handbook lists 34 quantified measures covering a total of six transportation subsectors, including land use, trip reduction programs, parking or road pricing/management, neighborhood design, transit, and clean vehicles and fuels. The majority of the measures (i.e., 32 of the 34 measures) quantified in the 2021 Handbook aim to reduce VMT, although two strategies are aimed at improving the emissions profile of the vehicle fleet and thus do not result in quantified VMT reductions. The VMT reducing

strategies are broadly referred to as TDM strategies due to the focus on reducing the amount of automobile travel generated by a project.

The 2021 Handbook acknowledges that interactions between transportation measures are complex and sometimes counterintuitive, whereby combining measures can have substantive impact on reported emissions reductions. Therefore, in order to safeguard the accuracy and reliability of the methods, certain rules are recommended when combining reductions achieved by transportation measures. First, the quantified measures may be applied at one of two scales of application: 1) the Project/Site scale, which refers to measures that reduce VMT at the scale of a parcel, employer, or development project, or 2) the Plan/Community scale, which refers to measures that reduce emissions at the scale of a neighborhood (e.g., specific plan, general plan, or climate action plan), corridor, or entire municipality (e.g., city- or county-level). Second, the effectiveness of multiple measures within a subsector should be multiplied (i.e., not added) in order to determine a combined level of effectiveness. Each quantified measure has a maximum allowable reduction, and in turn each subsector has a maximum allowable reduction which is intended to ensure that emissions reductions are not double counted when measures within the subsector are combined. The subsector maximums vary by scale of application. Finally, there is limited research directly analyzing the combined VMT impact from implementation of all, or a majority, of transportation sector measures. However, the 2021 Handbook adopts a 70 percent (70%) maximum for the combined VMT reduction from the following four subsectors: land use, neighborhood design, parking or road pricing/management, and transit. The multi-subsector maximum does not include the trip reduction program subsector, since these measures are implemented by individual employers and are not as directly correlated with place type as the other subsectors.

For the purpose of this VMT analysis, measures at the Project/Site scale of application were determined to be the most applicable for future development projects expected to result from the Specific Plan.

4.4.2 *Project Design Features*

As the measures required by IMC Chapter 17.41 will be implemented by the individual tenants and operators of future development projects resulting from the Specific Plan, CAPCOA measures at the Project/Site scale of application were determined to be the most applicable when assessing the VMT reductions expected to result from the City's TDM requirements.

Of the 15 TDM measures which reduce VMT and are quantified at the Project/Site scale, the following two (2) measures were determined to correspond to the requirements of the IMC. Each measure is described in further detail below.

- Measure T-7. Implement Commute Trip Reduction Marketing
  This measure reflects implementation of a marketing strategy to promote the project site employer's commute trip reduction program. Information sharing and marketing promotes and educates employees about their travel choices to the employment location beyond driving, such as carpooling, taking transit, walking, and biking, thereby reducing VMT.

This measure corresponds to the requirements of IMC Section 17.41.030(B)(1)(a) for non-residential development greater than or equal to 25,000 square feet.

- Measure T-10. Provide End-of-Trip Bicycle Facilities
  This measure reflects installation and maintenance of end-of-trip facilities for employee use. End-of-trip facilities include bike parking, bike lockers, showers, and personal lockers. The provision and maintenance of secure bike parking and related facilities encourages commuting by bicycle, thereby reducing VMT.

  This measure, when assumed to reflect the provision of bicycle parking only, corresponds to the requirements of IMC Section 17.41.030(B)(2)(c) for non-residential development greater than or equal to 50,000 square feet.

While measure such as providing preferential parking for carpool/vanpool vehicles and appropriate waiting and loading zones or providing improved transit access and amenities are expected to be supportive of alternate travel modes, the remaining TDM measures required by the IMC are not anticipated to result in quantifiable reductions in VMT according to the CAPCOA 2021 Handbook. Therefore, implementation of the measures described above results in a quantifiable reduction in commute VMT of 4.14%. Calculation worksheets for the measures are provided in *Appendix C*.

Since these measures will be required to be provided in compliance with adopted City ordinance, they are appropriately considered to be project design features. It is important to note that the TDM measures described above are not reflected in the project-specific VMT modeling conducted for the proposed Specific Plan. Regional travel demand models such as the SCAG ABM are sensitive to changes in the built environment (e.g., increases in employment density, proximity to major transit stops, etc.), but are not sensitive to programmatic measures which must be implemented by individual employers on an on-going basis or small infrastructure improvements such as the provision of end-of-trip bicycle facilities. Thus, it is appropriate to apply the calculated VMT reductions expected to occur as a result of the City-required TDM program to the initial project-generated VMT forecast obtained from the SCAG ABM prior to the determination of the significance of impacts.

4.5 VMT Impact Analysis

4.5.1 *Project-Generated VMT Analysis*

The Specific Plan's HBW VMT per employee was forecast using the SCAG ABM. As described in *Section 4.2*, the project-generated HBW VMT was determined by subtracting the baseline "Without Project" VMT forecast for the relevant TAZs from the "With Project" VMT forecast. The following model scenarios were utilized:

- Baseline Year 2016 Conditions
- Year 2016 With Project Conditions
- Baseline Cumulative Year 2045 Conditions

- Cumulative Year 2045 With Project Conditions

The project-generated HBW VMT per employee was interpolated between years 2016 and 2045 in order to reflect year 2024 existing conditions. The calculation and interpolation of the project-generated HBW VMT per employee in year 2024 is summarized in ***Appendix Table C-2***.

The Specific Plan is forecast to generate 30.47 HBW VMT per employee in year 2024. With application of the 4.14% reduction in commute VMT (i.e., home-based trips to/from work) expected to occur due to implementation of the project design features described in *Section 4.4.2*, the Specific Plan is calculated to generate 29.21 HBW VMT per employee (i.e., 30.47 VMT/Emp * (1 – 0.0414) = 29.21 VMT/Emp) in year 2024, which exceeds the threshold of 24.64 HBW VMT per employee. The proposed project is therefore determined to result in a significant project-level VMT impact. Mitigation measures will be required to reduce the VMT impact to less than significant levels. The project-generated VMT per employee with application of the TDM program, impact threshold, and percent reduction required (if any) under year 2024 conditions are summarized in ***Table 4-2*** below.

Table 4-2
PROJECT-LEVEL VMT IMPACT ANALYSIS

TAZ	PROJECT-GENERATED HBW VMT/EMP WITH PDF	THRESHOLD	REQUIRED REDUCTION [1]
Year 2024	29.21	24.64	15.65%

[1] (Project VMT/Emp – Threshold VMT/Emp) / Project VMT/Emp

4.5.2 *Cumulative VMT Analysis*

Consistent with the direction provided in the City's Guidelines, the cumulative citywide boundary VMT per service population "With Project" was compared to the citywide boundary VMT per service population "Without Project". The citywide boundary VMT per service population was forecast using the SCAG ABM. The following model scenarios were utilized:

- Baseline Cumulative Year 2045 Conditions
- Cumulative Year 2045 With Project Conditions

The citywide boundary VMT per service population for each condition is shown in ***Table 4-3*** below.

Table 4-3
CUMULATIVE VMT IMPACT ANALYSIS

CONDITION	CITYWIDE BOUNDARY VMT	SERVICE POPULATION	BOUNDARY VMT/SP
Cumulative Year 2045 Without Project	568,436	22,132	25.68
Cumulative Year 2045 With Project	581,153	24,714	23.52

As shown in *Table 4-3*, the cumulative citywide boundary VMT per service population without the proposed Specific Plan is forecast to be 25.68 boundary VMT per service population, while the boundary VMT per service population with the proposed Specific Plan is forecast to be 23.52 boundary VMT per service population. Since the boundary VMT per service population decreases with the addition of the proposed Specific Plan, it is determined that the Specific Plan will have a less than significant cumulative VMT impact.

As stated in the City's thresholds, regardless of the findings of the cumulative VMT impact, a significant impact would occur if a land use plan is inconsistent with the current RTP/SCS. The current RTP/SCS for the SCAG region, known as Connect SoCal, utilizes land use, development, transportation, green resource area, and growth data provided by each of the 197 local jurisdictions in the region, including the City of Irwindale. As shown in the current Connect SoCal Data/Map Book for the City of Irwindale[11], the Specific Plan area is designated as Industrial in the current RTP/SCS, corresponding to the City of Irwindale's General Plan land use designation of Industrial/Business Park and zoning of M2: Heavy Manufacturing, which is consistent with the land uses proposed by the Specific Plan. Since the Specific Plan is not inconsistent with the current RTP/SCS, it is determined that the Specific Plan will have a less than significant cumulative VMT impact.

4.6 VMT Mitigation Measures

As described in *Section 4.5*, the proposed project is expected to result in a significant project-level impact under year 2024 conditions. CEQA requires identification of mitigation measures to reduce significant environmental impacts to less than significant levels, or to the greatest extent possible if a less than significant impact cannot be achieved.

4.6.1 *Transportation Demand Management (TDM) Program*

The CAPCOA 2021 Handbook was reviewed to identify any additional TDM measures which would mitigate the HBW VMT per employee impact. The measures were reviewed for applicability to the proposed Specific Plan based on land use type, location, and feasibility of implementation. The TDM strategies which have been determined to be applicable to the proposed project as VMT mitigation measures are listed below. Detailed information provided by CAPCOA regarding the measure description and implementation requirements is provided below, followed by the anticipated implementation at the Specific Plan site.

- T-8. Provide Ridesharing Program

  According to CAPCOA, this measure reflects implementation of a ridesharing program and establishes a permanent transportation management association with funding requirements for employers. Ridesharing encourages carpooled vehicle trips in place of single-occupancy vehicle trips, thereby reducing the number of trips and VMT.

[11] "Connect SoCal: The 2024-2050 Regional Transportation Plan/Sustainable Communities Strategy Local Data Exchange (LDX) Process Data/Map Book for the City of Irwindale", Draft Plan Release, November 2023.

Ridesharing should be promoted through a multifaceted approach, including features including, but not limited to, the following:

- Designating a certain percentage of desirable parking spaces for ridesharing vehicles.

- Designating adequate passenger loading and unloading and waiting areas for ridesharing vehicles.

- Providing an app or website for coordinating rides.

When providing a ridesharing program, a best practice is to establish funding by a non-revocable funding mechanism for employer-provided subsidies. In addition, the use of low-emission ride-sharing vehicles should be encouraged.

» The individual tenants and operators of future development projects resulting from the Specific Plan are expected to be required to designate preferential parking spaces for carpool/vanpool vehicles pursuant to IMC Section 17.41.030(B)(2)(a) for non-residential development greater than or equal to 50,000 square feet. Similarly, safe and convenient loading zones for carpool/vanpool passengers will be required to be provided pursuant to IMC Section 17.41.030(B)(3)(a) for non-residential development greater than or equal to 100,000 square feet.

» All tenants of future development projects resulting from the Specific Plan should provide an app, website, or other convenient means of digital ride coordination. In order to boost the potential for identifying ride matches, it is recommended that one single app or website be deployed for all tenants at the Specific Plan site. One single ride matching app or website will also allow future tenants to pool resources for the development and operation of the service. Designated employee transportation coordinators should include information regarding the app or website in the required commute trip reduction marketing materials (PDF T-7, above).

- <u>T-9. Implement Subsidized or Discounted Transit Program</u>

  According to CAPCOA, this measure reflects the provision of subsidized or discounted, or free transit passes being offered to employees. Reducing the out-of-pocket cost for choosing transit improves the competitiveness of transit against driving, increasing the total number of transit trips and decreasing vehicle trips. This decrease in vehicle trips results in reduced VMT. Projects implementing this strategy should be within 1.0 mile of high-quality transit service, 0.5 mile of local or less frequent transit service, or along a designated shuttle route providing last-mile connections to rail service.

  » The individual tenants and operators of future development projects resulting from the Specific Plan should offer free transit passes to all employees on a monthly

basis. Employees who accept the offer should be provided a monthly transit pass to the transit service of their choice (e.g., Metro, Foothill Transit, etc.) at no cost to themselves (i.e., a 100% subsidy). The transit passes may either be obtained by the future employers and provided to employees, or the employee may be fully reimbursed for the cost of the transit pass. The transit pass subsidy program should be regularly marketed to employees by designated employee transportation coordinators as well as in the required commute trip reduction marketing materials (PDF T-7, above).

The following two measures each target employee commute behaviors by providing a price signal for employees to consider other travel modes for their work commute: the first measure actively charges all employees to park, while the second measure reimburses employees who do not park. Based on the information provided in the CAPCOA 2021 Handbook, it is understood that the measures are considered mutually exclusive and that only one of the measures should be applied to a proposed project at a time. This restriction reflects the fact that both measures target the same underlying travel behaviors through differing approaches, and prevents double-counting the effectiveness of associating a monetary value with parking. The following two measures are recommended to be implemented in the Specific Plan area, with each future employer required to implement either one of the two measures.

- T-12. Price Workplace Parking

  According to CAPCOA, this measure reflects on-site pricing at workplaces. Because free employee parking is a common benefit, charging employees to park onsite increases the cost of choosing to drive to work. This is expected to reduce single-occupancy vehicle commute trips, resulting in decreased VMT. Implementation of priced workplace parking may be achieved by any of the following strategies:

  - Explicitly charging for employee parking.
  - Implementing above-market rate pricing.
  - Validating parking only for invited guests, or not providing parking validation at all.
  - Not providing employee parking and transportation allowances.

  Best practice is to ensure that other transportation options are available, convenient, and have competitive travel times (i.e., transit service near the project site, shuttle service, or a complete active transportation network serving the site and surrounding community), and that there is not alternative free parking available nearby (such as on-street). This measure is substantially less effective in environments that do not have other travel modes available

or where unrestricted street parking or other offsite parking is available nearby and has adequate capacity to accommodate project-related vehicle parking demand.

  - » This measure will require secured parking for each development within the Specific Plan area in order to ensure that employees of future developments which are charging for workplace parking do not encroach into nearby developments which are not charging for workplace parking. Likewise, on-street parking along First Street and in the roadways south of First Street should be monitored to ensure employees from future developments are not encroaching into adjacent public streets. Should parking encroachment be observed on the adjacent public streets, the Cities of Irwindale and/or Azusa may implement timed on-street parking or a parking permit district to limit the supply of nearby free parking.

  - » It is recommended that the cost of parking per day be set equivalent to the daily fare for transit to and from the Specific Plan area. As stated in *Section 3.2*, light-rail and bus transit service is provided in the vicinity of the Specific Plan area by LA Metro and Foothill Transit. The cost per trip for both services is $1.75 per one-way trip, resulting in a daily transit fare cost of $3.50. Therefore, the recommended daily cost for parking within the Specific Plan is recommended to be $3.50 per day.

  - » In conjunction with Measure T-8 – Provide Ridesharing Program, it is recommended that discounted or free daily parking be provided for carpool and vanpool vehicles in order to encourage higher passenger occupancy rates in the vehicle trips which do occur.

- T-13. Implement Employee Parking Cash-Out

  According to CAPCOA, this measure requires project employers to offer employees parking cash-out. Cash-out is when employers provide employees with a choice of forgoing their current subsidized or free parking for a cash payment. This encourages employees to use other modes of travel instead of single occupancy vehicles. This mode shift results in people driving less and thereby reduces VMT. Successful implementation of this strategy requires no free parking (e.g., permitted or market-rate parking only) in the surrounding area in order to prevent spill-over parking and the continued use of single occupancy vehicles.

  - » This measure will require secured parking for each development within the Specific Plan area in order to ensure that employees of future developments which offer parking cash-outs do not encroach into other nearby developments and continue driving to and from work. Likewise, on-street parking along First Street and in the roadways south of First Street should be monitored to ensure employees from future developments are not encroaching into adjacent public streets. Should parking encroachment be observed on the adjacent public streets, the Cities of Irwindale

and/or Azusa may implement timed on-street parking or a parking permit district to limit the supply of nearby free parking.

» The value of the cash-out incentive should be consistent with the requirements of the California parking cash-out law (California Health and Safety Code § 43845), which sets a range of $50 to $350 per month, adjusted by the California Consumer Price Index. While future developments in the Specific Plan area are not expected to be required to comply with the parking cash-out law, adherence to the parameters of the law is required in order to achieve the VMT reductions associated with this strategy.

» Cash-out incentives should be provided to all participating employees, including employees also utilizing the transit subsidy program to obtain free transit passes.

When taken together, the measures described above represent a comprehensive and complimentary VMT mitigation program which includes elements to either disincentivize single-occupant vehicle travel (through charging for workplace parking) and/or incentivize alternate travel modes (through providing full transit fare subsidies and parking cash-out) and higher occupancy vehicle trips (through providing a ridesharing program). The Specific Plan is well located to encourage the use of the Metro A (previously L/Gold) Line to commute to and from the area. By setting the daily price of parking equal to the daily transit fare cost, in combination with fully subsidized transit fares, a cost-free travel option is provided for future employees. Further, waiving or reducing the cost of parking for rideshare vehicles encourages higher passenger occupancy rates in those vehicle trips which do still occur. Alternately, cash-out programs in combination with fully subsidized transit fares improves the competitiveness of alternate travel modes other than single occupancy vehicles.

Implementation of T-8. Provide Ridesharing Program, T-9. Implement Subsidized or Discounted Transit Program, and either T-12. Price Workplace Parking or T-13. Implement Employee Parking Cash-Out as described above is expected to result in a quantifiable reduction in commute VMT of 19.98%. As previously stated, future employers will be required to implement either T-12. Price Workplace Parking or T-13. Implement Employee Parking Cash-Out. Consistent with the methodology outlined in the CAPCOA 2021 Handbook, VMT reductions associated with only one of the measures have been applied when calculating the VMT reductions associated with the proposed mitigation program. In order to provide a conservative (i.e., worst-case) analysis of project impacts, the lower VMT reductions resulting from implementation of T-13. Implement Employee Parking Cash-Out are utilized in the VMT reduction calculations presented herein. Future employers who implement T-12. Price Workplace Parking would be expected to achieve greater VMT reductions. Calculation worksheets for the measures are provided in *Appendix C*.

In addition to the applicable TDM strategies provided by CAPCOA and described above, it is recommended that future tenants within the Specific Plan site be required to conduct employee surveys. The survey may include questions such as the employee's primary commute mode (i.e.,

drive alone, carpool, transit, bike, walk, telework), number of days per week using each mode, work schedule, commute distance or zip code of origin, etc. The employee surveys are recommended to be conducted one year after occupancy and operation to allow travel habits to stabilize in order to determine the actual transportation mode/s used by the employees to commute to/from work. The employee surveys should be aggregated/summarized and submitted to the City for review.

4.6.2 *VMT Impacts After Implementation of Mitigation Measures*

After application of the 19.98% reduction in commute VMT (i.e., home-based trips to/from work) expected to occur due to the recommended mitigation measures described in *Section 4.6.1*, the Specific Plan is calculated to generate 23.37 HBW VMT per employee (i.e., 29.21 VMT/Emp * (1 – 0.1998) = 23.37 VMT/Emp), which falls below the threshold of 24.64 HBW VMT per employee. Therefore, with application of the recommended mitigation measures, the proposed project is expected to have a less than significant project-level VMT impact. The project-generated VMT per employee with application of the VMT mitigation measures and impact threshold are summarized in ***Table 4-4*** below.

Table 4-4
VMT IMPACT AFTER IMPLEMENTATION OF MITIGATION MEASURES

TAZ	HBW VMT/EMP WITH PDF	VMT MITIGATION	HBW VMT/EMP WITH PDF AND MITIGATION	THRESHOLD	REQUIRED REDUCTION [1]
Year 2024	29.21	-19.98%	23.37	24.64	-

[1] (Project VMT/Emp – Threshold VMT/Emp) / Project VMT/Emp

Having stated the above, although application of the 19.98% reduction in commute VMT (i.e., home-based trips to/from work) is expected to fully offset and reduce the significant project-level VMT impact to a less than significant level, the effectiveness of the recommended mitigation measures cannot be guaranteed to achieve the targeted reduction in commute VMT. Therefore, it is conservatively concluded that the project-level VMT impact would remain potentially significant and unavoidable even with the recommended mitigation measures described in *Section 4.6.1* above.

5.0 ACTIVE TRANSPORTATION AND PUBLIC TRANSIT ANALYSIS

Pursuant to the CEQA Guidelines Appendix G question (a) for transportation impacts, a significant impact may also occur if the proposed project would conflict with a program, plan, ordinance, or policy addressing the circulation system, including the transit, roadway, bicycle, and pedestrian facilities. The City's Guidelines therefore also state that a significant impact may occur if the project conflicts with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decreases the performance or safety of such facilities.

The following section provides a review of the City's adopted policies, plans, and programs pertaining to transportation. As previously noted, vehicle LOS and similar measures of congestion or delay are no longer considered impacts in CEQA. Therefore, the consistency review primarily focuses on programs, plans, ordinances, or policies relevant to active transportation and transit.

5.1 Adopted Programs, Plans, Ordinances, or Policies

The following documents were reviewed to identify policies, plans, and programs pertaining to active transportation and public transit in the City of Irwindale. Relevant transportation policies, plans, and programs are listed, along with a determination of whether the Specific Plan is in conflict with the adopted policy.

City of Irwindale 2030 General Plan

The City's General Plan Infrastructure Element lists specific policies and programs relating to transportation. The transportation-specific policies and programs are listed below, followed by a determination regarding the Specific Plan's consistency with the policy or program.

- Infrastructure Element Policy 3: The City of Irwindale will continue to develop and enhance the existing streets and intersections in the City.
    - » The Specific Plan will be required to provide enhancements to existing streets and intersections which are expected to operate at an unacceptable LOS as a result of the addition of project-generated traffic. Therefore, the proposed Specific Plan will not conflict with the City's policy, nor prevent future improvements to be made on the roadways within the City of Irwindale's jurisdiction.

- Infrastructure Element Policy 4: The City of Irwindale will strive to ensure that all new development implements its "fair share" of infrastructure improvements to offset the potential adverse impacts associated with the additional traffic that will be generated by the new development.
    - » The Specific Plan will be required to contribute appropriate fair share contributions towards all intersection improvements recommended to improve or restore LOS to acceptable levels. Therefore, the proposed Specific Plan will not conflict with the

City's "fair share" policy, nor prevent future improvements to be made on the roadways within the City of Irwindale's jurisdiction.

- Infrastructure Element Policy 5: The City of Irwindale will continue to support the development and expansion of the region's public and mass transit system.

    » The Specific Plan is located in proximity to the LA Metro A (previously L/Gold) Line Irwindale Station, and is well located to encourage the use of transit for travel to and from the area. The Specific Plan is expected to result in additional transit ridership in the region, however the *Technical Advisory* states that the addition of new transit ridership should not be considered an adverse impact. Therefore, the proposed Specific Plan will not conflict with the City's transit improvement policy, nor prevent future improvements to be made to public transit within the region and within the City of Irwindale.

- Infrastructure Element Program – Public Transit Review Program: The City will evaluate the need to modify routes, schedules, and fares of local transit service to achieve circulation goals and policies (e.g., coordinate the local transit system with the regional transit system). The City will also continue to work with the MTA and other transit service agencies in adjacent communities to identify the most beneficial route and stops in the City. The City will provide development plans to service providers for review for those projects that may affect public transit services.

    » The Specific Plan is located in proximity to the LA Metro A (previously L/Gold) Line Irwindale Station, and is well located to encourage the use of transit for travel to and from the area. The Specific Plan is expected to result in additional transit ridership in the region, however as previously stated, the addition of new transit ridership is not considered an adverse impact. Therefore, the proposed Specific Plan will not conflict with the City's transit improvement program, nor prevent future improvements to be made to public transit within the region and within the City of Irwindale.

- Infrastructure Element Program – Signalization: The City will strive to provide optimum signalization on major thoroughfares to maximize circulation efficiency, such as participation in a regional signalization program. City staff will outline both the need and strategy for improved signalization. Coordination with Caltrans, the Department of Public Works, Los Angeles County, and the MTA will be emphasized.

    » No formal corridor level signal synchronization and optimization is recommended as a result of the development of the Specific Plan. However, the Specific Plan would not conflict with the City's optimization program, nor prevent future optimization from occurring along roadways within the City of Irwindale.

- Infrastructure Element Program – Transit Shelters: Transit centers consisting of bus turnouts and loading areas, weatherproof shelters, information centers, emergency phones, and in some areas park-n'-ride facilities, will be implemented as part of the new development.

    » No formal transit center improvements are recommended as a result of the development of the Specific Plan. However, the Specific Plan would not conflict with the City's transit center program, nor prevent future transit center improvements from occurring along roadways within the City of Irwindale.

- Infrastructure Element Program – Truck Route Planning: The City will work with other cities, public agencies, and stakeholders to establish a system of truck route plans for the sub-region.

    » The Specific Plan is expected to result in the addition of new truck trips along the City's established truck routes, but is not expected to require new truck route designations. Therefore, the Specific Plan would not conflict with the City's truck route program, nor prevent future truck route designations from occurring in the City of Irwindale.

- Infrastructure Element Program – I-605 Freeway Ramps: The City will encourage the upgrade and construction of freeway ramps to and from the I-605 Freeway. Future uses and heavy demand in and around the I-605 Freeway will benefit from these improvements.

    » The Specific Plan is expected to result in the addition of new vehicle trips at the I-605 Freeway ramps at Arrow Highway and Live Oak Avenue. Recommended improvements for the I-605 Freeway Southbound On-Ramp/Live Oak Avenue and I-605 Freeway Northbound Off-Ramp/Live Oak Avenue intersections are described in *Section 6.5*, below. Therefore, the Specific Plan would not conflict with the City's I-605 Freeway ramp improvement program, nor prevent future ramp improvements from occurring.

<u>City of Irwindale Active Transportation Plan</u>

The City's Active Transportation Plan outlines five goals (Goals A through E) along with relevant policies to achieve each goal. The policies are grouped by goal, followed by a determination of the Specific Plan's consistency with the policies.

Goal A – Accessibility and Connectivity: Irwindale will have safe, comfortable and convenient access to local destinations for people walking and bicycling, with the local walking and bicycling network integrated into the regional network to connect to adjacent jurisdictions and points beyond.

- Policy A.1: Upgrade and enhance existing walking and bicycling facilities to support safety, comfort and convenience, especially in Pedestrian Priority Areas and along Bicycle Priority Corridors.

- Policy A.2: Close connectivity gaps by adding new high-quality walking and bicycling facilities, with particular attention to Pedestrian Priority Areas and Bicycle Priority Corridors as recommended in the Irwindale Active Transportation Plan.

- Policy A.3: Implement Complete Streets enhancements that support the State's Complete Streets Policy and advances the City of Irwindale's Complete Streets Policy.

- Policy A.4: Enhance active transportation connections to and from the San Gabriel River Trail, supporting the trail as a valuable local and regional recreational asset.

- Policy A.5: Ensure that walking facilities – including sidewalks, curb ramps, crossings, and trails – are accessible for people with physical impairments.

- Policy A.6: Provide high-quality, user-friendly and attractive human-scaled signage directing people walking and bicycling to destinations and guiding them through the bicycle/pedestrian network.

- Policy A.7: Encourage and/or require the provision of secure bicycle parking facilities at employment centers, commercial centers, recreational amenities, and civic amenities.

    - As stated in *Sections 3.1.1* and *3.1.2*, the Active Transportation Plan proposes a number of pedestrian and bicycle improvements in the vicinity of the Specific Plan area. Development at the Specific Plan site provides an opportunity for implementation of the proposed improvements. It is recommended that the project Applicant be required to construct public sidewalks adjacent to the site's frontage along First Street and Irwindale Avenue, and that the Applicant fund or install the recommended pedestrian improvements in the vicinity of the Metro A (previously L/Gold) Line Irwindale Station so as to facilitate safe access to high-quality transit. All pedestrian improvements should be constructed according to the City's current design standards and applicable accessible design standards (e.g., PROWAG 2024).

    - Future developments resulting from the Specific Plan are expected to be required to provide secure bicycle parking in compliance with the City's Trip Reduction and Travel Demand Management requirements as set forth in IMC Chapter 17.41. As outlined in *Sections 4.4* and *4.6*, additional measures (both project design features and mitigation measures) which facilitate and encourage active transportation and transit use will be provided at the Specific Plan site.

» The Specific Plan therefore does not conflict with Policy A.1 through A.7, nor will the future developments resulting from the Specific Plan prevent the City from adhering to these policies while implementing the Active Transportation Plan.

Goal B – Education and Encouragement: The community will be engaged and educated to walk and bike in Irwindale for recreation, transportation, and health/fitness. Walking and biking is to be promoted as safe, enjoyable, convenient, and environmentally sustainable alternatives to automobile travel.

- Policy B.1: Support bicycle and pedestrian safety education classes and programs in order to improve safety for all road users.

- Policy B.2: Support programs that encourage Irwindale residents, workers, and visitors to choose walking, bicycling, and other active modes of travel.

    » Future developments resulting from the Specific Plan are expected to be required to provide commute trip reduction marketing materials in compliance with the City's Trip Reduction and Travel Demand Management requirements as set forth in IMC Chapter 17.41. Such marketing materials should include educational information regarding pedestrian and bicyclist safety. As outlined in *Sections 4.4* and *4.6*, additional measures (both project design features and mitigation measures) which facilitate and encourage active transportation and transit use will be provided at the Specific Plan site.

    » The Specific Plan therefore does not conflict with Policy B.1 through B.2, nor will the future developments resulting from the Specific Plan prevent the City from adhering to these policies while implementing the Active Transportation Plan.

Goal C – Enforcement: Safety for all road users to be provided through compliance with – and enforcement of – traffic codes for drivers, bicyclists and pedestrians.

- Policy C.1: Coordinate with the Irwindale Police Department to evaluate and enhance staff training on traffic laws and enforcement methods related to people walking and bicycling.

    » The Specific Plan will not prevent the City from implementing Policy C.1 relating to the enforcement of traffic codes.

Goal D – Engineering/Development Standards: High-quality pedestrian and bicycle facilities to be provided to enhance the safety, comfort and convenience of people walking and bicycling in Irwindale.

- Policy D.1: Design roadways to safely accommodate all users, balancing the needs of people walking, bicycling, riding transit, and driving personal and commercial vehicles, including semi-trailer trucks.

- Policy D.2: Utilize roadway design/engineering best practices to ensure safe and effective pedestrian and bicycle infrastructure.

- Policy D.3: Ensure new development satisfies design requirements and/or guidelines presented in the Design Guidelines in Appendix K of this Plan and other City guidelines such as the Commercial and Industrial Design Guidelines, including requirements and guidelines for sidewalk design, landscaping and bicycle parking.

    - » As stated previously, development at the Specific Plan site provides an opportunity for implementation of various proposed pedestrian and bicycle improvements in the vicinity included in the Active Transportation Plan. It is recommended that the project Applicant be required to construct public sidewalks adjacent to the site's frontage along First Street and Irwindale Avenue, and that the Applicant fund or install the recommended pedestrian improvements in the vicinity of the Metro A (previously L/Gold) Line Irwindale Station so as to facilitate safe access to high-quality transit. All pedestrian improvements should be constructed according to the City's current design standards and applicable accessible design standards (e.g., PROWAG 2024).

    - » The Specific Plan is therefore expected to improve safety by providing pedestrian facilities adjacent to the site where none are currently provided along the west side of Irwindale Avenue and the north side of First Street.

    - » The Specific Plan therefore does not conflict with Policy D.1 through D.3, nor will the future developments resulting from the Specific Plan prevent the City from adhering to these policies while implementing the Active Transportation Plan

Goal E – Evaluation and Implementation: The Irwindale Active Transportation Plan will be implemented proactively through developing programs and strategies to fund and maintain pedestrian and bicycle facilities and programs.

- Policy E.1: Provide routine inspection and maintenance of pedestrian and bicycle facilities, including pavement repairs, restriping, maintenance of traffic control devices, landscape maintenance, and sweeping bike lanes and paths.

- Policy E.2: Minimize disruption to people walking and when repairing and constructing transportation facilities, providing alternate routes when necessary.

- Policy E.3: Evaluate the progress and effectiveness of the Active Transportation Plan to achieve project and program goals.

- Policy E.4: Regularly seek funding for the design and development of active transportation projects, and ensure awareness of current regional, state, and federal funding programs.

- Policy E.5: Coordinate with federal, state, regional, county and local agencies to fund and implement bicycle and pedestrian projects in cooperation with other nearby jurisdictions.

- Policy E.6: Implement the Active Transportation Plan incrementally, regularly update the Plan, and ensure consistency with other planning efforts.

    » The Specific Plan will not prevent the City from implementing Policy E.1 through E.6 relating to the evaluation and implementation of the Active Transportation Plan.

5.2 Qualitative Impact Conclusions

As shown in the section above, the Specific Plan is not expected to conflict with or prevent the City from implementing any of the policies or programs set forth in the General Plan or Active Transportation Plan. The potential increase in active transportation and transit usage in the vicinity of the Specific Plan area is determined to not result in adverse impacts. Pedestrian and bicycle improvements will be constructed according to current design standards and are therefore not expected to decrease safety on these facilities. Rather, the Specific Plan is expected to increase performance and safety by closing existing gaps in the pedestrian network adjacent to the site. Therefore, it is determined that the Specific Plan will have a less-than-significant impact on pedestrian, bicycle, and transit programs, plans, ordinances, or policies adopted by the City of Irwindale.

6.0 NON-CEQA LOCAL TRANSPORTATION ANALYSIS

Pursuant to PRC Section 21099, "automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment." As a result of SB 743 and the revisions to the CEQA Guidelines, LOS may no longer be used to identify transportation impacts in CEQA. However, the implementation of VMT does not prevent agencies from continuing to analyze delay or LOS outside of CEQA review for other transportation planning or analysis purposes. As part of a project's discretionary review and approval process, the City has the authority to require additional local transportation network analyses and site access studies. Specifically, the City of Irwindale requires an operational analysis of intersections in the vicinity of a proposed project in order to evaluate site access and circulation constraints that may be caused or worsened by project-generated traffic. The following section presents the operational (i.e., LOS) analysis prepared for the Specific Plan pursuant to this requirement.

6.1 Methodology

Signalized study intersections have been evaluated using the ICU method of analysis. The ICU method determines the Volume-to-Capacity (*v/c*) ratios on a critical lane basis (i.e., based on the individual *v/c* ratios for key conflicting traffic movements). The ICU numerical value represents the percent signal (green) time, and thus capacity, required by existing and/or future traffic. It should be noted that the ICU methodology assumes uniform traffic distribution per intersection approach lane and optimal signal timing. The overall intersection *v/c* ratio is subsequently assigned an LOS value to describe intersection operations. Level of Service varies from LOS A (free flow conditions) to LOS F (jammed condition). A detailed description of the ICU method and corresponding Levels of Service is provided in ***Appendix D***. Consistent with the City's Guidelines, the ICU analysis assumes a lane capacity of 1,600 vehicles per hour per lane for through and turn lanes, and a lane capacity of 2,880 vehicles per hour per lane for dual turn lanes (i.e., a 10% reduction in capacity). A minimum clearance interval of 0.100 (i.e., yellow allowance) has also been assumed.

Unsignalized study intersections such as two-way stop-controlled (TWSC), all-way stop-controlled (AWSC) intersections, and roundabout intersections are analyzed using the HCM method of analysis. The HCM methodology determines the average control delay (expressed in seconds per vehicle) at the intersection. Average control delay for any particular movement is a function of the capacity of the approach and the degree of saturation. For unsignalized intersections, the average control delay includes delay due to deceleration to a stop at the back of the queue from free-flow speed, move-up time within the queue, stopped delay at the front of the queue, and delay due to acceleration back to free-flow speed. It should be noted that the TWSC methodology estimates the average control delay for each minor-street movement (or shared movement) as well as major-street left-turns and determines the LOS for each constrained movement. As no delays are calculated for the uncontrolled major-street approaches, the weighted average of approach delays is not utilized to determine overall intersection delay at TWSC

intersections. Instead, the most constrained minor street approach at the intersection is reported in order to determine the intersection LOS. A detailed description of the HCM method for unsignalized intersections and corresponding Levels of Service is also provided in *Appendix D*. Consistent with the City's Guidelines, peak hour factors (PHF) based on existing traffic volumes were utilized in the analysis of all existing conditions, while a PHF of 0.95 was utilized in the analysis of all future conditions.

Signalized intersections which are under the jurisdiction of Caltrans have been evaluated using the HCM method for signalized intersections. The HCM methodology determines the average control delay (expressed in seconds per vehicle) at the intersection. Average control delay for any particular movement is a function of the capacity of the approach and the degree of saturation. For signalized intersections, the average control delay represents the delay attributed to the traffic control facility as compared to a reference travel time in the absence of traffic control, geometric delay, incidents, and the influence of other vehicles. A detailed description of the HCM method for signalized intersections and corresponding Levels of Service is also provided in *Appendix D*.

The HCM calculations were prepared using the *Synchro 12* software package which implements the HCM operational methodology. A *Synchro* network was created based on existing conditions field reviews at the applicable study intersections which documented lane configurations, available vehicle storage lengths, crosswalk locations, posted speed limits, etc., at each of the study intersections requiring HCM analysis The current signal timing and phasing data obtained from Caltrans in July 2024 were utilized in the analysis of each intersection under Caltrans' jurisdiction.

The operational analysis utilizes the following additional data previously presented herein:

- Project Peak Hour Traffic Generation: Refer to *Section 2.6*.
- Project Trip Distribution and Assignment: Refer to *Section 2.6*.
- Existing Roadway Network: Refer to *Section 3.3*.
- Existing Weekday AM and PM Peak Hour Traffic Volumes: Refer to *Section 3.4*.
- Related Projects Traffic Generation and Assignment: Refer to *Section 3.5*.
- Ambient Traffic Growth Factor: Refer to *Section 3.5*.

6.2 Analysis Criteria

The relative effect of the forecast project-generated traffic volumes during the weekday AM and PM peak hours was evaluated based on analysis of operating conditions at the study intersections without and with the proposed project. The previously discussed capacity analysis procedures were utilized to evaluate the future *v/c* or delay relationships and service level characteristics at each study intersection. The effect of project-generated traffic at each study intersection was compared to the City of Irwindale's intersection LOS standards as presented below. The acceptable LOS for most intersections in the City is D or better as established in the City's General Plan. Any

intersections operating at a LOS of E or F are considered deficient. Signalized study intersections will require improvement if one of the following conditions are met:

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

- The project-related increase in volume-to-capacity (v/c) is equal to or greater than 0.010 (1.0%) at an intersection that is already operating at LOS E or F.

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

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

- The intersection meets peak hour signal warrants either caused by project volumes, or project volumes are added at an intersection that meets peak hour signal warrants in the baseline scenario(s).

The fair share cost for the proposed improvements in the cumulative condition should also be calculated, if necessary.

6.3 Analysis Scenarios

As determined in coordination with City staff, LOS calculations have been prepared for the following scenarios:

[a] Existing Conditions, reflecting existing year 2024 traffic and operational conditions.

[b] Existing With Project Conditions, consisting of condition [a] with full build-out of the Specific Plan.

[c] Future Without Project Conditions, consisting of condition [a] plus 0.50% per year annual ambient traffic growth through year 2030 and with completion and occupancy of the related projects.

[d] Future With Project Conditions, consisting of condition [c] with full build-out of the Specific Plan.

[e] Future With Project and Improvements Conditions, consisting of condition [d] with recommended intersection improvements, if any.

The existing traffic volumes at the study intersections during the weekday AM and PM peak hours are displayed in *Figure 3-5*. The existing with project traffic volumes at the study intersections

during the weekday AM and PM peak hours are displayed in ***Figure 6-1***. The future without project traffic volumes at the study intersections during the weekday AM and PM peak hours are displayed in ***Figure 6-2***. The future with project traffic volumes at the study intersections during the weekday AM and PM peak hours are displayed in ***Figure 6-3***.

6.4 Intersection LOS Analysis

The weekday AM and PM peak hour LOS analysis prepared for the study intersections using the ICU and HCM methodology is summarized in ***Table 6-1***. The ICU and HCM data worksheets for the analyzed intersections are provided in *Appendix D*.

It should be noted that the intersection of Martin Road/First Street (Study Int. 7) is currently a stop-controlled intersection, with a stop sign controlling the eastbound approach on First Street. As described in *Section 2.5.1*, this intersection is planned to be improved to provide a roundabout in order to accommodate access to the Specific Plan area from the north and west legs of the intersection. Therefore, for the purpose of this analysis, Int. 7 – Martin Road/First Street has been analyzed as a TWSC intersection for Existing and Future Without Project conditions, and as a roundabout for Existing With Project and Future With Project conditions. The roundabout geometry utilized in the assessment is based on information provided to the City of Irwindale by the project Applicant [12]. Based on the preliminary design and operational analysis review provided by the Applicant, the roundabout is assumed to consist of two approach and circulating lanes along First Street and one approach and circulating lane for the Martin Road and the Specific Plan drive aisle approaches. Further analysis of potential traffic control options at Int. 7 – Martin Road/First Street is provided in *Section 6.6* below.

6.4.1 *Existing Conditions*

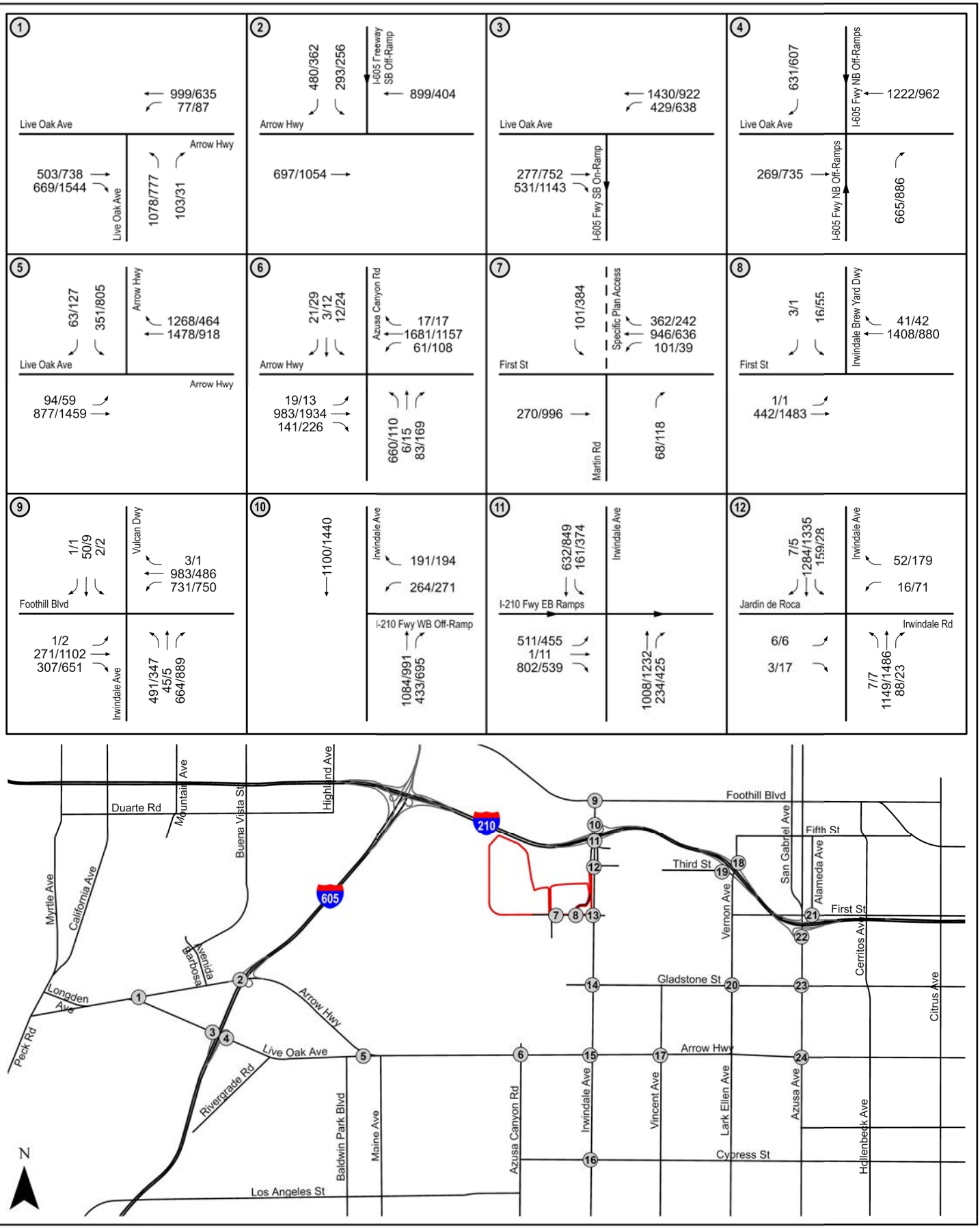
As indicated in column [a] of *Table 6-1*, all 24 study intersections are presently operating at LOS D or better during the weekday AM and PM peak hours under existing conditions.

6.4.2 *Existing With Project Conditions*

As shown in column [b] of *Table 6-1*, the addition of Specific Plan traffic at full build-out is expected to cause three (3) of the 24 study intersections to operate at an unacceptable LOS (i.e., LOS E or F) under existing with project conditions. The following three (3) intersections are expected to operate at LOS E or F as result of the addition of Specific Plan traffic during the peak hours shown below:

- Int. 8 – Irwindale Brew Yard Driveway/First Street
  AM Peak Hour: Delay = 71.7 seconds; LOS F

[12] "Draft Traffic Memorandum for the Irwindale Brew Yard Project", Kimley-Horn and Associates, Inc., September 9, 2024.

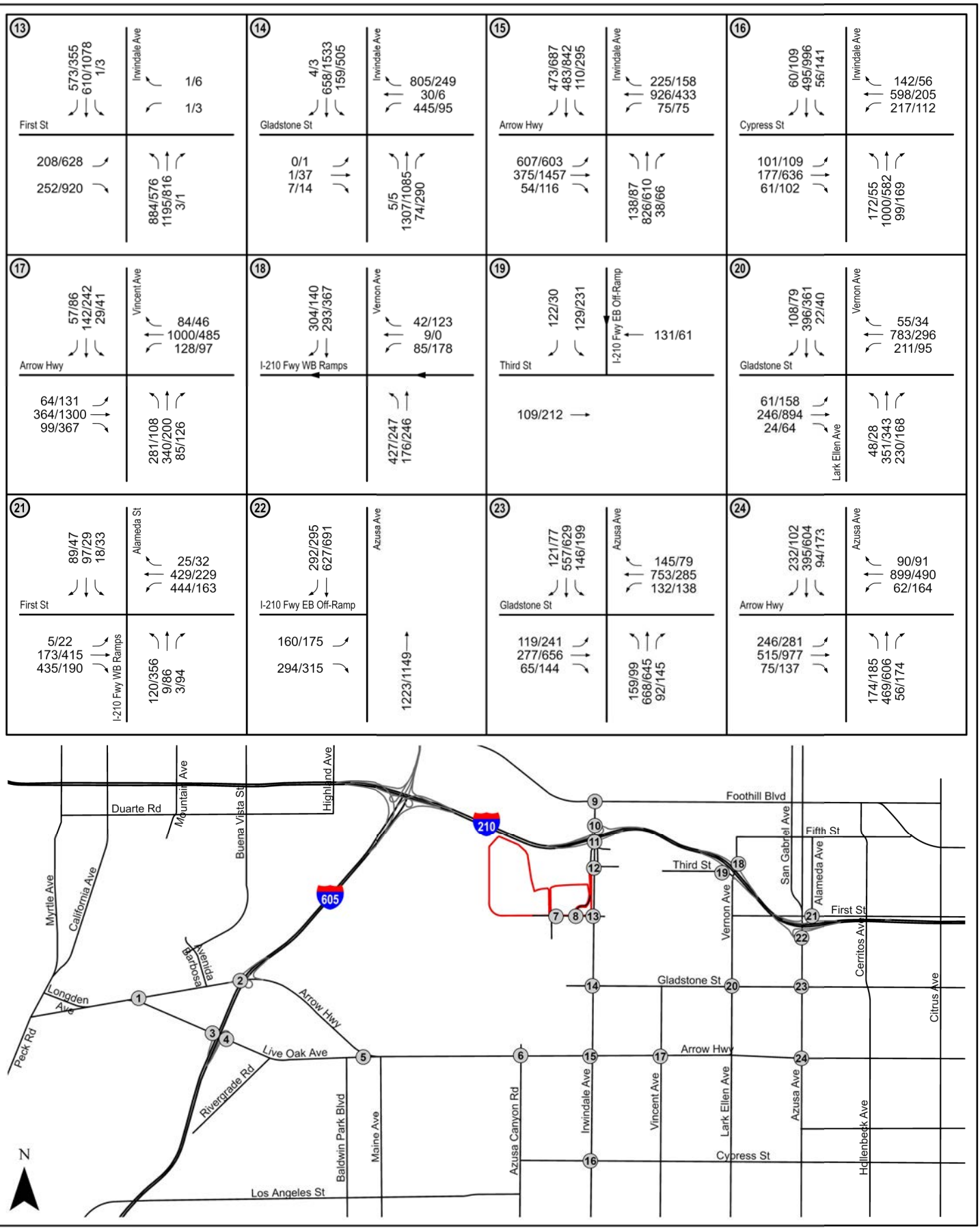


c:\users\turney\desktop\4623\4623.aprx, f6-1, 12/5/2024 2:45 pm

XX/XX = Weekday AM/PM Peak Hours

Figure 6-1
Existing With Project Traffic Volumes
(Page 1 of 2)

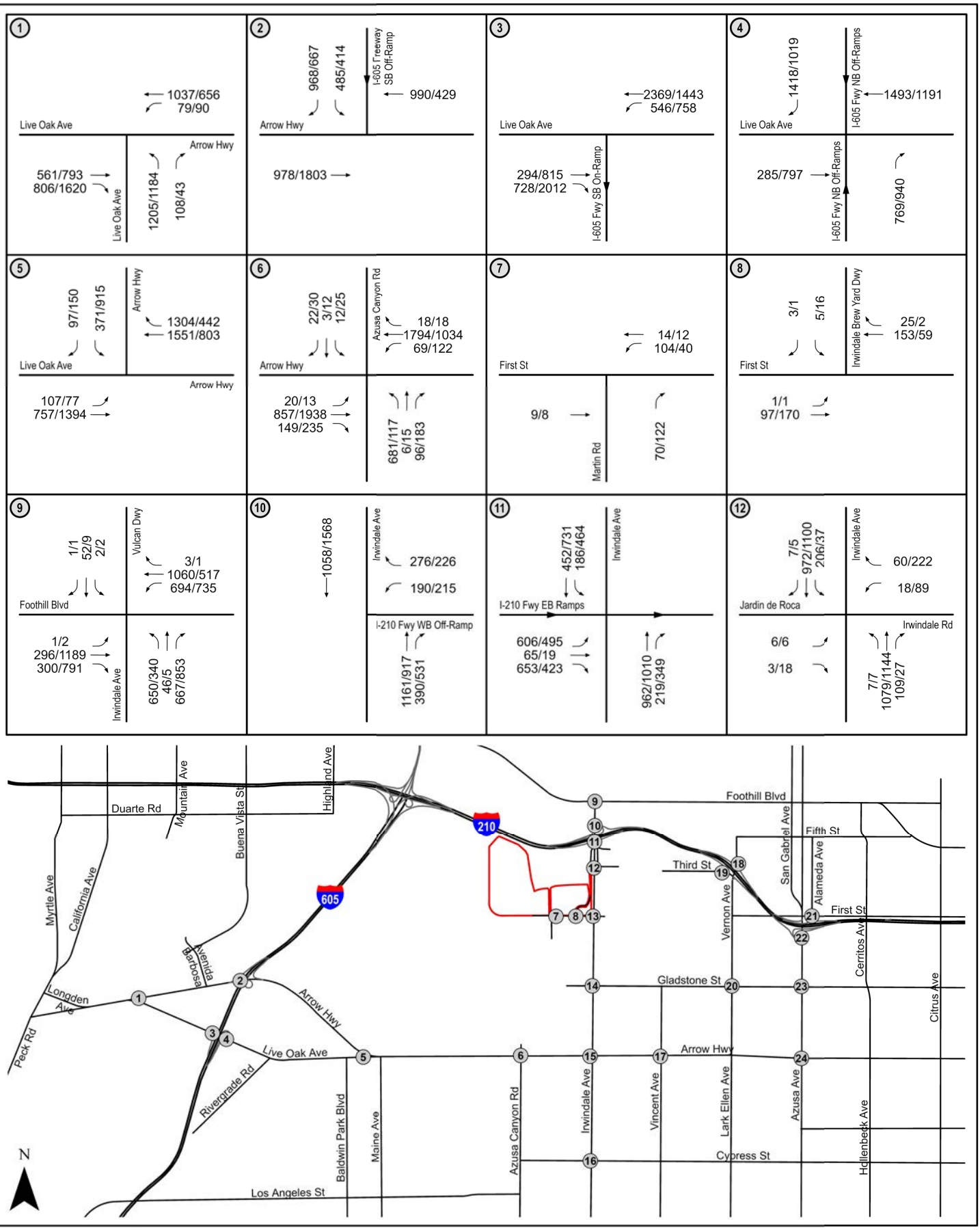
Irwindale Brew Yard Specific Plan



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XX/XX = Weekday AM/PM Peak Hours

Figure 6-1
Existing With Project Traffic Volumes
(Page 2 of 2)

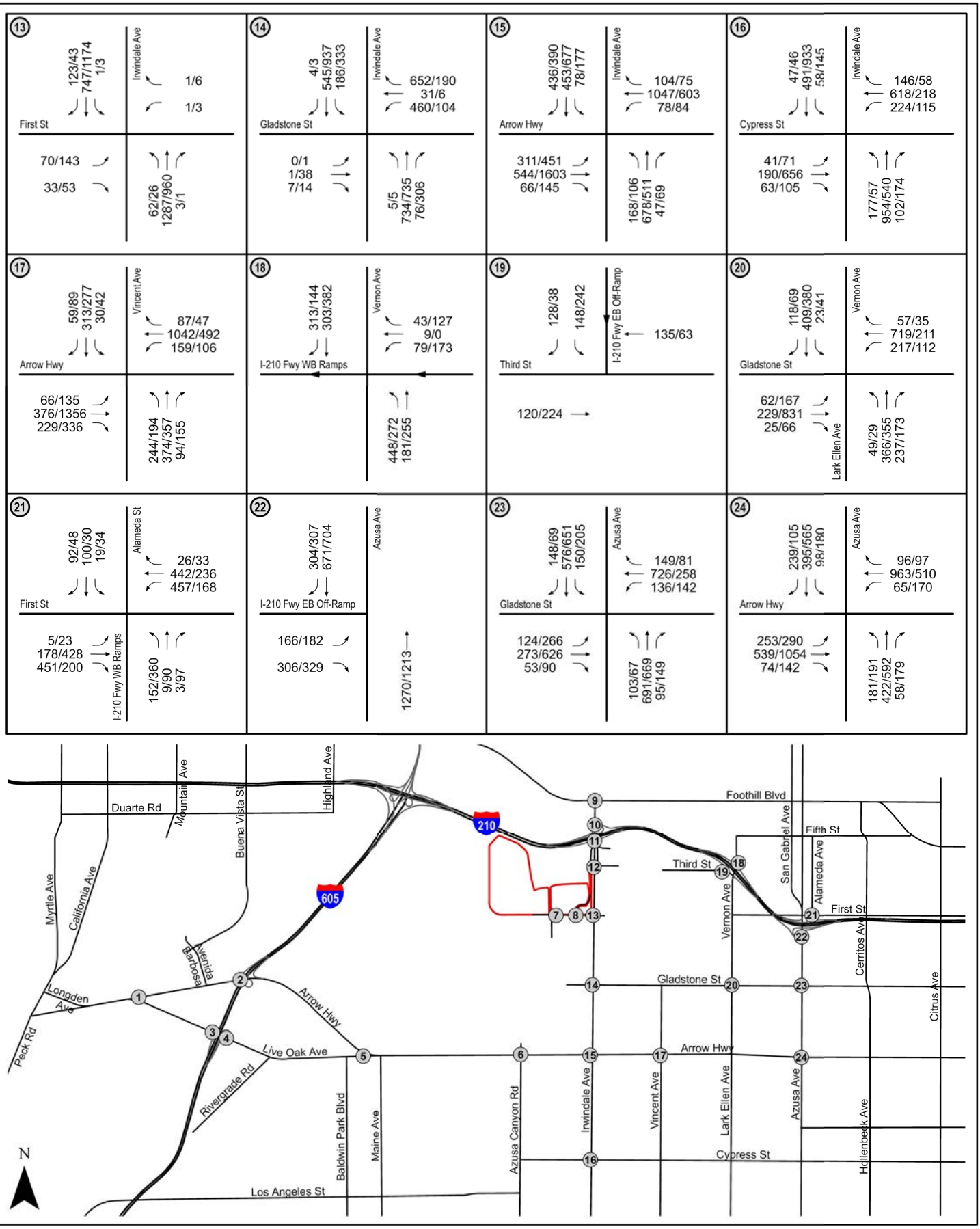


c:\users\turney\desktop\4623\4623.aprx, f6-2, 12/5/2024 2:45 pm

XX/XX = Weekday AM/PM Peak Hours

Figure 6-2
Future Without Project Traffic Volumes
(Page 1 of 2)

Irwindale Brew Yard Specific Plan

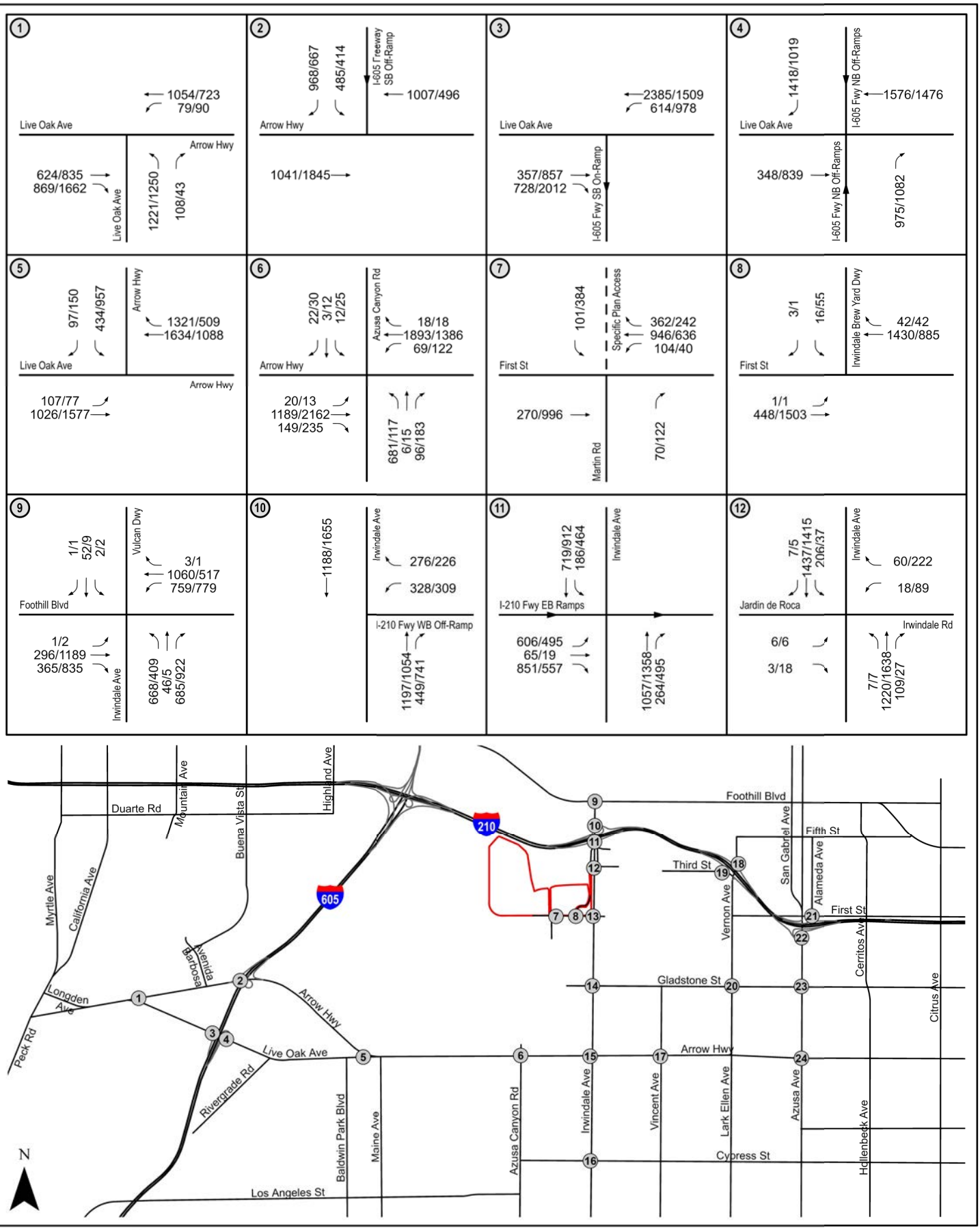


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XX/XX = Weekday AM/PM Peak Hours

Figure 6-2
Future Without Project Traffic Volumes
(Page 2 of 2)

Irwindale Brew Yard Specific Plan

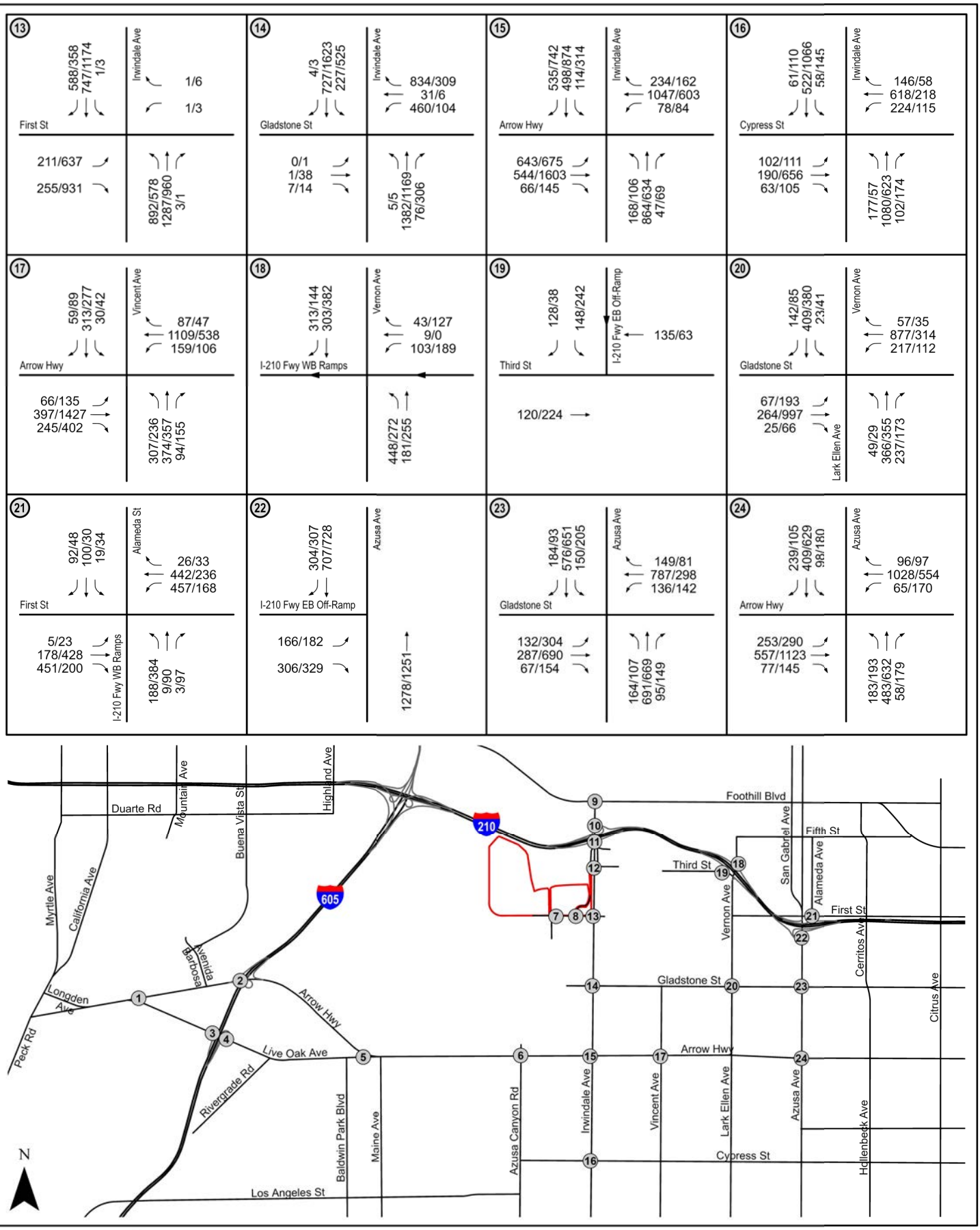


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XX/XX = Weekday AM/PM Peak Hours

Figure 6-3
Future With Project Traffic Volumes
(Page 1 of 2)

Irwindale Brew Yard Specific Plan



c:\users\turney\desktop\4623\4623.aprx, f6-3, 12/5/2024 2:45 pm

XX/XX = Weekday AM/PM Peak Hours

Figure 6-3
Future With Project Traffic Volumes
(Page 2 of 2)

Irwindale Brew Yard Specific Plan

Table 6-1
SUMMARY OF VOLUME TO CAPACITY RATIOS, DELAYS, AND LEVELS OF SERVICE

NO.	INTERSECTION	TRAFFIC CONTROL	PEAK HOUR	[a] YEAR 2024 EXISTING V/C or DELAY	[a] LOS [1]	[b] YEAR 2024 EXISTING WITH PROJECT V/C or Delay	[b] LOS [1]	[b] CHANGE V/C or DELAY ([b]-[a])	[b] IMPROVE-MENTS REQUIRED [2]	[c] YEAR 2030 FUTURE WITHOUT PROJECT V/C or DELAY	[c] LOS [1]	[d] YEAR 2030 FUTURE WITH PROJECT V/C or DELAY	[d] LOS [1]	[d] CHANGE V/C or DELAY ([d]-[c])	[d] IMPROVE-MENTS REQUIRED [2]	[e] YEAR 2030 FUTURE WITH PROJECT & IMP. V/C or DELAY	[e] LOS [a]	[e] CHANGE V/C or DELAY [(6)-(4)]	[e] IMPROVE-MENTS SUFFICIENT [2]
1	Arrow Highway/	Signalized	AM	0.776	C	0.786	C	0.010	No	0.842	D	0.853	D	0.011	No	-	-	-	-
	Live Oak Avenue (West)		PM	0.595	A	0.631	B	0.036	No	0.790	C	0.826	D	0.036	No	-	-	-	-
2	I-605 Freeway Southbound Off-Ramp/	Signalized	AM	0.559	A	0.564	A	0.005	No	0.713	C	0.718	C	0.005	No	-	-	-	-
	Arrow Highway		PM	0.471	A	0.480	A	0.009	No	0.734	C	0.743	C	0.009	No	-	-	-	-
			AM	11.7	B	11.5	B	-0.2		19.0	B	18.9	B	-0.1		-	-	-	
			PM	11.0	B	10.7	B	-0.3		16.3	B	16.2	B	-0.1		-	-	-	
3	I-605 Freeway Southbound On-Ramp/	Signalized	AM	0.393	A	0.455	A	0.062	No	0.533	A	0.595	A	0.062	No	0.425	A	-0.108	-
	Live Oak Avenue		PM	0.583	A	0.734	C	0.151	No	0.828	D	0.979	E	0.151	Yes	0.707	C	-0.121	Yes
			AM	6.6	A	7.3	A	0.7		5.4	A	5.9	A	0.5		6.3	A	0.9	
			PM	10.0	A	13.6	B	3.6		14.3	B	42.6	D	28.3		10.5	B	-3.8	
4	I-605 Freeway Northbound Off-Ramp/	Signalized	AM	0.675	B	0.713	C	0.038	No	1.059	F	1.085	F	0.026	Yes	0.921	E	-0.138	Yes
	Live Oak Avenue		PM	0.575	A	0.708	C	0.133	No	0.826	D	0.937	E	0.111	Yes	0.783	C	-0.043	Yes
			AM	20.4	C	21.8	C	1.4		63.7	E	69.0	E	5.3		62.1	E	-1.6	
			PM	21.0	C	21.8	C	0.8		25.8	C	29.9	C	4.1		26.7	C	0.9	
5	Arrow Highway/	Signalized	AM	0.695	B	0.743	C	0.048	No	0.780	C	0.828	D	0.048	No	0.828	D	0.048	-
	Live Oak Avenue (East)		PM	0.764	C	0.835	D	0.071	No	0.853	D	0.925	E	0.072	Yes	0.820	D	-0.033	Yes
6	Azusa Canyon Road/	Signalized	AM	0.853	D	0.883	D	0.031	No	0.927	E	0.958	E	0.031	Yes	0.765	C	-0.163	Yes
	Arrow Highway		PM	0.702	C	0.749	C	0.047	No	0.770	C	0.816	D	0.047	No	0.816	D	0.047	-
7	Martin Road/	[3]	AM	10.0	A	11.4	B	1.4	No	10.0	A	11.5	B	1.5	No	-	-	-	-
	First Street		PM	10.0	A	13.1	B	3.1	No	10.0	A	9.9	A	-0.1	No	-	-	-	-
8	Irwindale Brew Yard Driveway/	TWSC	AM	9.7	A	71.7	F	62.0	Yes	9.5	A	75.7	F	66.2	Yes	75.7	F	66.2	No
	First Street		PM	9.5	A	34.1	D	24.6	No	9.5	A	29.6	D	20.1	No	29.6	D	20.1	-
9	Irwindale Avenue/	Signalized	AM	0.695	B	0.765	C	0.069	No	0.805	D	0.874	D	0.069	No	0.721	C	-0.083	-
	Foothill Boulevard		PM	0.830	D	0.897	D	0.067	No	0.977	E	1.044	F	0.067	Yes	0.898	D	-0.079	Yes
10	Irwindale Avenue/	Signalized	AM	0.516	A	0.581	A	0.065	No	0.596	A	0.648	B	0.052	No	-	-	-	-
	I-210 Freeway Westbound Off-Ramp		PM	0.503	A	0.621	B	0.118	No	0.568	A	0.667	B	0.099	No	-	-	-	-
			AM	7.9	A	10.0	A	2.1		10.2	B	11.8	B	1.6		-	-	-	
			PM	11.2	B	12.8	B	1.6		12.4	B	14.2	B	1.8		-	-	-	

Table 6-1
SUMMARY OF VOLUME TO CAPACITY RATIOS, DELAYS, AND LEVELS OF SERVICE

				[a]		[b]				[c]		[d]				[e]			
NO.	INTERSECTION	TRAFFIC CONTROL	PEAK HOUR	YEAR 2024 EXISTING V/C or DELAY	LOS [1]	YEAR 2024 EXISTING WITH PROJECT V/C or Delay	LOS [1]	CHANGE V/C or DELAY ([b]-[a])	IMPROVE-MENTS REQUIRED [2]	YEAR 2030 FUTURE WITHOUT PROJECT V/C or DELAY	LOS [1]	YEAR 2030 FUTURE WITH PROJECT V/C or DELAY	LOS [1]	CHANGE V/C or DELAY ([d]-[c])	IMPROVE-MENTS REQUIRED [2]	YEAR 2030 FUTURE WITH PROJECT & IMP. V/C or DELAY	LOS [a]	CHANGE V/C or DELAY [(6)-(4)]	IMPROVE-MENTS SUFFICIENT [2]
11	Irwindale Avenue/ I-210 Freeway Eastbound Ramps	Signalized	AM PM	0.674 0.688	B B	0.745 0.824	C D	0.071 0.136	No No	0.741 0.772	C C	0.812 0.909	D E	0.071 0.137	No Yes	0.812 0.909	D E	0.071 0.137	- No
			AM PM	31.0 25.7	C C	46.2 29.0	D C	15.2 3.3		36.4 27.8	D C	61.7 37.2	E D	25.3 9.4		61.7 37.2	E D	25.3 9.4	
12	Irwindale Avenue/ Jardin De Roca-Irwindale Road	Signalized	AM PM	0.561 0.588	A A	0.605 0.742	B C	0.044 0.154	No No	0.618 0.679	B B	0.663 0.833	B D	0.045 0.154	No No	- -	- -	- -	- -
13	Irwindale Avenue/ First Street	Signalized	AM PM	0.499 0.407	A A	1.169 1.263	F F	0.670 0.856	Yes Yes	0.529 0.456	A A	1.185 1.291	F F	0.656 0.836	Yes Yes	0.875 0.876	D D	0.346 0.420	Yes Yes
14	Irwindale Avenue/ Gladstone Street	Signalized	AM PM	0.630 0.503	B A	0.847 0.706	D C	0.217 0.203	No No	0.686 0.543	B A	0.903 0.745	E C	0.217 0.202	Yes No	0.826 0.718	D C	0.140 0.175	Yes -
15	Irwindale Avenue/ Arrow Highway	Signalized	AM PM	0.798 0.746	C C	1.065 0.945	F E	0.267 0.199	Yes Yes	0.871 0.809	D D	1.138 1.051	F F	0.267 0.242	Yes Yes	1.033 0.924	F E	0.162 0.115	No No
16	Irwindale Avenue/ Cypress Street	Signalized	AM PM	0.695 0.719	B C	0.773 0.780	C C	0.078 0.061	No No	0.731 0.751	C C	0.808 0.813	D D	0.077 0.062	No No	- -	- -	- -	- -
17	Vincent Avenue/ Arrow Highway	Signalized	AM PM	0.656 0.688	B B	0.717 0.737	C C	0.061 0.049	No No	0.763 0.826	C D	0.823 0.874	D D	0.060 0.048	No No	- -	- -	- -	- -
18	Vernon Avenue/ I-210 Freeway Westbound Ramps	AWSC	AM PM	22.9 16.0	C B	24.2 16.4	C B	1.3 0.4	No No	29.6 17.0	D B	30.3 17.5	D B	0.7 0.5	No No	- -	- -	- -	- -
19	I-210 Freeway Eastbound Off-Ramp/ Third Street	TWSC	AM PM	10.5 12.7	B B	10.5 12.7	B B	0.0 0.0	No No	10.6 12.7	B B	10.8 12.7	B B	0.2 0.0	No No	- -	- -	- -	- -
20	Vernon Avenue-Lark Ellen Avenue/ Gladstone Street	Signalized	AM PM	0.581 0.646	A B	0.633 0.698	B B	0.052 0.052	No No	0.624 0.698	B B	0.677 0.750	B C	0.053 0.052	No No	- -	- -	- -	- -
21	Alameda Avenue- I-210 Freeway Westbound Ramps/ First Street	Signalized	AM PM	0.681 0.628	B B	0.703 0.643	C B	0.023 0.015	No No	0.740 0.656	C B	0.762 0.671	C B	0.023 0.015	No No	- -	- -	- -	- -
			AM PM	25.9 24.5	C C	30.2 25.2	C C	4.3 0.7		33.7 26.0	C C	45.5 26.7	D C	11.8 0.7		- -	- -	- -	

Table 6-1
SUMMARY OF VOLUME TO CAPACITY RATIOS, DELAYS, AND LEVELS OF SERVICE

NO.	INTERSECTION	TRAFFIC CONTROL	PEAK HOUR	[a] YEAR 2024 EXISTING V/C or DELAY	[a] LOS [1]	[b] YEAR 2024 EXISTING WITH PROJECT V/C or Delay	[b] LOS [1]	[b] CHANGE V/C or DELAY ([b]-[a])	[b] IMPROVE-MENTS REQUIRED [2]	[c] YEAR 2030 FUTURE WITHOUT PROJECT V/C or DELAY	[c] LOS [1]	[d] YEAR 2030 FUTURE WITH PROJECT V/C or DELAY	[d] LOS [1]	[d] CHANGE V/C or DELAY ([d]-[c])	[d] IMPROVE-MENTS REQUIRED [2]	[e] YEAR 2030 FUTURE WITH PROJECT & IMP. V/C or DELAY	[e] LOS [a]	[e] CHANGE V/C or DELAY [(6)-(4)]	[e] IMPROVE-MENTS SUFFICIENT [2]
22	Azusa Avenue/	Signalized	AM	0.663	B	0.666	B	0.003	No	0.688	B	0.691	B	0.003	No	-	-	-	-
	I-210 Freeway Eastbound Off-Ramp		PM	0.644	B	0.656	B	0.012	No	0.685	B	0.697	B	0.012	No	-	-	-	-
			AM	16.3	B	16.2	B	-0.1		17.0	B	16.6	B	-0.4		-	-	-	
			PM	16.7	B	16.6	B	-0.1		17.1	B	17.1	B	0.0		-	-	-	
23	Azusa Avenue/	Signalized	AM	0.693	B	0.766	C	0.073	No	0.742	C	0.815	D	0.073	No	-	-	-	-
	Gladstone Street		PM	0.667	B	0.719	C	0.052	No	0.693	B	0.752	C	0.059	No	-	-	-	-
24	Azusa Avenue/	Signalized	AM	0.697	B	0.723	C	0.026	No	0.750	C	0.775	C	0.025	No	-	-	-	-
	Arrow Highway		PM	0.778	C	0.812	D	0.034	No	0.839	D	0.873	D	0.034	No	-	-	-	-

[1] Level of Service (LOS) is based on the reported ICU value (reported as *v/c* ratio) or delay value (reported as seconds per vehicle).

[2] Signalized study intersections require improvements if one of the following conditions are met:
- The project traffic changes acceptable operations (LOS D or better) to unacceptable conditions (LOS E or F); or,
- The project-related increase in the *v/c* ratio is ≥ 0.010 (1%) at an intersection already operating at LOS E or F prior to the addition of project traffic.

Unsignalized study intersections require improvements if both fo the following conditions are met:
- The project traffic changes acceptable operations (LOS D or better) to unacceptable conditions (LOS E or F); and,
- The study intersection satisfies peak hour signal warrants either prior to or with the addition of project traffic.

[3] Under Existing and Future Without Project conditions, the location is analyzed as a Two-Way Stop Controlled (TWSC) intersection. The Specific Plan proposes to improve the intersection with roundabout control; therefore, under Existing With Project and Future With Project conditions, the location is analyzed as a Roundabout intersection. It should be noted that the existing geometry of the intersection results in no calculated delay based on the HCM methodology for TWSC intersections. Based on a review of the existing intersection configuration and volumes, a nominal delay of 10.0 seconds is assumed for the stop controlled approach.

- Int. 13 – Irwindale Avenue/First Street — AM Peak Hour: *v/c* ratio = 1.169; LOS F; PM Peak Hour: *v/c* ratio = 1.263; LOS F
- Int. 15 – Irwindale Avenue/Arrow Highway — AM Peak Hour: *v/c* ratio = 1.065; LOS F; PM Peak Hour: *v/c* ratio = 0.945; LOS E

The remaining 21 study intersections are calculated to continue operating at LOS D or better during the weekday AM and PM peak hours under existing with project conditions. Incremental increases in *v/c* ratios, delays and LOS are calculated to occur, but do not exceed the City's criteria.

It is noted that the existing with project condition is theoretical, as the Specific Plan is not expected to achieve full build-out and occupancy in year 2024. Therefore, while the calculated increases in *v/c* ratios, delays, and LOS at the three study intersections listed above exceed the City's criteria, no improvements are recommended or proposed for the existing with project scenario.

6.4.3 *Future Without Project Conditions*

The future without project conditions were forecast based on the addition of traffic generated by the completion and occupancy of the related projects, as well as the growth in traffic due to the combined effects of continuing development, intensification of existing developments and other factors (i.e., ambient growth). The *v/c* ratios or delays at all of the study intersections are incrementally increased with the addition of ambient traffic and traffic generated by the related projects listed in *Table 3-4*. As presented in column [c] of *Table 6-1*, 21 of the 24 study intersections are expected to operate at LOS D or better during the weekday AM and PM peak hours with the addition of growth in ambient traffic and related projects traffic under the future without project conditions. The remaining three (3) study intersections are expected to operate at LOS E or F under future without project conditions during the peak hours shown below:

- Int. 4 – I-605 Freeway Northbound Off-Ramp/Live Oak Avenue — AM Peak Hour: *v/c* ratio = 1.059; LOS F
- Int. 6 – Azusa Canyon Road/Arrow Highway — AM Peak Hour: *v/c* ratio = 0.927; LOS E
- Int. 9 – Irwindale Avenue/Foothill Boulevard — PM Peak Hour: *v/c* ratio = 0.977; LOS E

6.4.4 *Future With Project Conditions*

As presented in column [d] of *Table 6-1*, the addition of Specific Plan traffic at full build-out is expected to cause or contribute towards unacceptable LOS at 10 of the 24 study intersections with *v/c* ratio and delay increases which exceed the City's criteria under future with project conditions. The following 10 study intersections are expected to operate at LOS E or F with the addition of Specific Plan traffic during the peak hours shown below:

- Int. 3 – I-605 Freeway Southbound On-Ramp/Live Oak Avenue — PM Peak Hour: *v/c* ratio = 0.979; LOS E

- Int. 4 – I-605 Freeway Northbound Off-Ramp/Live Oak Avenue
  AM Peak Hour: *v/c* ratio = 1.085; LOS F
  PM Peak Hour: *v/c* ratio = 0.937; LOS E

- Int. 5 –Arrow Highway/Live Oak Avenue (East)
  PM Peak Hour: *v/c* ratio = 0.925; LOS E

- Int. 6 – Azusa Canyon Road/Arrow Highway AM Peak Hour: *v/c* ratio = 0.958; LOS E

- Int. 8 – Irwindale Brew Yard Driveway/First Street
  AM Peak Hour: Delay = 75.7 seconds; LOS F

- Int. 9 – Irwindale Avenue/Foothill Boulevard PM Peak Hour: *v/c* ratio = 1.044; LOS F

- Int. 11 – Irwindale Avenue/I-210 Freeway Eastbound Ramps
  PM Peak Hour: *v/c* ratio = 0.909; LOS E

- Int. 13 – Irwindale Avenue/First Street AM Peak Hour: *v/c* ratio = 1.185; LOS F
  PM Peak Hour: *v/c* ratio = 1.291; LOS F

- Int. 14 – Irwindale Avenue/Gladstone Street AM Peak Hour: *v/c* ratio = 0.903; LOS E

- Int. 15 – Irwindale Avenue/Arrow Highway AM Peak Hour: *v/c* ratio = 1.138; LOS F
  PM Peak Hour: *v/c* ratio = 1.051; LOS F

The remaining 14 study intersections are calculated to continue operating at LOS D or better during the weekday AM and PM peak hours under future with project conditions. Incremental increases in *v/c* ratios, delays and LOS are calculated to occur, but do not exceed the City's criteria.

Each of the 10 study intersections calculated to operate at an unacceptable LOS under the future with project conditions was reviewed in order to identify any potential improvements which would restore intersection operations to an acceptable level of service. The recommended intersection improvements are described in detail in the following section.

6.5 Recommended Intersection Improvements

The 10 study intersections calculated to operate at an unacceptable LOS under the future with project conditions was reviewed in order to identify any potential improvements which would restore intersection operations to an acceptable level of service. In addition, recent transportation studies prepared for other development projects in the vicinity of the Specific Plan were also reviewed in order to ensure that the recommended improvements would not conflict with other planned improvements at the study intersections. The fair share percentage calculation for each intersection requiring improvement is presented in ***Table 6-2***.

Table 6-2
FAIR SHARE CONTRIBUTIONS FOR IMPROVEMENT MEASURES

FAIR SHARE METHODOLOGY [1]

If an improvement is required due to the addition of project-generated traffic, then the improvement will be the sole responsibility of the project. If the improvement is required due to the cumulative traffic of the project and other related projects, the following formulas are used to calculate the project's percent share. The project percent share is based on the peak hour volumes that warrant the improvement. If more than one peak hour warrants the improvement, the average of the peak hour volumes is used in the percent share analysis.

$$\text{Project Percentage Share} = \frac{\text{Project Traffic}}{\text{Project + Other Related Project Traffic}}$$

The following equation is provided to assist in calculating the project's fair share percentage to implement the improvement measure(s):

$$P = \frac{Vp}{Vp + Vc}$$

where:
- P = Project's fair share percentage for improvement measure(s)
- Vp = Peak hour volume generated by project (averaged if more than one peak hour warrants the improvement)
- Vc = Peak hour volume generated by other related (cumulative) projects (averaged if more than one peak hour warrants the improvement)

FAIR SHARE CALCULATIONS

NO.	INTERSECTION	PEAK HOURS REQUIRING IMPROVEMENT	VOLUMES [2] Vp	VOLUMES [2] Vc	FAIR SHARE PERCENTAGE
3	I-605 Freeway Southbound On-Ramp/ Live Oak Avenue	PM	328	1805	328/(328+1805) = 15%
4	I-605 Freeway Northbound Off-Ramp/ Live Oak Avenue	AM PM	411	1300	411/(411+1300) = 24%
5	Arrow Highway/ Live Oak Avenue (East)	PM	577	427	577/(577+427) = 57%
6	Azusa Canyon Road/ Arrow Highway	AM	431	371	431/(431+371) = 54%
8	Irwindale Brew Yard Driveway/ First Street	AM	1656	21	1656/(1656+21) = 99%
9	Irwindale Avenue/ Foothill Boulevard	PM	226	306	226/(226+306) = 42%

Table 6-2
FAIR SHARE CONTRIBUTIONS FOR IMPROVEMENT MEASURES

FAIR SHARE CALCULATIONS					
NO.	INTERSECTION	PEAK HOURS REQUIRING IMPROVEMENT	VOLUMES [2] Vp	VOLUMES [2] Vc	FAIR SHARE PERCENTAGE
11	Irwindale Avenue/ I-210 Freeway Eastbound Ramps	PM	809	323	$\frac{809}{809+323} = 71\%$
13	Irwindale Avenue/ First Street	AM PM	1949	198	$\frac{1949}{1949+198} = 91\%$
14	Irwindale Avenue/ Gladstone Street	AM	1053	185	$\frac{1053}{1053+185} = 85\%$
15	Irwindale Avenue/ Arrow Highway	AM PM	974	427	$\frac{974}{974+427} = 70\%$

[1] Methodology based on Los Angeles County Public Works "Traffic Impact Analysis Report Guidelines", 1997.
[2] Refer to the project traffic volumes presented in *Figure 2-6* and related projects traffic volumes in *Figure 3-7.*

6.5.1 *Int. 3 – I-605 Freeway Southbound On-Ramp/Live Oak Avenue*

As a result of the addition of Specific Plan traffic at full build-out, the *v/c* ratio is calculated to increase by 0.151, causing the intersection to operate at LOS E during the weekday PM peak hour.

The westbound approach currently provides one left-turn lane and two through lanes. It is recommended to provide a second left-turn lane. A second southbound receiving lane is also recommended to be provided in order to accommodate the proposed dual left-turn lanes. As shown in column [e] of *Table 6-1*, with implementation of this improvement the intersection is calculated to operate at LOS C and better during the weekday AM and PM peak hours. This improvement is also recommended in "Vincent Avenue Industrial Building Traffic Impact Analysis", December 15, 2020, prepared by Ganddini. As shown in *Table 6-2*, the Specific Plan's fair share contribution towards this improvement, if required by the City of Irwindale and approved by Caltrans, would be 15% of the improvement's total cost.

It is noted that under future with project conditions, the westbound left-turn volume is forecast to be 971 vehicles during the weekday PM peak hour, which justifies the provision of a second left-turn lane. The east leg of the intersection (i.e., westbound approach) is situated on the I-605 Freeway Live Oak Avenue overpass, and therefore the roadway width is constrained to the roadway width of the overpass bridge. The current bridge is approximately 70 feet wide from curb-face to curb-face (i.e., excluding the pedestrian sidewalks on the north and south sides of the bridge). The bridge currently accommodates a total of five lanes: two eastbound through lanes, a raised median island, one westbound left-turn lane, and two westbound through lanes. The bridge would be reconfigured to accommodate a total of six lanes: two eastbound through lanes, two westbound left-turn lanes, and two westbound through lanes. A 70-foot roadway width would be sufficient to accommodate six approximately 11.5-foot wide lanes, assuming removal of the raised median island and shifts in the alignment of the eastbound lanes. Alternately, the bridge would require widening on the north side in order to accommodate the addition of a second left-turn lane. Reconfiguration of the lanes and raised median island on the bridge (or bridge widening) and provision of a second southbound receiving lane would require approval from Caltrans prior to being implemented. Since Caltrans' approval of the improvements cannot be guaranteed, the improvement cannot be guaranteed to be implemented.

6.5.2 *Int. 4 – I-605 Freeway Northbound Off-Ramps/Live Oak Avenue*

As a result of the addition of Specific Plan traffic at full build-out, the *v/c* ratio is calculated to increase by 0.026, worsening the LOS F during the weekday AM peak hour. During the PM peak hour, the *v/c* ratio is forecast to increase by 0.111, causing the intersection to operate at LOS E.

The westbound approach currently provides two through lanes. It is recommended that a third westbound through lane be provided. As shown in column [e] of *Table 6-1*, with implementation of this improvement the intersection is calculated to operate at LOS E during the weekday AM peak hour and LOS C during the weekday PM peak hour. While a deficient LOS (LOS E) would remain, the implementation of this improvement is expected to improve intersection peak hour

LOS to better than future without project conditions, and therefore the recommended improvement is considered sufficient. This improvement is also recommended in "Vincent Avenue Industrial Building Traffic Impact Analysis", December 15, 2020, prepared by Ganddini. As shown in *Table 6-2*, the Specific Plan's fair share contribution towards this improvement, if required by the City of Irwindale and approved by Caltrans, would be 24% of the improvement's total cost.

Similar to the improvements discussed in *Section 6.5.1* for the I-605 Freeway Southbound On-Ramp/Live Oak Avenue intersection located immediately west of the subject intersection, the existing roadway width is constrained by the presence of off-ramps on the north and south legs, and the approach to the I-605 Freeway Live Oak Avenue overpass. The east leg of the intersection is approximately 75 feet wide from curb-face to curb-face and accommodates a total of four lanes: two eastbound lanes, a raised median island, and two westbound lanes. The east leg would be reconfigured to accommodate a total of five lanes: two eastbound lanes and three westbound lanes. A 75-foot roadway width would be sufficient to accommodate five 12-foot lanes and a 15-foot center median. The reconfiguration would require relocation and potential narrowing of the raised median island and shifts in the alignment of the eastbound lanes. The number one westbound through lane at the subject intersection should align with and lead into the dual left-turn lanes proposed for the I-605 Freeway southbound on-ramp (Int. 3). The number one westbound through lane should be appropriately signed and striped so as to provide adequate advanced notification of the upcoming trap left turn lane onto the I-605 Freeway southbound on-ramp. The addition of the third westbound through travel lane at the subject intersection should extend east to the intersection with Live Oak Lane in order to facilitate smooth transitions in lane alignment.

It is noted that a significant increase in volumes is forecast to occur for the southbound approach as a result of nearby related projects (i.e., The Park at Live Oak and the Irwindale Speedway redevelopment project located west of the I-605 Freeway). The Specific Plan is not expected to add trips to this highly constrained movement; therefore, no additional improvements are recommended for this intersection.

6.5.3 *Int. 5 – Arrow Highway/Live Oak Avenue (East)*

As a result of the addition of Specific Plan traffic at full build-out, the *v/c* ratio is calculated to increase by 0.072, causing the intersection to operate at LOS E during the weekday PM peak hour.

The eastbound approach currently provides one left-turn lane and two through lanes. It is recommended that a third eastbound through lane be provided. As shown in column [e] of *Table 6-1*, with implementation of this improvement the intersection is calculated to operate at LOS D and better during the weekday AM and PM peak hours. This improvement is also recommended in "Vincent Avenue Industrial Building Traffic Impact Analysis", December 15, 2020, prepared by Ganddini. As shown in *Table 6-2*, the Specific Plan's fair share contribution towards this improvement, if required by the City of Irwindale, would be 57% of the improvement's total cost.

A third eastbound departure lane should also be provided east of the intersection. In order to accommodate a third through travel lane, on-street parking on the eastbound approach and

departure sides of the intersection would be required to be prohibited. It is noted that eastbound Live Oak Avenue accommodates three travel lanes west of Stewart Avenue, transitions to two travel lanes with an on-street parking lane between Stewart Avenue and Maine Avenue, and returns to three travel lanes east of Maine Avenue without major changes in roadway width. Therefore, it is assumed that the third travel lane can be accommodated through removal of the on-street parking, and would not require roadway widening or median modifications.

6.5.4 *Int. 6 – Azusa Canyon Road/Arrow Highway*

As a result of the addition of Specific Plan traffic at full build-out, the *v/c* ratio is calculated to increase by 0.031, worsening the LOS E during the weekday AM peak hour.

The westbound approach currently provides one left-turn lane, two through lanes, and one right-turn lane. It is recommended that the exclusive right-turn lane be restriped to provide a shared through/right-turn lane. As shown in column [e] of *Table 6-1*, with implementation of this improvement the intersection is calculated to operate at LOS D and better during the weekday AM and PM peak hours. This improvement is also recommended in "Vincent Avenue Industrial Building Traffic Impact Analysis", December 15, 2020, prepared by Ganddini. As shown in *Table 6-2*, the Specific Plan's fair share contribution towards this improvement, if required by the City of Irwindale, would be 54% of the improvement's total cost.

The restriped curb lane would align with the existing westbound departure lanes, therefore no roadway widening or lane shifts would be required. The City may consider removal of the existing on-street parking provided on the westbound approach to the intersection in order to achieve a meaningful capacity improvement. It is understood that while the westbound right-turn volumes are minimal during the weekday AM and PM peak hours, increased turning volumes are expected on weekends and while special events are occurring at the Santa Fe Dam Recreation Area. The corresponding westbound through volumes are expected to be lower during these times, so the recommended restriping is not expected to affect intersection operations and traffic flow at other times during the week or year.

6.5.5 *Int. 8 – Irwindale Brew Yard Driveway/First Street*

As a result of the addition of Specific Plan traffic at full build-out, the delay is calculated to increase by 66.2 seconds, causing the intersection to operate at LOS F during the weekday AM peak hour. The existing intersection is currently stop controlled, with a stop sign facing the southbound approach of the Irwindale Brew Yard driveway. It should be noted that the reported delay and associated LOS is based on the most constrained minor street approach of the intersection. The through traffic on First Street is not expected to experience any delay.

As shown in *Figure 6-3*, under the future with project conditions a total of 19 vehicles are forecast for the minor street approach during the AM peak hour, and a total of 56 vehicles are forecast for the minor street approach during the PM peak hour. Neither the weekday AM or PM peak hour volumes satisfy the Peak Hour traffic signal warrant (Warrant 3 in the California Manual on

Uniform Traffic Control Devices [13], Section 4C.04), which requires a minimum of 100 vehicles on the minor street approach in order to satisfy either Part A or Part B of the warrant. Therefore, installation of a traffic signal at this location is not warranted. It is recommended that the subject intersection be monitored by the City of Irwindale for a period following full project build-out and occupancy to determine if signalization is warranted based on other evidence of the need for right-of-way assignment beyond that provided by the existing stop control.

A roundabout installed at this location (assuming similar geometric design parameters as the roundabout planned for Int. 7 – Martin Road/First Street) would be expected to improve the overall intersection LOS without resulting in vehicle queues spilling back towards Irwindale Avenue. However, the physical space available for a roundabout is constrained by the presence of the existing Union Pacific Railroad's Azusa Industrial Lead located east of the intersection and the existing property access located south of intersection. Therefore, installation of a roundabout at this location was considered but is not recommended.

The number of vehicles experiencing LOS F conditions during the weekday AM peak hour does not justify extensive improvements. Therefore, no improvements are recommended for this location, and the deficient LOS will remain. Should an improvement be identified, as shown in *Table 6-2,* the Specific Plan's fair share contribution towards the improvement would be 99%. It is recommended that the project Applicant fully fund any improvements which may be required for this intersection.

6.5.6 *Int. 9 – Irwindale Avenue/Foothill Boulevard*

As a result of the addition of Specific Plan traffic at full build-out, the *v/c* ratio is calculated to increase by 0.067, worsening the LOS E to LOS F during the weekday PM peak hour.

The eastbound approach currently provides an exclusive right-turn lane. It is recommended that the traffic signal phasing be modified to provide an eastbound right-turn overlap phase to operate concurrently with the protected northbound left-turn phase. The southbound approach, which currently serves Vulcan Materials Company only, consists of a 40-foot roadway which is not formally striped to provide travel lanes. It is recommended that the southbound approach be striped to provide one shared left-turn/through lane and one shared through/right-turn lane. As shown in column [e] of *Table 6-1*, with implementation of this improvement the intersection is calculated to operate at LOS D and better during the weekday AM and PM peak hours. These improvements are also required for implementation of the "Reliance II Specific Plan", September 2017. As shown in *Table 6-2*, the Specific Plan's fair share contribution towards this improvement, if required by the City of Irwindale, would be 42% of the improvement's total cost.

Provision of an eastbound right-turn overlap phase will require prohibiting the currently allowed northbound U-turn movement. It is noted that vehicles exiting the parcels located on the east side

[13] "California Manual on Uniform Traffic Control Devices," 2014 Edition, Revision 8, California State Transportation Agency and Department of Transportation, January 11, 2024.

of Irwindale Avenue and intending to travel to the south have access to alternate routes; vehicles exiting the existing gas station may exit onto Foothill Boulevard and complete a legal U-turn maneuver elsewhere, while vehicles exiting the existing restaurants may access Camino de la Cantera in order to conduct a left-turn onto Irwindale Avenue. Therefore, prohibition of the northbound U-turn at the subject intersection is not expected to affect circulation to/from the existing parcels in the vicinity of the subject intersection.

6.5.7 *Int. 11 – Irwindale Avenue/I-210 Freeway Eastbound Ramps*

As a result of the addition of Specific Plan traffic at full build-out, the *v/c* ratio is calculated to increase by 0.137, causing the intersection to operate at LOS E during the weekday PM peak hour.

The northbound approach currently provides two through lanes and one right-turn lane. The northbound approach lanes may be restriped to provide two through lanes and one shared through/right-turn lane. The northbound departure lanes may similarly be restriped to remove the striped median. This improvement would potentially reduce the calculated *v/c* ratio and restore intersection operations to an acceptable LOS. However, it is noted that with the addition of Specific Plan traffic, a total of 495 vehicles are forecast to utilize the northbound right-turn lane. This volume of turning traffic justifies the provision of an exclusive turn lane. The inclusion of through traffic in a shared lane would result in additional queuing and delays as a result of right-turning motorists being unable to conduct a Right Turn On Red while vehicles traveling through the intersection are at the front of the queue. Therefore, this improvement was considered but is not recommended.

It is likewise noted that the south leg includes an approximately 24-foot-wide raised median island and striped median area which may be reconfigured to provide a third northbound through lane, however this improvement would result in an unacceptable 12-foot offset through the intersection for the northbound lanes. Therefore, this improvement was also considered but is not recommended.

Improvements to provide additional capacity for the southbound through movement would potentially require widening of the I-210 Freeway Irwindale Avenue overpass, and would not decrease the calculated *v/c* ratio or improve LOS during either the weekday AM or PM peak hour. It is not recommended to provide triple southbound left-turn lanes.

Therefore, no improvements are recommended for this location, and the deficient LOS will remain. Should an improvement be identified, as shown in *Table 6-2,* the Specific Plan's fair share contribution towards the improvement would be 71%.

6.5.8 *Int. 13 – Irwindale Avenue/First Street*

As a result of the addition of Specific Plan traffic at full build-out, the *v/c* ratio is calculated to increase by 0.656, causing the intersection to operate at LOS F during the weekday AM peak hour. During the PM peak hour, the *v/c* ratio is forecast to increase by 0.836, causing the intersection to operate at LOS F.

The northbound approach currently provides one left-turn lane, one through lane, and one shared through/right-turn lane. It is recommended that a second northbound left-turn lane be provided. The eastbound approach currently provides one left-turn lane, one shared left-turn/through lane, and one right-turn lane. It is recommended that the center eastbound lane be restriped to provide a shared left-turn/through/right-turn lane and a Leading Pedestrian Interval (LPI) be implemented in order to promote pedestrian safety on the south leg crosswalk. As shown in column [e] of *Table 6-1*, with implementation of this improvement the intersection is calculated to operate at LOS D during the weekday AM and PM peak hours. As shown in *Table 6-2*, the Specific Plan's fair share contribution towards this improvement, if required by the City of Irwindale, would be 91% of the improvement's total cost. It is recommended that the project Applicant fully fund the improvements to this intersection.

The south leg roadway width is approximately 84 feet and accommodates a total of six lanes: three southbound lanes, one northbound left-turn lane, one northbound through lane, and one northbound shared through/right-turn lane. The south leg would be reconfigured to accommodate a total of seven lanes: three southbound lanes, two northbound left-turn lanes, one northbound through lane, and one northbound shared through/right-turn lane. An 84-foot roadway width would be sufficient to accommodate seven 12-foot lanes. The reconfiguration would require shifts in the alignment of the northbound and southbound through lanes. The existing on-street parking provided on the east and west sides of Irwindale Avenue south of the subject intersection would be required to be removed in order to facilitate smooth transitions in lane alignment.

The intersection currently operates with split phasing for the eastbound and westbound approaches. Therefore, the reassignment of the eastbound center lane is not expected to result in any new vehicular conflicts. In order to minimize potential conflicts between turning vehicles and pedestrians utilizing the south leg crosswalk across Irwindale Avenue, it is recommended that an LPI be provided so that pedestrians are visible to any right-turning vehicles in the center lane at the beginning of the eastbound phase.

6.5.9 *Int. 14 – Irwindale Avenue/Gladstone Street*

As a result of the addition of Specific Plan traffic at full build-out, the *v/c* ratio is calculated to increase by 0.217, causing the intersection to operate at LOS E during the weekday AM peak hour.

The westbound approach currently provides one left-turn lane, one through lane, and two right-turn lanes. It is recommended that the traffic signal phasing be modified to provide split phasing for the eastbound and westbound approaches, that the westbound through lane be restriped to provide a shared left-turn/through lane, and that an LPI be implemented in order to promote pedestrian safety on the north leg crosswalk. As shown in column [e] of *Table 6-1*, with implementation of this improvement the intersection is calculated to operate at LOS D and better during the weekday AM and PM peak hours. As shown in *Table 6-2*, the Specific Plan's fair share contribution towards this improvement, if required by the City of Irwindale, would be 85% of the improvement's total cost.

It is noted that under future without project conditions, the westbound left-turn volume is forecast to be 460 vehicles during the weekday AM peak hour (the Specific Plan is not anticipated to increase volumes for this turning movement), which justifies the provision of a second left-turn lane. The recommended restriping to provide a shared left-turn/through lane would require modification of the traffic signal to provide split phasing for the eastbound and westbound approaches in order to prevent potential vehicle conflicts within the intersection. It is noted that under future without project conditions, the eastbound approach is forecast to accommodate a total of eight (8) vehicles during the AM peak hour and 53 vehicles during the PM peak hour. Therefore, this modification is not expected to result in unacceptable queuing or delays for eastbound traffic.

In order to minimize potential conflicts between turning vehicles and pedestrians utilizing the north leg crosswalk across Irwindale Avenue, it is recommended that an LPI be provided so that pedestrians are visible to any westbound right-turning vehicles in the existing number one right-turn lane at the beginning of the westbound phase. In order to minimize potential conflicts between turning vehicles and pedestrians utilizing the south leg crosswalk across Irwindale Avenue, it is recommended that the signal phasing be modified so that pedestrians are permitted to cross the south leg concurrently with the eastbound phase only.

6.5.10 *Int. 15 – Irwindale Avenue/Arrow Highway*

As a result of the addition of Specific Plan traffic at full build-out, the *v/c* ratio is calculated to increase by 0.267, causing the intersection to operate at LOS F during the weekday AM peak hour. During the PM peak hour, the *v/c* ratio is forecast to increase by 0.242, causing the intersection to operate at LOS F.

The southbound approach currently provides one left-turn lane, two through lanes, and one right-turn lane. It is recommended that a second southbound left-turn lane be provided. The westbound approach currently provides one left-turn lane, a striped gore, one through lane, and one shared through/right-turn lane. It is recommended that the westbound approach be restriped to provide one left-turn lane, two through lanes, and one exclusive right-turn lane. Additionally, it is recommended that the traffic signal phasing be modified to provide a westbound right-turn overlap phase to operate concurrently with the protected southbound left-turn phase. As shown in column [e] of *Table 6-1*, with implementation of this improvement the intersection is calculated to continue operating at LOS F during the weekday AM peak hour and LOS E during the weekday PM peak hour. While the intersection would continue to operate at a deficient LOS during the weekday AM and PM peak hours, the implementation of the improvement is expected to reduce the *v/*c ratio by more than 0.100 during the weekday AM and PM peak hours. The recommended improvement is consistent with existing improvement plans for the subject intersection on file with the City of Irwindale. As shown in *Table 6-2*, the Specific Plan's fair share contribution towards this improvement, if required by the City of Irwindale, would be 70% of the improvement's total cost.

The northbound and eastbound legs of the existing intersection are considered fully built out (i.e., providing 10- to 12-foot approach and departure lanes with narrow or no raised median islands).

No capacity enhancing improvements are possible on fully built-out legs without acquiring additional right-of-way from adjacent property owners and widening the roadways. It is assumed that roadway widening is infeasible at the subject intersection.

6.5.11 *Summary of Recommended Improvements*

As presented in the paragraphs above, the recommended improvements are as follows:

- Int. 3 – I-605 Freeway Southbound On-Ramp/Live Oak Avenue
  - » Provide a second westbound left-turn lane
  - » Provide a second southbound receiving lane
- Int. 4 – I-605 Freeway Northbound Off-Ramp/Live Oak Avenue
  - » Provide a third westbound through lane
- Int. 5 – Arrow Highway/Live Oak Avenue (East)
  - » Provide a third eastbound through lane
- Int. 6 – Azusa Canyon Road/Arrow Highway
  - » Restripe the westbound right-turn lane to provide a shared through/right-turn lane
- Int. 9 – Irwindale Avenue/Foothill Boulevard
  - » Provide an eastbound right-turn overlap phase
  - » Restripe the southbound approach to provide a shared left-turn/through lane and a shared through/right-turn lane
- Int. 13 – Irwindale Avenue/First Street
  - » Provide a second northbound left-turn lane
  - » Restripe the center eastbound shared left-turn/through lane to provide a shared left-turn/through/right-turn lane
  - » Provide an LPI to promote pedestrian safety on the south leg crosswalk
- Int. 14 – Irwindale Avenue/Gladstone Street
  - » Provide split phasing for the eastbound and westbound approaches
  - » Restripe the center westbound through lane to provide a shared left-turn/through lane
  - » Provide an LPI to promote pedestrian safety on the north leg crosswalk
- Int. 15 – Irwindale Avenue/Arrow Highway
  - » Provide a second southbound left-turn lane
  - » Provide an exclusive westbound right-turn lane

    - » Provide a westbound right-turn overlap phase

A deficient LOS is expected to remain at the following study intersections during the peak hours shown:

- Int. 4 - I-605 Freeway Northbound Off-Ramp/Live Oak Avenue
    - » LOS E during the AM peak Hour after improvement
- Int. 8 – Irwindale Brew Yard Driveway/First Street
    - » LOS F during the AM peak hour
- Int. 11 – Irwindale Avenue/I-210 Freeway Eastbound Ramps
    - » LOS E during the PM peak hour
- Int. 15 – Irwindale Avenue/Arrow Highway
    - » LOS F during the AM and PM peak hours after improvement

6.6 Martin Road/First Street Intersection Traffic Control Evaluation

The existing Martin Road/First Street intersection (Study Int. 7) is currently a stop controlled intersection, with a stop sign controlling the eastbound approach on First Street. As described in *Sections 2.5.1*, the intersection is planned to be improved to provide a roundabout in order to accommodate access to the Specific Plan area from the north and west legs of the intersection. The roundabout geometry utilized in the assessment is based on information provided to the City of Irwindale by the project Applicant, and is assumed to consist of two approach and circulating lanes along First Street and one approach and circulating lane for the Martin Road and the Specific Plan drive aisle approaches. Intersection operational analysis of the existing stop-controlled intersection and proposed roundabout intersection under existing and future conditions, without and with traffic generated by the Specific Plan, is presented in *Section 6.4*, above.

In order to provide a complete assessment of the proposed improvement, additional intersection control strategies have been evaluated for the subject intersection, including retaining TWSC, installation of AWSC, or installation of a traffic signal, in addition to the proposed installation of the roundabout. The following paragraphs describe the assumptions utilized for each alternate traffic control strategy:

- TWSC: Due to the anticipated traffic volumes along First Street, it has been assumed that the stop-sign controlling the eastbound First Street approach would be removed, and that stop signs would be installed for the minor street approaches of northbound Martin Road and the southbound Specific Plan drive aisle. First Street is assumed to consist of two approach lanes in each direction, while Martin Road and the Specific Plan drive aisle are assumed to consist of one approach lane each.

- AWSC: First Street is assumed to consist of two approach lanes in each direction, while Martin Road and the Specific Plan drive aisle are assumed to consist of one approach lane each.

- Signalization: It is assumed that signalization of the intersection would require simple two-phase timing (i.e., an eastbound-westbound phase and a northbound-southbound phase without protected left-turn movements). A 90-second cycle-length is assumed, with optimized phase splits. First Street is assumed to consist of two approach lanes in each direction, while Martin Road and the Specific Plan drive aisle are assumed to consist of one approach lane each.

As both roundabout and stop-controlled intersections must be analyzed on the basis of delay utilizing appropriate HCM methodologies, the traffic signal control alternative has also been evaluated on the basis of delay using the HCM methodology in order to provide comparative results. The HCM data worksheets for each control type are contained in *Appendix D*.

The delays and corresponding LOS for each control option during the weekday AM and PM peak hours under future with project conditions are summarized in ***Table 6-3***. As shown in *Table 6-3*, the proposed roundabout is expected to operate at LOS B during the weekday AM peak hour and LOS A during the weekday PM peak hour under future with project conditions. With the implementation of either TWSC or AWSC, the intersection would be expected to operate at LOS F during the weekday AM and PM peak hours under future with project conditions. With the implementation of traffic signal control, the intersection would be expected to operate at LOS B during the weekday AM peak hour and at LOS C during the weekday PM peak hour under future with project conditions. The roundabout control is therefore expected to result in the best intersection operations and LOS compared to the alternative traffic controls (i.e., TWSC, AWSC, traffic signal control) for both weekday AM and PM peak hours under future with project conditions. Based on the analysis summarized in *Table 6-3*, it is determined that the proposed roundabout is the most appropriate control from an operational perspective.

Roundabouts offer additional benefits over that of more traditional traffic controls such as stop or signal controls. Notably, roundabouts provide additional safety benefits not typically associated with traditional intersection controls. Roundabouts have a lower potential vehicle-to-vehicle crash severity. Since entering and circulating vehicles are traveling in the same direction, high severity conflicts such as broadside and head-on collisions associated with typical right-angle intersections are replaced with less severe sideswipe and low-speed broadside collisions. Pedestrian crossings are typically offset from the circulating lanes, thus simplifying driver decision making at pedestrian conflict points. Provision of pedestrian refuge space within the approach splitter island allows pedestrians to cross one direction of traffic at a time. Roundabout intersections also serve as a form of traffic calming, as the geometric design of roundabouts typically requires speeds of 15 to 20 miles per hour within the circulating roadway. Therefore, the proposed roundabout is an appropriate traffic control from a safety performance perspective as well.

Table 6-3
SUMMARY OF DELAYS AND LEVELS OF SERVICE
INTERSECTION TRAFFIC CONTROL EVALUATION

NO.	INTERSECTION	PEAK HOUR	YEAR 2030 FUTURE WITH PROJECT CONDITIONS							
			ROUNDABOUT CONTROL [1]		TWO-WAY STOP CONTROL [2]		ALL-WAY STOP CONTROL [3]		TRAFFIC SIGNAL CONTROL [4]	
			DELAY	LOS [5]	DELAY	LOS [5]	DELAY	LOS [5]	DELAY	LOS [5]
7	Martin Road/	AM	11.5	B	>50.0	F	>50.0	F	19.8	B
	First Street	PM	9.9	A	>50.0	F	>50.0	F	25.4	C

[1] Intersection analyzed using HCM 7th Edition Roundabout Intersection operational methodology.
[2] Intersection analyzed using HCM 7th Edition Two-Way Stop Control Intersection operational methodology.
[3] Intersection analyzed using HCM 7th Edition All-Way Stop Control Intersection operational methodology.
[4] Intersection analyzed using HCM 7th Edition Signalized Intersection operational methodology.
[5] Level of Service (LOS) is based on the reported delay value (reported as seconds per vehicle).

7.0 CALIFORNIA DEPARTMENT OF TRANSPORTATION ANALYSIS

Consistent with the previously described statutory changes to the CEQA Guidelines, the California Department of Transportation (Caltrans) has also formally adopted VMT as the metric for reviewing the transportation impacts of a land use development project. As described in *Section 1.1* herein, Caltrans has released the TISG and the Safety Review Practitioner's Guidance in order to provide guidance on Caltrans' review of land use projects.

7.1 VMT Analysis

Caltrans' TISG references the December 2018 *Technical Advisory* prepared by OPR as the basis for its guidance on VMT assessment. For the purpose of this transportation assessment, it is understood that the VMT analysis prepared for the City of Irwindale, which is consistent with the recommendations provided in the *Technical Advisory*, satisfies Caltrans requirements as well. Therefore, no separate VMT analysis has been prepared for Caltrans' review of the proposed project.

7.2 Safety Review

The Safety Review Practitioner's Guidance establishes the recommended transportation safety impact review process for Caltrans and lead agencies for evaluating proposed land use projects. The scope of the safety review is dependent on multiple factors, including the type of state highway facility affected and the relative impact of the development to the State Highway System (SHS). The level of impact can vary according to the proximity, scale, type of development, amount of multi-modal traffic using or crossing the state facility through direct modification of state facilities to accommodate new access, new traffic patterns, or increased traffic volumes.

The type of facility is used to determine the context of the safety review. The Guidance provides safety review focus areas for rural, suburban, and urban conventional highways, both divided and undivided, as well as for limited access freeway facilities. The following safety focus areas are recommended based on the facility type and relevant characteristics for conventional highways:

- Speed control/management
- Access management (driveways, intersections, and roundabouts)
- Traffic control devices
- Conflict avoidance
- Prevention of lane departures (alignment standards or signing/striping)
- Roadside clear recovery zones
- Accommodation of pedestrians and bicycles

For limited access freeway facilities, the following safety focus areas are recommended to be considered:

- Points of controlled access (ramps)
- Conflict avoidance
- Design standards (widths and alignment)
- Prevention of wrong-way driving
- Separation of vulnerable road users, where appropriate

As stated by the Safety Review Guidelines, freeway congestion-related crashes are not the focus of the safety review. The intent of the safety review is to provide the necessary information to determine when queuing should be reviewed for traffic safety impacts. A safety review does not necessitate the need for traffic safety mitigation but is to evaluate whether a significant safety impact based on speed differential may occur. The significance of that traffic impact by the project is then determined on a case-by-case basis. The Guidance recognizes the fluid nature of freeway exit ramp queuing, and the difficulty in developing a nexus to any one project.

7.2.1 *Safety Review Screening Criteria*

Land development projects are not required to provide a safety review if they meet both of the following criteria:

- The project makes no physical modification in the SHS right-of-way, and;
- The project results in zero additional trips by and mode on the SHS.

The Specific Plan is not expected to make a physical modification to the SHS; however, it is expected to result in additional vehicle trips on the SHS. Therefore, a safety review for the Specific Plan is required.

7.2.2 *Project Context Within the State Highway System*

Access to the Specific Plan site will be accommodated by First Street, which is designated as a local street under the jurisdiction of the City of Irwindale. Therefore, the project does not take access from a roadway in the SHS. Azusa Avenue (State Route 39) has been relinquished to the City of Azusa for maintenance and operations, and there are no other state-controlled conventional highway facilities within the study area. As a result, the Specific Plan is expected to add only nominal traffic volumes to conventional highway facilities operated by the State in the greater San Gabriel Valley region. Therefore, it has been determined that the safety focus areas relevant to

conventional highways are not appropriate to include in the safety review prepared for the Specific Plan.

The Specific Plan is expected to generate new vehicles trips on the nearby regional freeways, including at the I-210 Freeway ramp interchanges at Irwindale Avenue, Vernon Avenue, and Azusa Avenue, as well as at the I-605 Freeway ramp interchanges at Arrow Highway and Live Oak Avenue. Therefore, it is appropriate to consider the safety review focus area relevant to freeway off-ramp queuing. The following nine (9) ramp intersections were identified for off-ramp queuing analysis, as requested in the Caltrans NOP response (provided in *Appendix A*):

- Int. 2 – I-605 Freeway Southbound Off-Ramp/Arrow Highway
- Int. 3 – I-605 Freeway Southbound On-Ramp/Live Oak Avenue
- Int. 4 – I-605 Freeway Northbound Off-Ramp/Live Oak Avenue
- Int. 10 – Irwindale Avenue/I-210 Freeway Westbound Off-Ramp
- Int. 11 - Irwindale Avenue/I-210 Freeway Eastbound Ramps
- Int. 18 – Vernon Avenue/I-210 Freeway Westbound Ramps
- Int. 19 – I-210 Freeway Eastbound Off-Ramp/Third Street
- Int. 21 – Alameda Avenue-I-210 Freeway Westbound Ramps/First Street
- Int. 22 – Azusa Avenue/I-210 Freeway Eastbound Off-Ramp

7.2.3 *Safety Review Criteria*

The Safety Review Practitioner's Guidance provides criteria for further safety review of off-ramp queuing in Appendix B. As stated in the Guidance's Appendix B, if the project adds two or more car lengths to the ramp queue that will extend into the freeway mainline, then the location must be reviewed for traffic safety impacts. This review must evaluate the speed differential between the off-ramp queue and the mainline of the freeway during the same period.

Traffic safety mitigation shall not be requested under conditions where queuing already exists on a freeway exit ramp. This includes:

- Conditions where freeway exit-ramp queuing current extends onto the mainline;
- Where queuing currently exceeds the length of a freeway auxiliary lane; or
- Where freeway traffic volumes currently cause freeway exit ramp turning lanes to exceed capacity.

Traffic safety mitigation may be requested if freeway exit ramp queueing does not occur under the existing condition, but project-generated traffic volumes will cause a queue to extend onto the freeway mainline, creating a speed differential of 30 MPH or greater. Speed differentials in congestion related rear-end collisions that are 30 MPH or greater have shown the potential to increase severe injury and fatal injuries exponentially as the speed differential increases above the 30 MPH threshold [14].

The speed differential should be determined by identifying the operating speed of the freeway mainline lanes during the corresponding period during which the ramp is expected to experience project-related queue overflow. To determine the speed differential using a data-based approach, Caltrans Performance Measurement System (PeMS) data should be used to identify freeway operating speed(s) during the applicable period. If reliable PeMS data are not available for the subject location(s), other sources of speed data including location-based data collection services from available sources could be used. If no reliable data can be obtained to determine speed differentials, then no traffic safety impact mitigation shall be requested.

If the speed differential between the mainline lane speeds and the ramp traffic is less than 30 MPH, the project would be considered to cause a less-than-significant safety impact and no traffic safety impact mitigation would be required. If the speed differential is 30 mph or more, then there is a potential safety impact.

7.2.4 *Methodology*

Pursuant to prior direction from Caltrans staff, and as described in *Section 6.1*, the off-ramp queuing at the selected ramp intersections was analyzed using the HCM method for signalized and unsignalized intersections. The off-ramp queuing calculations were prepared using the *Synchro 12* software package which implements the HCM operational methodology. A *Synchro* network was created based on existing conditions field reviews at the above noted ramp intersections which documented lane configurations, available vehicle storage lengths, crosswalk locations, posted speed limits, etc., at each of the study intersections. The current signal timing and phasing data obtained from Caltrans in July 2024 were utilized in the analysis of each signalized intersection under Caltrans' jurisdiction. The corresponding weekday AM and PM peak hour HCM worksheets for purposes of determining the 95th percentile vehicle queues are contained in *Appendix D*.

The queuing analysis was prepared for the existing and future build-out year 2030, without and with project traffic conditions. The freeway off-ramp intersection approach was reviewed in terms of expected maximum vehicle queues (i.e., 95th percentile queues) which represent the maximum back of vehicle queues with 95th percentile traffic volumes. The queuing for each off-ramp lane group was determined by multiplying the maximum vehicle queue per lane by the number of lanes in the lane group. The corresponding maximum vehicle queue lengths were then compared to the ramp storage lengths (i.e., the available storage length as measured from the point of gore or

[14] "Current Understanding of the Effects of Congestion on Traffic Accidents", Angus Eugene Retallack and Bertram Ostendorf, 2019, and "Relationships Between Crash Casualties and Crash Attributes", SAE International, 1997.

beginning of the striped lane to the respective off-ramp approach limit lines) for each off-ramp lane group. It is noted that the HCM worksheets report vehicle queuing in number of vehicles per lane (veh/ln), therefore an average length of 25 feet per queued vehicle (including vehicle separation) was assumed for analysis purposes.

7.2.5 *Freeway Off-Ramp Queuing Analysis*

As presented in ***Table 7-1***, adequate storage area is provided for each off-ramp movement at each of the nine (9) study intersections. The Specific Plan will not cause or contribute towards vehicle queuing which extends back into the I-210 Freeway or I-605 Freeway mainline lanes. Since the Specific Plan will not result in the addition of two or more vehicle lengths to a queue which extends into the freeway mainline lanes, no further review of the potential speed differential between the freeway mainline lanes and the off-ramp queue is required. It is therefore determined that the proposed project will cause a less than significant safety impact on the SHS.

Table 7-1
SUMMARY OF OFF-RAMP VEHICLE QUEUEING [1]

NO.	INTERSECTION	TRAFFIC CONTROL	LANE GROUP			95TH PERCENTILE QUEUE (FT) [4]											
			MOVE-MENT	NO. OF LANES [2]	AVAILABLE OFF-RAMP STORAGE (FT) [3]	YEAR 2024 EXISTING		EXCEEDS STORAGE?	YEAR 2024 EXISTING W/ PROJECT		EXCEEDS STORAGE?	YEAR 2030 FUTURE W/O PROJECT		EXCEEDS STORAGE?	YEAR 2030 FUTURE W/ PROJECT		EXCEEDS STORAGE?
						AM	PM	(YES/NO)	AM	PM	(YES/NO)	AM	PM	(YES/NO)	AM	PM	(YES/NO)
2	I-605 Freeway Southbound Off-Ramp/ Arrow Highway	Signal	SBL SBR [5]	1 1	975 670	283 0	255 0	No No	283 0	255 0	No No	473 0	388 0	No No	473 0	388 0	No No
3	I-605 Freeway Southbound On-Ramp/ Live Oak Avenue [6]	Signal	--	--	--	-	-	-	-	-	-	-	-	-	-	-	-
4	I-605 Freeway Northbound Off-Ramp/ Live Oak Avenue	Signal	NBR SBR	2 2	1,210 [7] 2,825 [8]	400 560	640 500	No No	585 545	755 470	No No	555 2,165	745 860	No No	790 2,315	945 835	No No
10	Irwindale Avenue/ I-210 Freeway Westbound Off-Ramp	Signal	WBL WBR	1 1	1,215 805	133 218	215 245	No No	235 248	268 283	No No	195 300	250 273	No No	290 313	295 320	No No
11	Irwindale Avenue/ I-210 Freeway Eastbound Ramps [9]	Signal	EBL EBR	2 1	2,815 830	665 445	575 293	No No	- -	600 380	No No	790 573	615 303	No No	- -	630 398	No No
			EBL EBR	1 2	1,135 2,505	- -	- -	- -	323 1,450	- -	No No	- -	- -	- -	435 1,875	- -	No No
18	Vernon Avenue/ I-210 Freeway Westbound Ramps	AWSC	WBL WBR	1 1	1,175 710	15 8	48 25	No No	23 8	55 25	No No	20 8	50 25	No No	28 8	58 25	No No
19	I-210 Freeway Eastbound Off-Ramp/ Third Street	TWSC	SBL SBR	1 1	1,080 625	20 13	43 3	No No	20 13	43 3	No No	20 13	43 3	No No	23 15	43 3	No No
21	Alameda Avenue-I-210 Freeway Westbound Ramps/ First Street	Signal	NBL NBT/R	1 1	880 375	145 18	328 175	No No	198 18	350 173	No No	228 15	363 180	No No	275 15	385 178	No No
22	Azusa Avenue/ I-210 Freeway Eastbound Off-Ramp	Signal	EBL EBR	2 1	1,430 890	150 355	165 368	No No	150 355	165 368	No No	155 373	165 375	No No	150 365	165 375	No No

[1] Intersection vehicle queuing analysis based on the Highway Capacity Manual (HCM), 7th Edition operational analysis methodology for signalized intersections. The 95th percentile queue is the maximum back of queue with 95th percentile volumes.
[2] Represents the number of lanes in the lane group for each off-ramp movement, according to the HCM intersection operational analysis methodology.
[3] Storage length measured from aerial photographs obtained from Google Earth, 2024, and as verified by field review. Available storage represents the sum of storage space provided by all off-ramp lanes accommodating the lane group.
[4] The HCM 7th Edition methodology worksheets report queues in number of vehicles per lane. The queue in vehicles per lane is multiplied by the number of lanes in the lane group. A length of 25 feet per queued vehicle (including vehicle separation) was assumed for analysis purposes. The reported queues therefore represent the calculated maximum back of queue in feet.
[5] Free-flow movement. No vehicular queuing is calculated for the movement.
[6] The intersection accommodates on-ramp movements only; therefore, no off-ramp queuing is reported for this location.
[7] The queue storage space for the off-ramp to eastbound Live Oak Avenue extends from the stop bar on Live Oak Avenue to the point of gore with the off-ramp lanes to westbound Live Oak Avenue.
[8] The queue storage space for the off-ramp to westbound Live Oak Avenue extends from the stop bar on Live Oak Avenue to the point of gore with the I-605 Freeway northbound mainline lanes.
[9] As determined by the HCM methodology, the off-ramp is assumed to provide two left-turn lanes and one right-turn lane during the existing and future without project weekday AM peak hour conditions, and during all weekday PM peak hour conditions. As determined by the HCM methodology, the off-ramp is assumed to provide one left-turn lane and two right-turn lanes during the existing with project and future with project weekday AM peak hour conditions.

8.0 CONSTRUCTION TRAFFIC EVALUATION

The project construction evaluation addresses activity associated with project construction. The project Applicant has provided preliminary information regarding the overall construction activities by phase in order to identify the potential construction traffic generation. The following general construction details are provided:

Construction at the Specific Plan site is expected to occur over approximately five years, beginning in year 2025 with an estimated completion of full build-out by year 2030. Construction activities at the project site are expected to occur in two general phases, associated with the filling of each of the existing mining pits at the Specific Plan site and subsequent construction of new buildings in place of the filled pits. More specifically, construction activities would involve the following phases:

- Filling of Southeast Pit
- Filling of Northwest Pit
- Site Infrastructure
- Phase 1 Development
- Phase 2 Development

The anticipated duration of each phase, along with the expected number of workers and material import hauling truck loads required for each phase are summarized in ***Table 8-1***. It should be noted that since no specific development projects are proposed as part of the Specific Plan, no estimates of worker and material delivery truck trips for construction of site infrastructure or specific developments are available as of the preparation of this study.

8.1 Forecast Construction Traffic Generation During Import Activities

The existing mining pits at the Specific Plan site will require filling prior to construction of on-site infrastructure or individual development buildings. No export is expected to be required for the filling of either pit.

The southeast pit is expected to be filled first. On-site materials will be relocated to fill the southeast pit. Approximately 2,000,000 cubic yards of material will be exported from the northwest pit to the southeast pit over a period of approximately nine (9) months (170 days). As this activity is expected to occur within the Specific Plan site, a nominal amount of new construction traffic on adjacent public roadways is expected to be generated by the southeast pit filling activities.

Filling of the northwest pit will begin concurrently with the filling of the southeast pit, and is expected to occur over a period of approximately four (4) years and eight (8) months (1,064 days).

Table 8-1
SUMMARY OF CONSTRUCTION PHASE INFORMATION [1]

PHASE	ANTICIPATED START/END DATE	DURATION (DAYS) [2]	WORKERS PER DAY	MATERIAL IMPORT (CY)	HAUL TRUCKS PER PHASE [4]	HAUL TRUCKS PER DAY	HAUL TRUCKS PER HOUR [5]
Filling of Southeast Pit	07/15/2025 to 03/23/2026	170	20	[3]	-	-	-
Filling of Northwest Pit	07/15/2025 to 10/29/2029	1,064	20	8,000,000	533,334	502	53
Site Infrastructure	03/24/2026 to 09/07/2026	115	-	-	-	-	-
Phase 1 Development	05/05/2026 to 04/05/2027	226	-	-	-	-	-
Phase 2 Development	12/11/2029 to 11/11/2030	228	-	-	-	-	-

[1] Based on information provided by the project Applicant.
[2] Represents the number of business days between the expected start and end dates, excluding weekends and public holidays.
[3] Material used to fill the southeast pit will be obtained on-site, therefore no external material import is anticipated to be required for this phase.
[4] Assumes use of haul trucks with a 15 cubic yard (CY) capacity.
[5] Assumes hauling activities will occur from 6:00 AM to 5:00 PM on a daily basis, less 90 minutes of mandatory meal and break time. Therefore, hauling is assumed to occur for 9.5 hours on a daily basis.

Fill material is expected to be sourced from various locations throughout Los Angeles County. Haul trucks are expected to utilize the I-210 Freeway Eastbound and Westbound Ramps at Irwindale Avenue (Study Intersections 10 and 11, herein) in order to travel to and from the site. Material importing activities are expected to begin at 6:00 AM and conclude at 5:00 PM on weekdays, which when accounting for mandatory rest and meal times, is assumed to equate to a total of 9.5 hours per day of hauling.

A total of 8,000,000 cubic yards of fill material will be required to fill the northwest pit. Haul trucks with a 15 cubic-yard capacity are planned to be utilized to import the required fill material. Therefore, a total of 533,334 truckloads are expected to be required during the filling of the northwest pit (8,000,000 CY / 15 CY/truckload = 533,334 truckloads). On average, this equates to a total of 502 truckloads per day (533,334 truckloads / 1,064 days = 502 truckloads/day), or approximately 53 truckloads per hour (502 truckloads/day / 9.5 hours/day = 53 truckloads/hour). Each truckload will generate two truck trip ends, arriving and departing, therefore importing activities are expected to generate 1,004 daily truck trips (502 inbound trips and 502 outbound trips) and an average of 106 truck trips per hour (53 inbound trips and 53 outbound trips) during the weekday AM and PM peak hours. With application of a PCE factor of 2.75 passenger vehicles per haul truck, the resulting haul truck trip generation equates to 2,761 daily PCE-adjusted trip ends (1,381 PCE-adjusted inbound trip ends and 1,380 PCE-adjusted outbound trip ends), and 292 PCE-adjusted trip ends per hour (146 PCE-adjusted inbound trips and 146 PCE-adjusted outbound trips).

In addition, a total of 20 workers are expected at the construction site during material import and fill activities. Each worker is expected to arrive in a personal vehicle, resulting in 40 daily trip ends (20 inbound trips and 20 outbound trips). It is expected that all 20 workers will arrive at 6:00 AM and therefore will not overlap the AM commute peak hour. It is assumed that all workers will depart the site between 5:00 PM and 6:00 PM, therefore all outbound worker trips are assumed to overlap the PM peak hour. During the workday, workers will park on-site adjacent to the pits and relevant working areas.

Based on the above analyses, the overall highest construction traffic forecast during the preparation of the Specific Plan site is expected to occur as a result during the filling of the northwest pit. The construction trip forecast during the filling of the northwest pit is presented in ***Table 8-2***. As shown in *Table 8-2*, as a result of the material hauling and construction worker trips expected to occur during this phase, 292 daily PCE-adjusted trips (146 PCE-adjusted inbound trips and 146 PCE-adjusted outbound trips) are expected to occur during the weekday AM peak hour. During the weekday AM peak hour, 312 daily PCE-adjusted trips (146 PCE-adjusted inbound trips and 166 PCE-adjusted outbound trips) are expected to occur. On a daily basis, 2,801 daily PCE-adjusted trips are expected to occur (1,401 PCE-adjusted inbound trips and 1,400 PCE-adjusted outbound trips) on a typical weekday.

Table 8-2
CONSTRUCTION TRIP GENERATION FORECAST [1]
Filling of Northwest Pit

LAND USE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
		IN	OUT	TOTAL	IN	OUT	TOTAL
15-CY Truck Trips [3]	1,004	53	53	106	53	53	106
PCE Adjusted 15-CY Truck Trips [4]	2,761	146	146	292	146	146	292
Construction Workers [5]	40	Nom.	Nom.	Nom.	Nom.	20	20
CONSTRUCTION TRIPS [6]	***2,801***	***146***	***146***	***292***	***146***	***166***	***312***

[1] Source: Based on information provided by the project Applicant, the following are assumed:
- 8,000,000 cubic yards (CY) of imported fill material
- 15-CY haul trucks
- 1,064 days of material import activities
- 9.5 hours of activity per day

[2] Trips are one-way traffic movements, entering or leaving.

[3] The number of daily truck trips represents 8,000,000 CY of import material / 15-CY haul trucks / 1,064 days = 502 daily truckloads, or 1,004 daily truck trip ends (502 inbound trips and 502 outbound trips). The number of hourly truck trips represents 502 truckloads / 9.5 hours = 53 truckloads per hour, or 106 hourly truck trip ends (53 inbound trips and 53 outbound trips).

[4] A PCE factor of 2.75 was applied to each haul truck trip end.

[5] A total of 20 workers are expected at the construction site during material import and fill activities. Each worker is assumed to arrive in a personal vehicle, resulting in 40 daily trip ends (20 inbound trips and 20 outbound trips). It is assumed that all 20 workers will arrive at 6:00 AM and therefore will not overlap the AM commute peak hour. It is assumed that all workers will depart the site between 5:00 and 6:00 PM, therefore all outbound worker trips are assumed to overlap the PM peak hour.

[6] Represents the sum of PCE adjusted haul truck trip ends and construction worker trip ends.

8.2 Qualitative Assessment of Construction Traffic

The overall level of trips forecast to be generated during the most intensive phase of the Specific Plan site preparation is lower than the level of trip generation expected to occur after full build-out and occupancy of the Specific Plan site. As stated in *Section 2.6.1*, full build-out of the Specific Plan is expected to generate 1,656 PCE-adjusted trips during the weekday AM peak hour and 2,238 PCE-adjusted trips during the weekday PM peak hour. On a daily basis, full build-out of the Specific Plan is expected to generate 14,845 PCE-adjusted trips. Since the construction trip generation forecast is lower than the trips forecast to be generated by the Specific Plan after full build-out and occupancy, it is determined that the project's construction activities are not anticipated to cause new operational deficiencies beyond those disclosed in *Section 6.0*. As construction activities are considered temporary in nature, no intersection improvements are recommended to be required during the construction phase.

8.3 Construction Phase Improvement Measures

Although construction activities are expected to have less of an effect on intersection operations within the study area compared to full build-out of the Specific Plan, it is recommended that the project Applicant submit a detailed Construction Staging and Traffic Management Plan (CSTMP) to the City for review and approval prior to the start of any infrastructure or building construction activity. The CSTMP is intended to identify the location of any temporary roadway lane and/or sidewalk closures needed during project construction, including the construction of the roundabout intersection proposed at Martin Road/First Street (Study Intersection 7, herein), a detour plan, haul route(s), and a staging plan, as applicable.

The CSTMP would be based on the nature and timing of the future development project's specific construction activities and would consider other projects under construction in the immediate vicinity of the project site, if any. The CSTMP also would include features such as notification to adjacent property owners and occupants of upcoming construction activities, advance notification regarding any temporary transit stop relocations, and limitation of any potential roadway lane closure(s) to off-peak travel periods, to the extent feasible. Accordingly, the CSTMP will include, but not be limited to, the following features, as appropriate:

- Provide advanced notification to adjacent property owners and occupants, as well as nearby schools, of upcoming construction activities, including durations and daily hours of construction. Provide a posted sign on the project site with hotline information for adjacent property owners to call and address specific issues or activities that may potentially cause problems at on-and-off-site locations;
- Coordinate with the City and emergency service providers to ensure adequate access is maintained to the project site and neighboring businesses;
- Coordinate with public transit agencies to provide advanced notifications of any temporary transit stop relocations and durations and follow all safety required procedures required by the concerned agency;

- Limit any potential roadway lane closure/s to off-peak travel periods, to the extent feasible;
- Provide traffic control for any potential roadway lane closure, detour, or other disruption to traffic circulation;
- To the extent feasible, store any construction equipment within the perimeter fence of the construction site. Should temporary storage of a large piece of equipment be necessary outside of the perimeter fence (e.g., within a designated lane closure area), that area must comply with City and/or State-approved detour/traffic control plans;
- Provide safety precautions for pedestrians and bicyclists through such measures as alternate routing and protection barriers. Should any temporary closure of an existing sidewalk be required, appropriate pedestrian detours will be established and signed as such so as to maintain public pedestrian circulation. The project applicant will submit all necessary permit applications prior to commencing construction activities which might encroach on public right-of-way;
- Identify the routes that construction vehicles would utilize for the delivery of construction materials (i.e., lumber, tiles, piping, windows, etc.), to access the project site, traffic controls and detours, and proposed construction phasing plan for the project;
- Require the applicant to keep all haul routes adjacent to the project site clean and free of debris including, but not limited to, gravel and dirt as a result of its operations;
- Schedule delivery of construction materials and hauling/transport of oversize loads to off-peak travel periods, to the extent possible;
- Obtain a Caltrans transportation permit for use of oversized transport vehicles on Caltrans facilities, if needed;
- Haul trucks entering or exiting public streets shall at all times yield to public traffic;
- Construction-related parking and staging of vehicles shall occur on-site to the extent possible;
- Coordinate deliveries to reduce the potential of trucks waiting to unload for protracted periods of times;
- Prohibit parking by construction workers on nearby streets and direct construction workers to available/designated parking areas within and adjacent to the project site; and
- The construction zone traffic control plans detailed in the CSTMP shall meet standards established in the current *California Manual on Uniform Traffic Control Devices (MUTCD)* as well as City of Irwindale requirements. The traffic control plans should be prepared by either a Civil or Traffic Engineer licensed by the State of California, and submitted to the City of Irwindale Public Works Department for review and approval prior to the commencement of project construction.

Implementation of the above construction management practices is expected to reduce the effects of project construction on the surrounding community.

9.0 SUMMARY AND CONCLUSIONS

- ***Specific Plan Description –*** The Irwindale Brew Yard Specific Plan is located in the City of Irwindale, California. The Specific Plan site consists of several parcels totaling approximately 150.1 acres, including all or portions of Assessor Parcel Numbers (APNs) 8533-009-025, 8533-009-026, 8533-009-027, 8533-009-028, 8533-009-029, and 8533-011-052. The existing site is currently occupied by two non-operational gravel mining sites, an overflow truck parking area and ancillary buildings associated with the adjacent Irwindale Brew Yard, and a solar panel array located adjacent to First Street. All prior land uses and current improvements will be removed to accommodate development of the Specific Plan. The Irwindale Brew Yard Specific Plan consists of the development of two separate planning areas that allow for a range of development types envisioned for the Specific Plan area. The Specific Plan development envelope includes 3,000,000 square feet of new industrial and business park uses within the approximately 144.1-acre Planning Area 1, and 12,000 square feet of commercial uses within the approximately 6.0-acre Planning Area 2. Full build-out of the Specific Plan is expected to occur in year 2030.

- ***Specific Plan Access –*** Vehicular access to the Specific Plan area is proposed to be accommodated by two access points along First Street. Access to Planning Area 1 will be accommodated by the existing intersection of First Street and Martin Road, which is planned to be improved to provide a roundabout intersection. Access to Planning Area 2 will be accommodated by the existing Irwindale Brew Yard driveway located on the north side of First Street. New private drive aisles will be constructed on-site within each Planning Area in order to connect the proposed buildings and associated surface parking lots with the existing street network. Pedestrian access to the Specific Plan area will be accommodated by the existing network of public sidewalks provided in the vicinity of the Specific Plan area. Within the Specific Plan area, sidewalks are planned to be provided along the primary private drive aisles in order to accommodate pedestrian access between the proposed buildings and the existing street network.

- ***Trip Generation Forecast –*** At full build-out, the Specific Plan is expected to generate 1,656 PCE-adjusted trips (1,294 inbound trips and 362 outbound trips) during the weekday AM peak hour. During the weekday PM peak hour, the proposed project is expected to generate 2,238 PCE-adjusted trips (866 inbound trips and 1,372 outbound trips). On a daily basis (i.e., over a 24-hour period), the proposed project is forecast to generate 14,845 PCE-adjusted daily trips (approximately 7,423 inbound trips and 7,422 outbound trips) on a typical weekday.

- ***CEQA VMT Analysis –*** The Specific Plan's VMT impacts were determined based on project-specific travel demand modeling obtained from the SCAG ABM. The Specific Plan's project-level impact was analyzed using the HBW VMT per employee metric. Based on VMT forecasts derived from the SCAG ABM and with application of VMT reducing project design features required by the IMC, the Specific Plan is calculated to generate 29.21 HBW VMT per employee in year 2024, which exceeds the threshold of 24.64 HBW VMT per employee. The

Specific Plan is therefore determined to result in a significant project-level VMT impact. The Specific Plan's cumulative VMT impact was analyzed using the Citywide boundary VMT per service population metric. Based on VMT forecasts derived from the SCAG ABM, compared to the boundary VMT per service population without the Specific Plan, boundary VMT per service population decreases with the addition of the proposed Specific Plan. Additionally, the Specific Plan is determined to be consistent with the land use assumptions included in the current SCAG RTP/SCS. The Specific Plan is therefore determined to have a less than significant cumulative impact.

- ***CEQA Mitigation Measures –*** The Specific Plan is expected to result in a significant project-level impact under year 2024 conditions. The following mitigation measures are recommended to reduce the significance of the impact:
  - Provide Ridesharing Program
    - » In compliance with IMC Section 17.41.030(B), the individual tenants and operators of future development projects resulting from the Specific Plan are expected to be required to designate preferential parking spaces for carpool/vanpool vehicles, as well as safe and convenient loading zones for carpool/vanpool passengers pursuant to IMC Section 17.41.030(B)(3)(a).
    - » All tenants of future development projects resulting from the Specific Plan should provide an app, website, or other convenient means of digital ride coordination. In order to boost the potential for identifying ride matches and pool resources for deployment of the program, it is recommended that one single app or website be deployed for all tenants at the Specific Plan site.
  - Implement Subsidized or Discounted Transit Program
    - » The individual tenants and operators of future development projects resulting from the Specific Plan should offer free, fully subsidized transit passes to all employees on a monthly basis.
  - Price Workplace Parking
    - » Secured parking should be provided for each development within the Specific Plan area in order to minimize potential parking encroachment among future developments at the site. Likewise, on-street parking along First Street and in the roadways south of First Street should be monitored to ensure employees from future developments are not encroaching into adjacent public streets.
    - » It is recommended that the cost of parking per day be set equivalent to the daily fare for transit to and from the Specific Plan area, which currently amounts to $3.50 per day for each of the major transit operators in the vicinity of the Specific Plan.

- » It is recommended that discounted or free daily parking be provided for carpool and vanpool vehicles in order to encourage higher passenger occupancy rates in the vehicle trips which do occur.

- Implement Employee Parking Cash-Out
  - » Secured parking should be provided for each development within the Specific Plan area in order to minimize potential parking encroachment among future developments at the site. Likewise, on-street parking along First Street and in the roadways south of First Street should be monitored to ensure employees from future developments are not encroaching into adjacent public streets.
  - » The value of the cash-out incentive should be consistent with the requirements of the California parking cash-out law (California Health and Safety Code § 43845), which sets a range of $50 to $350 per month, adjusted by the California Consumer Price Index.
- Conduct Employee Surveys
  - » It is recommended that future tenants within the Specific Plan site be required to conduct employee surveys. The survey may include questions such as the employee's primary commute mode (i.e., drive alone, carpool, transit, bike, walk, telework), number of days per week using each mode, work schedule, commute distance or zip code of origin, etc. The employee surveys are recommended to be conducted one year after occupancy and operation to allow travel habits to stabilize in order to determine the actual transportation mode/s used by the employees to commute to/from work. The employee surveys should be aggregated/summarized and submitted to the City for review.

Future developments at the project site will be required to provide a ridesharing program, implement a fully subsidized transit program, and either price workplace parking or implement employee parking cash-out. The mitigation measures described above are conservatively calculated to result in a quantifiable commute VMT reduction of 19.98%. After application of the VMT reductions resulting from the mitigation measures, the Specific Plan is calculated to generate 23.37 HBW VMT per employee, which would fall below the threshold of 24.64 HBW VMT per employee. However, although application of the 19.98% reduction in commute VMT is expected to fully offset and reduce the significant project-level VMT impact to a less than significant level, the effectiveness of the recommended mitigation measures cannot be guaranteed to achieve the targeted reduction in commute VMT. It is therefore conservatively concluded that the project-level VMT impact would remain potentially significant and unavoidable even with the recommended mitigation measures.

- ***Active Transportation And Public Transit Analysis –*** The City's adopted policies, plans, and programs pertaining to active transportation and public transit were reviewed in order to determine if the Specific Plan would conflict with the adopted policies and programs. Specifically, transportation policies and programs in the 2030 General Plan and Active

Transportation Plan were reviewed. The Specific Plan is not expected to conflict with or prevent the City from implementing any of the policies or programs set forth in the General Plan or Active Transportation Plan. The potential increase in active transportation and transit usage in the vicinity of the Specific Plan area is determined to not result in adverse impacts. Pedestrian and bicycle improvements will be constructed according to current design standards and are therefore not expected to decrease safety on these facilities. Rather, the Specific Plan is expected to increase performance and safety by closing existing gaps in the pedestrian network adjacent to the site. Therefore, it is determined that the Specific Plan will have a less-than-significant impact on pedestrian, bicycle, and transit programs, plans, ordinances, or policies adopted by the City of Irwindale.

- ***Non-CEQA Local Transportation Analysis –*** A total of 24 study intersections were reviewed for compliance with the City of Irwindale's adopted LOS standards. The study intersections were evaluated using the City-approved ICU and HCM methodologies to determine the weekday AM and PM peak hour LOS under existing and future (year 2030) without and with project conditions. Based on application of the City's LOS standards, 10 of the 24 study intersections are either calculated to operate at a deficient LOS due to the addition of Specific Plan traffic, or are calculated to exceed the City's thresholds for further deteriorating an already deficient LOS.

- ***Non-CEQA Improvement Measures –*** It is recommended that the project Applicant construct public sidewalk adjacent to the Specific Plan site's frontage along Irwindale Avenue and First Street. It is further recommended that the project Applicant fund or install pedestrian crossing improvements in the vicinity of the Metro A (previously L/Gold) Line Irwindale Station as identified in the City's Active Transportation Plan in order to accommodate safe pedestrian access to/from the Specific Plan area. The specific pedestrian improvements shall be determined by the City.

  As a result of the non-CEQA local transportation analysis, the following intersection improvements are recommended to be provided:

  - Int. 3 – I-605 Freeway Southbound On-Ramp/Live Oak Avenue
    - » Provide a second westbound left-turn lane
    - » Provide a second southbound receiving lane
  - Int. 4 – I-605 Freeway Northbound Off-Ramp/Live Oak Avenue
    - » Provide a third westbound through lane
  - Int. 5 – Arrow Highway/Live Oak Avenue (East)
    - » Provide a third eastbound through lane
  - Int. 6 – Azusa Canyon Road/Arrow Highway
    - » Restripe the westbound right-turn lane to provide a shared through/right-turn lane

- Int. 9 – Irwindale Avenue/Foothill Boulevard
  - » Provide an eastbound right-turn overlap phase
  - » Restripe the southbound approach to provide a shared left-turn/through lane and a shared through/right-turn lane
- Int. 13 – Irwindale Avenue/First Street
  - » Provide a second northbound left-turn lane
  - » Restripe the center eastbound shared left-turn/through lane to provide a shared left-turn/through/right-turn lane
  - » Provide an LPI to promote pedestrian safety on the south leg crosswalk
- Int. 14 – Irwindale Avenue/Gladstone Street
  - » Provide split phasing for the eastbound and westbound approaches
  - » Restripe the center westbound through lane to provide a shared left-turn/through lane
  - » Provide an LPI to promote pedestrian safety on the north leg crosswalk
- Int. 15 – Irwindale Avenue/Arrow Highway
  - » Provide a second southbound left-turn lane
  - » Provide an exclusive westbound right-turn lane
  - » Provide a westbound right-turn overlap phase

- ***Caltrans Analysis –*** It is understood that the VMT analysis prepared for the City of Irwindale, which is consistent with the recommendations provided in the *Technical Advisory*, is consistent with Caltrans requirements as well. Therefore, no separate VMT analysis has been prepared for Caltrans' review of the proposed project. Pursuant to the direction provided in the "Local Development Review (LDR) Safety Review Practitioner's Guidance," an analysis of the Specific Plan's effect on off-ramp queuing at the I-605 Freeway interchanges with Arrow Highway and Live Oak Avenue (Study Int. 2, 3, and 4) and at the I-210 Freeway interchanges with Irwindale Avenue, Vernon Avenue, and Azusa Avenue (Study Int. 10, 11, 18, 19, 21, and 22) determined that the Specific Plan is not expected to cause or contribute towards vehicle queuing which extends back into the I-210 Freeway or I-605 Freeway mainline lanes. Therefore, the Specific Plan will have a less than significant safety impact on the SHS.

- ***Construction Traffic Evaluation –*** The overall highest construction traffic forecast during the preparation of the Specific Plan site is expected to occur as a result during the filling of the northwest pit. As a result of the material hauling and construction worker trips expected to occur during this phase, 292 PCE-adjusted trips (146 PCE-adjusted inbound trips and 146 PCE-adjusted outbound trips) are expected to occur during the weekday AM peak hour. During the weekday PM peak hour, 312 PCE-adjusted trips (146 PCE-adjusted inbound trips and 166

PCE-adjusted outbound trips) are expected to occur. On a daily basis, 2,801 PCE-adjusted trips are expected to occur (1,401 PCE-adjusted inbound trips and 1,400 PCE-adjusted outbound trips) on a typical weekday. Since the construction trip generation forecast is lower than the trips forecast to be generated by the Specific Plan after full build-out and occupancy, it is determined that the project's construction activities are not anticipated to cause new operational deficiencies beyond those disclosed in *Section 6.0*. Although construction activities are expected to have less of an effect on intersection operations within the study area compared to full build-out of the Specific Plan, it is recommended that the project Applicant submit a detailed Construction Staging and Traffic Management Plan (CSTMP) to the City for review and approval prior to the start of any infrastructure or building construction activity.

APPENDIX A

NOTICE OF PREPARATION AND TRANSPORTATION COMMENT LETTERS

Notice of Preparation

Date of Notice:	February 7, 2024
To:	Agencies, Organizations, and Interested Parties
Subject:	Notice of Preparation of a Draft Environmental Impact Report
Project Title:	Irwindale Brew Yard Specific Plan
Project Location:	15801 First Street Irwindale, CA 91706
Lead Agency:	City of Irwindale
Lead Agency Contact:	Brandi Jones, Senior Planner City of Irwindale 5050 N. Irwindale Avenue Irwindale, CA 91706 (626) 430-2260 bjones@irwindaleca.gov

This Notice of Preparation (NOP) has been prepared to notify agencies and interested parties that the City of Irwindale (City), as the Lead Agency, will prepare an Environmental Impact Report (EIR) under the California Environmental Quality Act (CEQA) for the proposed Irwindale Brew Yard Specific Plan. (Proposed Project). The Project description, location, and probable environmental effects are included below in this NOP.

The City requests your comments as to the scope and content of the EIR. Comments must be submitted in writing under the directions below. If you represent an agency, the City is seeking comments on the scope and content of the environmental information in the document, which is germane to your agency's statutory responsibilities in connection with the Proposed Project. If your agency has the authority to issue permits or take other actions related to the Project, your agency will need to use the EIR prepared by the City when considering your permitting decisions or other approvals for the Project.

Per the time limits established by CEQA, the City requests comments be received by 5:00 p.m. on March 14, 2024 . **Please send your comments, including a return address and contact name, via mail to the identified Lead Agency Contact.**

Scoping Meeting. In accordance with CEQA Guidelines 15082, a public Scoping Meeting will be held on February 22, 2024 at 6:00 PM at the Irwindale Community Center at 16102 Arrow Highway, Irwindale, CA.

Project Location:

The Specific Plan Area is comprised of all or portions of six Assessor Parcel Numbers (APNs):
8533-009-025, - 8533-009-026, - 8533-009-027, - 8533-009-028, - 8533-009-029, - 8533-011-052.
The Specific Plan area would be approximately 150.1 acres, located south of Interstate 210, west of Irwindale Avenue, east of the Santa Fe Dam Recreation Area, and north of First Street in the eastern portion of the City of Irwindale in Los Angeles County. The property has no street address but is adjacent to the Irwindale Brew Yard facility at 15801 First Street as Shown in Figure 1 on Page 4.

Project Description:

The Specific Plan consists of developing two (2) separate planning areas that allow for a range of development types envisioned for the Specific Plan Area. Upon adoption of the Specific Plan, the following planning areas depicted in the Site Plan on Page 4 will apply to the Specific Plan Area and will replace all prior zoning designations.

The Specific Plan would authorize a maximum of 3 million square feet of new industrial/business park uses within Planning Area 1 (Industrial/Business Park). A maximum of 12,000 square feet of commercial use within Planning Area 2 (Commercial) would also be authorized, as shown in Table 1 below. In addition to structures, the development will consist of loading docks, truck trailer and automobile parking, vehicular and pedestrian circulation, landscaping, and associated infrastructure improvements. The primary uses are outlined in the Project's Development Regulations.

TABLE 1: SPECIFIC PLAN OVERVIEW

Land Use Designation	Acres	Usable[1] Building Square Footage (SF)
Business Park Development	144.1	3,000,000 (Maximum)
Commercial	6.0	12,000 (Maximum)
Total	**150.1**	**3,012,000**
(1) **Usable square footage is defined as tenanted square footage.**		

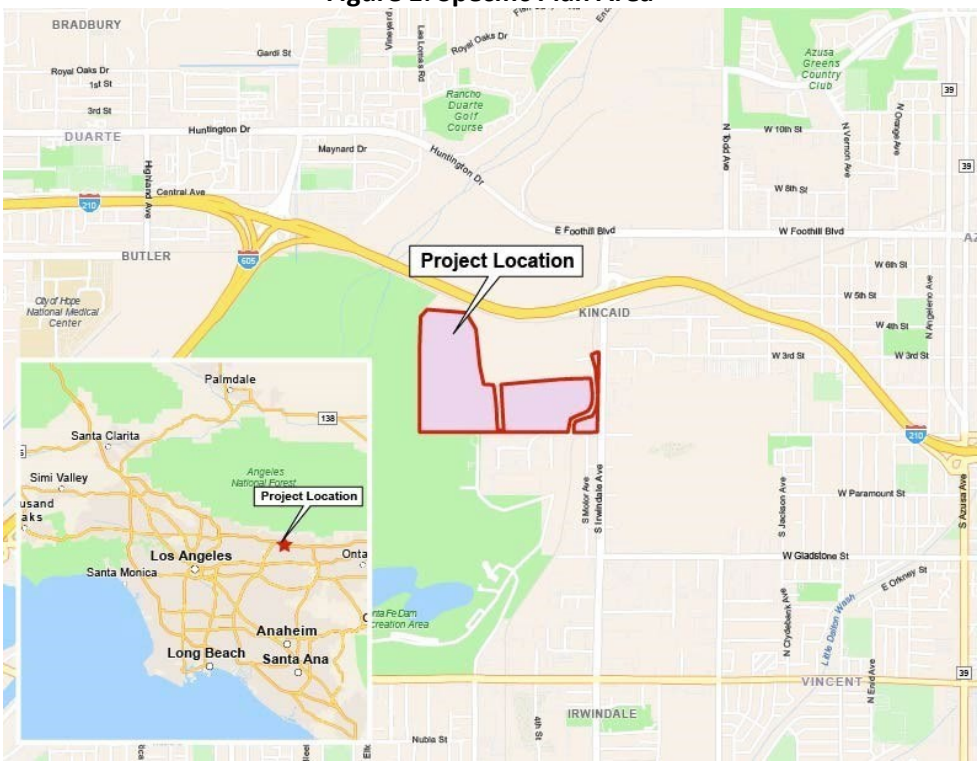
Statement of Project Objectives

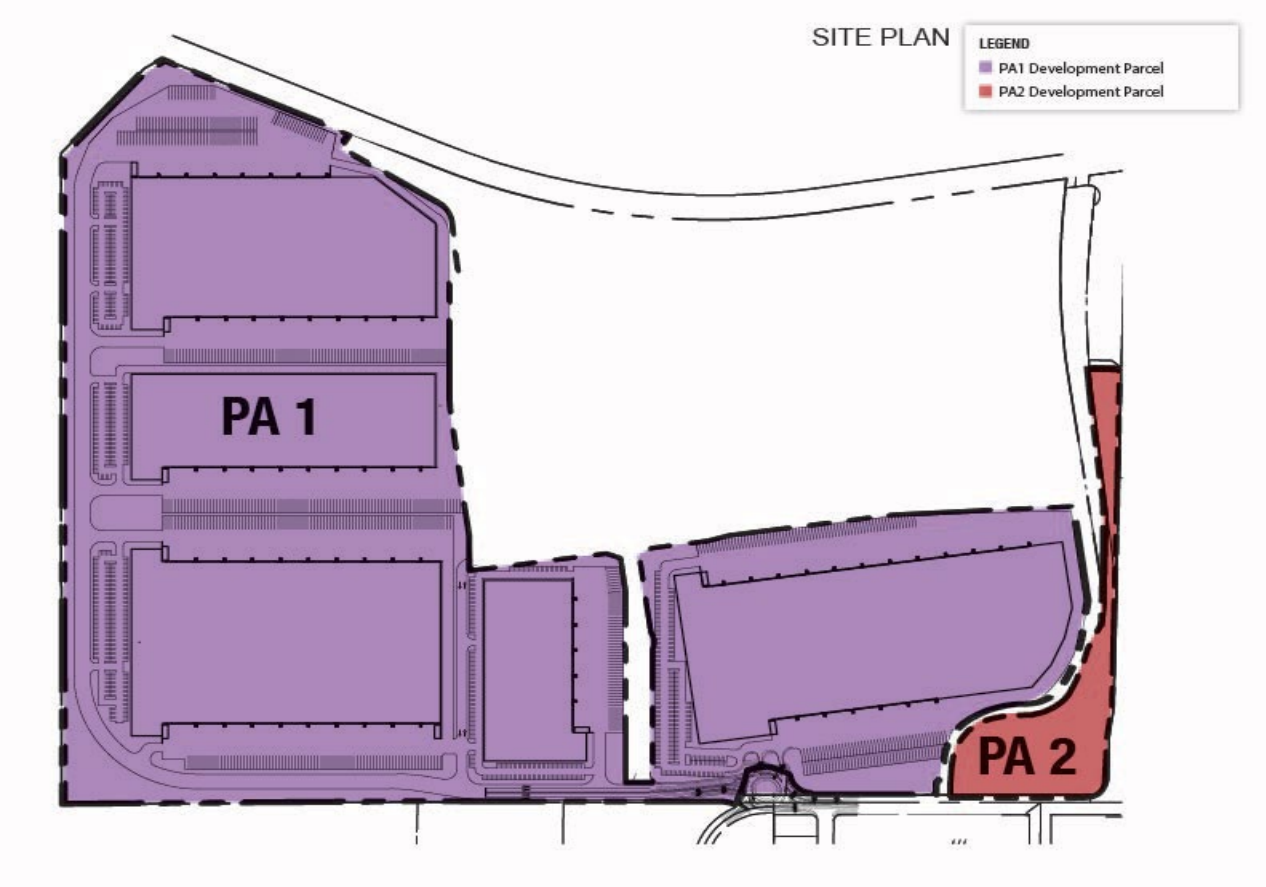
The proposed Project has the following Project Objectives in support of the overall vision, fundamental purpose, and Project description stated above:

- Maintain the economic viability of existing uses and add new uses that complement the operations of the existing Irwindale Brew Yard facilities while increasing economic and employment opportunities within Irwindale.
- Increase adjacent warehouse space to the existing Irwindale Brew Yard facilities in response to insufficient storage capacity.
- Provide economic opportunities and economic and job growth in the City of Irwindale by diversifying the City's available range of industrial, commercial, and employment-generating uses.
- Provide for a master-planned, job-producing development near Interstate 210 freeway to accommodate uses that benefit from access to the regional transportation system.
- Allow for the accommodation of industrial, manufacturing and assembly, warehouse distribution, logistics, and fulfillment center buildings designed to attract a wide range of users and are economically competitive with other contemporary buildings of these types in the region.
- Provide the opportunity for neighborhood-serving commercial uses at the corner of Irwindale Avenue and First Street to benefit employees and visitors of the onsite uses and commuters traveling through the City on Irwindale Avenue.
- Identify and provide for the installation, operation, and ongoing maintenance of water, sewer, drainage, and road facility infrastructure to adequately service the Specific Plan area.
- Provide guidelines and standards for architecture, walls, fencing, signage, lighting, and entry treatments within the Irwindale Brew Yard Specific Plan area that provide a well-defined identity for the development.
- Provide guidelines and standards for landscaping and building systems to reduce unnecessary water use, energy use, and fossil fuel consumption in the Irwindale Brew Yard Specific Plan area.
- Facilitate efficient implementation of low-impact development stormwater management and drought-tolerant landscaping principles.
- Provide Gravel Quarry Appraisal (Should include: Assess land and buildings; Determine surface and mineral ownership; Estimate quantity and quality of geologic materials; Corroborate geologic information and validate the actual units available for absorption; Analyze feasibility of excavation and mining; Assign mineral-specific risk factors to the mining and process operations; Evaluate mineral process and equipment required to create finished products; Examine product quality, quantity, and Cost of Goods Sold (COGS) over life of quarry; Filter and compare appropriate financial attributes to peer quarries; Quarry cashflow analysis to determine profitability of the mining project over time; Guage key project risks and assign industry supported discount factors)
- Provide option to restore the historic mining site to a land use consistent with the underlying land use regulations. An Inert Debris Engineered Fill Operation Plan (IDEFO) will be prepared. The ultimate topography of the project site after IDEFO activities would include a nearly level pad.

- Ensure full compliance with local, state, and federal regulations governing an IDEFO, and environmental protection.
- Provide Pros and Cons for “extracting mineral materials and Reclamation” and “IDEFO without mineral extraction”

Figure 1: Specific Plan Area





The discretionary actions anticipated to be taken by the City as part of the proposed project include:

- General Plan Amendment No. 01-2023
- Zone Change No. 01-2023
- Zone Ordinance Amendment No. 01-2023
- Tentative Parcel Map. No. 84135
- Development Agreement No. 01-2023
- Certification of the Environmental Impact Report

Other non-discretionary actions anticipated to be taken by the City at the Staff level as part of the proposed Project include:

- Review all on-site plans, including grading and on-site utilities, and approval of a Storm Water Pollution Prevention Plan (SWPPP) to mitigate site runoff during construction and a Standard Urban Stormwater Mitigation Plan (SUSMP) to mitigate post-construction runoff flows and
- Demolition permits for existing on-site structures.

Other Public Agency Approvals:

As discussed above, the City of Irwindale is the lead agency and will carry out and consider approvals for the Project. In addition, the following agencies are considered responsible agencies under CEQA, from which approval, consent, or permits may be required.

- Los Angeles Regional Water Quality Control Board
- CalRecycle
- Local Agency Formation Commission of Los Angeles County

- Azusa Light and Water District
- South Coast Air Quality Management District
- City of Azusa
- County of Los Angeles, Department of Public Works and Fire Department
- Sanitation Districts of Los Angeles County
- Other Utility Approvals (Southern California Edison, SoCal Gas, Frontier and/or Charter communications)
- U.S. Army Corps of Engineering
- California Public Utilities Commission
- California Department of Fish and Wildlife

Probable Environmental Effects of the Proposed Project:

The Specific Plan is considered a "Project" under CEQA and is therefore subject to CEQA review. As a policy document, the Specific Plan provides guidance and sets standards for several areas of mandatory environmental review. The EIR will analyze the potentially significant impacts of adopting and implementing the Specific Plan. In particular, the EIR will focus on areas of planned land use changes.

Under Section 15063(a) of the CEQA Guidelines, no Initial Study will be prepared for the proposed project. The EIR will be organized, and the Project evaluated for the full range of probable environmental issues contemplated under CEQA and the CEQA Guidelines, including the following:

Aesthetics and Visual Resources

Agricultural & Forestry Resources

Air Quality

Biological Resources

Cultural Resources and Tribal Cultural Resources

Geology, Soils, and Mineral Resources

Greenhouse Gases and Climate Change and Energy

Hazards and Hazardous Materials

Hydrology and Water Quality

Land Use and Population

Noise

Public Services and Recreation

Transportation and Circulation

Utilities and Service Systems

Wildfire

Mandatory Findings of Significance/Cumulative Impacts

In addition to these issues, the EIR will assess the CEQA-mandated topics such as cumulative impacts, growth inducement, and project alternatives. The content of the EIR will be subject to further input received during the NOP comment period and the Public Scoping Meeting.

Date: February 7, 2024

Signature: 

Brandi Jones

DEPARTMENT OF TRANSPORTATION
DISTRICT 7
100 S. MAIN STREET, MS 16
LOS ANGELES, CA 90012
PHONE (213) 269-1124
FAX (213) 897-1337
TTY 711
www.dot.ca.gov

Making Conservation a California Way of Life

March 13, 2024

Brandi Jones, Senior Planner
City of Irwindale
5050 N. Irwindale Avenue
Irwindale, CA 91706

RE: Irwindale Brew Yard Specific Plan
SCH # 2024020415
Vic. LA-210/PM R37.87
GTS # LA-2024-04450-NOP-AL

Dear Brandi Jones,

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above-referenced NOP. The Specific Plan would authorize a maximum of 3 million square feet of new industrial/business park uses within Planning Area 1 (Industrial/Business Park). A maximum of 12,000 square feet of commercial use within Planning Area 2 (Commercial) would also be authorized. In addition to structures, the development will consist of loading docks, truck trailer and automobile parking, vehicular and pedestrian circulation, landscaping, and associated infrastructure improvements. The primary uses are outlined in the Project's Development Regulations.

The mission of Caltrans is to provide a safe and reliable transportation network that serves all people and respects the environment. Senate Bill 743 (2013) has codified into CEQA law and mandated that CEQA review of transportation impacts of proposed development be modified by using Vehicle Miles Traveled (VMT) as the primary metric in identifying transportation impacts for all future development projects. You may reference the Governor's Office of Planning and Research (OPR) for more information:

https://opr.ca.gov/ceqa/#guidelines-updates

As a reminder, VMT is the standard transportation analysis metric in CEQA for land use projects after July 1, 2020, which is the statewide implementation date.
Caltrans is aware of challenges that the region faces in identifying viable solutions to alleviating congestion on State and Local facilities. With limited room to expand vehicular capacity, all developments in the General Plan should incorporate multi-modal and complete streets transportation elements that will actively promote alternatives to car use and better manage existing parking assets. Prioritizing and allocating space to efficient modes of travel such as bicycling and public transit can allow streets to transport more people in a fixed amount of right-of-way.

Caltrans supports the implementation of complete streets and pedestrian safety measures such as road diets and other traffic calming measures. Please note the Federal Highway Administration (FHWA) recognizes the road diet treatment as a proven safety countermeasure, and the cost of a road diet can be significantly reduced if implemented in tandem with routine street resurfacing. Overall, the environmental report should ensure all modes are served well by planning and development activities. This includes reducing single occupancy vehicle trips, ensuring safety, reducing vehicle miles traveled, supporting accessibility, and reducing greenhouse gas emissions.

We encourage the Lead Agency to evaluate the potential of Transportation Demand Management (TDM) strategies and Intelligent Transportation System (ITS) applications in order to better manage the transportation network, as well as transit service and bicycle or pedestrian connectivity improvements. For additional TDM options, please refer to the Federal Highway Administration's *Integrating Demand Management into the Transportation Planning Process: A Desk Reference* (Chapter 8). This reference is available online at:

http://ops.fhwa.dot.gov/publications/fhwahop12035/fhwahop12035.pdf

Also, Caltrans has published the VMT-focused Transportation Impact Study Guide (TISG), dated May 20, 2020, and the Caltrans Interim Land Development and Intergovernmental Review (LD-IGR) Safety Review Practitioners Guidance, prepared on December 18, 2020. You can review those documents at the following link:

https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/sb-743/2020-05-20-approved-vmt-focused-tisg-a11y.pdf

https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/sb-743/2020-12-22-updated-interim-ldigr-safety-review-guidance-a11y.pdf

Potential environmental effects of the Project should include the Transportation section with VMT analysis in the Draft Environmental Impact Report. To address this development traffic safety concerns, along with the size of the project and the distance to the State facilities, Caltrans recommends the Lead Agency include queuing analysis with actual signal timing for existing traffic conditions plus project net trips at the impacted off-ramps on Freeway 605 and 210 on the following interchanges.

a. Irwindale Ave/I- 210 Interchange.
b. Vernon Ave/I-210 Interchange.
c. Azusa Ave/I-210 Interchange.
d. Arrow Hwy/605 Interchange.
e. Live Oak Ave/605 Interchange.

At the off-ramps, we would like the City to ensure that the project traffic does not spill back onto the mainline. At the intersection of the turning pockets, we would like the City to ensure that the traffic queue does not exceed the storage lengths and through traffic would not be impeded.

Caltrans encourages lead agencies to prepare traffic safety impact analysis for this Specific Plan in the California Environmental Quality Act (CEQA) review process using Caltrans guidelines above on the State facilities so that, through partnerships and collaboration, California can reach zero fatalities and serious injuries by 2050.

If you have any questions, please feel free to contact Mr. Alan Lin the project coordinator at (213) 269-1124 and refer to GTS # LA-2024-04450-NOP-AL.

Sincerely,

Miya Edmonson

MIYA EDMONSON
LDR/CEQA Branch Chief

email: State Clearinghouse

Los Angeles County
Metropolitan Transportation Authority

One Gateway Plaza
Los Angeles, CA 90012-2952

213.922.2000 Tel
metro.net

Metro

March 11, 2024

Brandi Jones
Senior Planner
City of Irwindale
5050 N. Irwindale Avenue
Irwindale, CA 91706
Sent by Email: bjones@irwindaleca.gov

RE: 15801 First Street Irwindale, CA 91706 – Irwindale Brew Yard Specific Plan
Notice of Preparation of Environmental Impact Report (EIR)

Dear Ms. Jones:

Thank you for coordinating with the Los Angeles County Metropolitan Transportation Authority (Metro) regarding the proposed Irwindale Brew Yard Specific Plan (Project) located at 15801 First Street in the City of Irwindale (City). Metro is committed to working with local municipalities, developers, and other stakeholders across Los Angeles County on transit-supportive developments to grow ridership, reduce driving, and promote walkable neighborhoods. Transit Oriented Communities (TOCs) are places (such as corridors or neighborhoods) that, by their design, allow people to drive less and access transit more. TOCs maximize equitable access to a multi-modal transit network as a key organizing principle of land use planning and holistic community development.

Per Metro's area of statutory responsibility pursuant to sections 15082(b) and 15086(a) of the Guidelines for Implementation of the California Environmental Quality Act (CEQA: Cal. Code of Regulations, Title 14, Ch. 3), the purpose of this letter is to provide the City with specific detail on the scope and content of environmental information that should be included in the Environmental Impact Report (EIR) for the Project. In particular, this letter outlines topics regarding the Project's potential impacts on the Metro A Line, Irwindale Station, and freight rail infrastructure which should be analyzed in the EIR, and provides recommendations for mitigation measures as appropriate. Effects of a project on transit systems and infrastructure are within the scope of transportation impacts to be evaluated under CEQA.[1]

In addition to the specific comments outlined below, Metro is providing the City and Applicant with the Metro Adjacent Development Handbook (attached), which provides an overview of common concerns for development adjacent to Metro right-of-way (ROW) and transit facilities, available at https://www.metro.net/devreview.

Project Description
The Project includes the development of two separate areas. The first area is 144.1 acres and permits the development of a new industrial/business park. The second area is 6.0 acres and supports commercial use.

[1] See CEQA Guidelines section 15064.3(a); Governor's Office of Planning and Research Technical Advisory on Evaluating Transportation Impacts In CEQA, December 2018, p. 19.

Recommendations for EIR Scope and Content

Light Rail Adjacency

1. Rail Operations: The Metro A Line currently operates weekday peak service as often as every six minutes in both directions. Trains may operate in and out of revenue service, 24 hours a day, seven days a week, in the ROW adjacent to the Project.

2. Impact Analysis: Due to the Project's proximity to the A Line ROW and Irwindale Station, the EIR must analyze potential effects on light rail operations and identify mitigation measures as appropriate. Critical impacts to be studied should include (without limitation): impacts of Project construction and operation on and potential damage to the structural and systems integrity of tracks and related infrastructure; disruption to light rail service; rail crossing safety for pedestrians and vehicles; and temporary changes to customer access and circulation to the station. Specific impacts and mitigation measures that should be studied include:

    a. Disturbance to Light Rail Structural Support: The Project activities may include excavation and construction of underground structures, which may have the potential to disturb adjoining soils and jeopardize support of the light rail tracks.

        Recommended mitigation measures:

        i. Technical Review: The Applicant shall submit engineering drawings and calculations, as well as construction work plans and methods, to evaluate any impacts to the Metro A Line infrastructure in relationship to the Project. Before issuance of any building permit for the Project, the Applicant shall obtain Metro's approval of final construction plans.

        ii. Structure Setback: Where the Project site is immediately adjacent to Metro ROW, all building structures (above ground and below grade) and projections shall be set back at least five (5) feet from the property line shared by the Project property and Metro to allow adequate space for construction and property maintenance activities. Property owners will generally not be permitted to access Metro property to construct or maintain private development or landscaping, except as approved as indicated in paragraph 3.c below.

        iii. Construction Safety: The construction and operation of the Project shall not disrupt the operation and maintenance activities of the Metro A Line or the structural and systems integrity of Metro's light rail infrastructure. Not later than two months before Project construction, the Applicant shall contact Metro to schedule a pre-construction meeting with all Project construction personnel and Metro Real Estate, Construction Management, and Construction Safety staff. During Project construction, the Applicant shall:

            1. Work in close coordination with Metro to ensure that Station access, visibility, and structural integrity are not compromised by construction activity or permanent build conditions;

            2. Construct a protection barrier to prevent objects, material, or debris from falling onto the ROW;

            3. Notify Metro of any changes to construction activity that may impact the use of the ROW;

4. Permit Metro staff to monitor construction activity to ascertain any impact to the A Line ROW and Irwindale Station.

b. Overhead Catenary System (OCS) Setback: Overhead catenary wires and support structures adjacent to the Project power Metro trains. OCS wires should be treated like any high voltage electrical utility wires. The Project's structures, including protrusions that face the ROW (e.g. balconies, awnings and other appurtenances), may be proposed to be in close proximity to the OCS and can pose an electrocution hazard during Project construction and operation.

Recommended mitigation measures:

i. Technical Review: The Applicant shall submit engineering drawings and calculations, as well as construction work plans and methods including any crane placement and radius, to evaluate any impacts to the Metro A Line infrastructure in relationship to the Project. Before issuance of any building permit for the Project, the Applicant shall obtain Metro's approval of final construction plans.

ii. OCS Protection: The Applicant shall take all necessary measures to protect the OCS from damage due to Project activities during and after construction, pursuant to applicable California Department of Industrial Relations regulations (Cal. Code of Regulations, Title 8). The Applicant shall post proper signage for equipment working around the OCS wires.

iii. Setback: Any building protrusions facing the ROW (e.g. balconies, awnings and other appurtenances), as well as landscaping shall be set back at least ten (10) feet from the OCS wires.

iv. Construction Safety: The construction and operation of the Project shall not disrupt the operation and maintenance activities of the Metro A Line or the structural and systems integrity of Metro's light rail infrastructure. Not later than two months before Project construction, the Applicant shall contact Metro to schedule a pre-construction meeting with all Project construction personnel and Metro Real Estate, Construction Management, and Construction Safety staff. During Project construction, the Applicant shall:

1. Work in close coordination with Metro to ensure that Station access, visibility, and structural integrity are not compromised by construction activity or permanent build conditions;

2. Construct a protection barrier to prevent objects, material, or debris from falling onto the ROW;

3. Notify Metro of any changes to construction activity that may impact the use of the ROW;

4. Permit Metro staff to monitor construction activity to ascertain any impact to the A Line ROW and Irwindale Station.

5. Apply for and obtain approval from Metro for any special operations, including the use of a pile driver or any other equipment that could come into close proximity to the OCS, not later than two months before the start of Project construction.

3. Advisories to Applicant: The Applicant is encouraged to contact Metro Development Review early in the design process to address potential impacts. The Applicant should also be advised of the following:

    a. Occupational Safety and Health Administration (OSHA) Requirements: Construction and excavation work in proximity to Metro ROW with potential to damage light rail tracks and related infrastructure may be subject to additional OSHA safety requirements.

    b. Technical Review: Metro charges for staff time spent on engineering review and construction monitoring.

    c. ROW Entry Permit: For temporary or ongoing access to Metro ROW for construction and maintenance activities, the Applicant shall complete Metro's Track Allocation process with Metro Rail Operations and obtain a Right of Entry Permit from Metro Real Estate. Approval for single tracking or a power shutdown, while possible, is highly discouraged; if sought, the Applicant shall apply for and obtain such approval from Metro not later than two months before the start of Project construction.

    d. Cost of Impacts: The Applicant will be responsible for costs incurred resulting from Project construction/operation issues that cause delay or harm to Metro service delivery or infrastructure, including single-tracking or bus bridging around closures.

Freight Rail Adjacency

1. Operations: The Project site is adjacent to Metro-owned ROW that is maintained by the Southern California Regional Rail Authority (SCRRA) for BNSF freight rail service. The Applicant is advised that rail service operates in both directions and that trains may operate 24 hours a day, seven days a week, in the ROW adjacent to the Project.

2. Impact Analysis: Due to the Project's proximity to freight rail ROW, the EIR must analyze potential effects on rail operations and identify mitigation measures as appropriate. Critical impacts to be studied should include (without limitation): impacts of Project construction and operation on and potential damage to the structural and systems integrity of tracks and related infrastructure; disruption to rail service; and rail crossing safety for pedestrians and vehicles. Specific impacts and mitigation measures that should be studied include:

    a. Structure Setback: Structures that are immediately adjacent to the railroad ROW can pose safety hazards and may disrupt transit service or damage Metrolink infrastructure. Such conflicts can occur during Project construction or operation. The Applicant will generally not be permitted to access Metrolink ROW to maintain private development.

        Recommended mitigation measure:

        i. Technical Review: The Applicant shall submit engineering drawings and calculations, as well as construction work plans and methods including any crane placement and radius, to evaluate any impacts to the freight train infrastructure in relationship to the Project. Before issuance of any building permit for the Project, the Applicant shall obtain SCRRA's approval of final construction drawings.

        ii. Setback: Where the Project property is immediately adjacent to Metrolink ROW (owned by Metro), all Project structures shall be set back five a minimum of five (5) feet from property line to allow adequate space for property maintenance.

        iii. Access: Any access to railroad property is strictly at the discretion of Metro and SCRRA. The Applicant shall obtain specific Right-of-Entry temporary access permits

from SCRRA for any work performed on the Project's structures or property requiring access to the railroad ROW. Where feasible, the Applicant shall maintain fencing and walls at or near property lines from the private property side.

iv. Construction Monitoring: The Applicant shall permit Metro and SCRRA staff to monitor construction activity to ascertain any impact to the ROW. During construction, the Applicant shall construct a protection barrier to prevent objects, material, or debris from falling onto the ROW. The Applicant shall notify Metro and SCRRA of any changes to the construction/building plans that may or may not impact the ROW.

b. At-Grade Crossings: There is an at-grade rail crossing within the Project area at the intersection of W. 1st Street and S. Motor Avenue. The Project is likely to increase traffic volumes across this at-grade crossing, which could potentially impact the safety of the crossing. As such, these traffic and safety impacts should be analyzed. This rail crossing is regulated by the California Public Utilities Commission (CPUC). CPUC may have additional comments and requirements regarding this Project and should be contacted in consultation efforts.

Recommended mitigation measure: The Applicant shall analyze traffic and safety impacts and comply with all regulations and requirements of the California Public Utilities Commission (CPUC) with respect to the Project's potential impacts on the at-grade rail crossing at the intersection of W. 1st Street and S. Motor Avenue.

3. Advisories to Applicant: The Applicant is encouraged to contact Metro Development Review and Metrolink staff early in the design process to plan for potential impacts. The Applicant should also be advised of the following:

a. Occupational Safety and Health Administration (OSHA) Requirements: Construction or excavation work in proximity to Metrolink ROW with potential to damage rail tracks and related infrastructure may be subject to additional OSHA safety requirements.

b. Technical Review: Metro and Metrolink charge for staff time spent on engineering review and construction monitoring.

c. ROW Access: The Applicant should contact SCRRA for Right-of Entry requirements. Information can be found at www.metrolinktrains.com. Other requirements may include permits for construction of buildings and any future repairs, painting, graffiti removal, etc., including the use of overhead cranes or any other equipment that could potentially impact railroad operations and safety. Frequent access for maintenance tasks such as graffiti removal, will necessitate an active license agreement. This agreement will include an annual license fee and other requirements that meet safety standards for access to a ROW with active rail operations.

d. Cost of Impacts: The Applicant will be responsible for costs incurred by Metro or SCRRA due to Project construction/operation issues that cause delay or harm to Metrolink service delivery or infrastructure.

Transit Supportive Planning: Recommendations and Resources

Considering the Project's proximity to the Irwindale Station, Metro would like to identify the potential synergies associated with transit-oriented development:

1. Transit Supportive Planning Toolkit: Metro strongly recommends that the Applicant review the Transit Supportive Planning Toolkit which identifies 10 elements of transit-supportive places and, applied collectively, has been shown to reduce vehicle miles traveled by establishing community-scaled density,

diverse land use mix, combination of affordable housing, and infrastructure projects for pedestrians, bicyclists, and people of all ages and abilities. This resource is available at https://www.metro.net/about/funding-resources/.

2. Land Use: Metro supports development of commercial properties near transit stations and understands that increasing development near stations represents a mutually beneficial opportunity to increase ridership and enhance transportation options for the users of developments. Metro encourages the City and Applicant to be mindful of the Project's proximity to the Irwindale Station, including orienting pedestrian pathways towards the station.

3. Transit Connections and Access: Metro strongly encourages the Applicant to install Project features that help facilitate safe and convenient connections for pedestrians, people riding bicycles, and transit users to/from the Project site and nearby destinations. The City should consider requiring the installation of such features as part of the conditions of approval for the Project, including:

    a. Walkability: The provision of wide sidewalks, pedestrian lighting, a continuous canopy of shade trees, enhanced crosswalks with ADA-compliant curb ramps, and other amenities along all public street frontages of the development site to improve pedestrian safety and comfort to access the nearby Irwindale Station.

    b. Bicycle Use and Micromobility Devices: The provision of adequate short-term bicycle parking, such as ground-level bicycle racks, and secure, access-controlled, enclosed long-term bicycle parking for residents, employees, and guests. Bicycle parking facilities should be designed with best practices in mind, including highly visible siting, effective surveillance, ease to locate, and equipment installation with preferred spacing dimensions, so bicycle parking can be safely and conveniently accessed. Similar provisions for micro-mobility devices are also encouraged.

    c. First & Last Mile Access: The Project should address first-last mile connections to transit and is encouraged to support these connections with wayfinding signage inclusive of all modes of transportation. For reference, please review the First Last Mile Strategic Plan, authored by Metro and the Southern California Association of Governments (SCAG), available on-line at: http://media.metro.net/docs/sustainability_path_design_guidelines.pdf

4. Parking: Metro encourages the incorporation of transit-oriented, pedestrian-oriented parking provision strategies such as the reduction or removal of minimum parking requirements and the exploration of shared parking opportunities. These strategies could be pursued to reduce automobile-orientation in design and travel demand.

5. Wayfinding: Any temporary or permanent wayfinding signage with content referencing Metro services or featuring the Metro brand and associated graphics (such as Metro Rail pictograms) requires review and approval by Metro Signage and Environmental Graphic Design.

6. Art: Metro encourages the thoughtful integration of art and culture into public spaces and will need to review any proposals for public art or placemaking facing a Metro ROW. Please contact Metro Arts & Design staff for additional information.

7. Transit Pass Programs: Metro would like to inform the Applicant of Metro's employer transit pass programs, including the Annual Transit Access Pass (A-TAP), the Employer Pass Program (E-Pass), and Small Employer Pass (SEP) Program. These programs offer efficiencies and group rates that businesses can offer employees as an incentive to utilize public transit. The A-TAP can also be used for residential projects. For more information on these programs, please visit the programs' website at https://www.metro.net/riding/eapp/.

If you have any questions regarding this letter, please contact me by phone at 213.418.3484, by email at DevReview@metro.net, or by mail at the following address:

Metro Development Review
One Gateway Plaza
MS 99-22-2
Los Angeles, CA 90012-2952

Sincerely,



Shine Ling, AICP
Director, Development Review Team
Transit Oriented Communities

cc: Roderick Diaz, SCRRA

Attachments and links:

- Adjacent Development Handbook: https://www.metro.net/devreview

APPENDIX B

PEDESTRIAN, BICYCLE, AND VEHICLE COUNT DATA

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

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

File Name : 01_IRW_LiOak_Arrow AM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

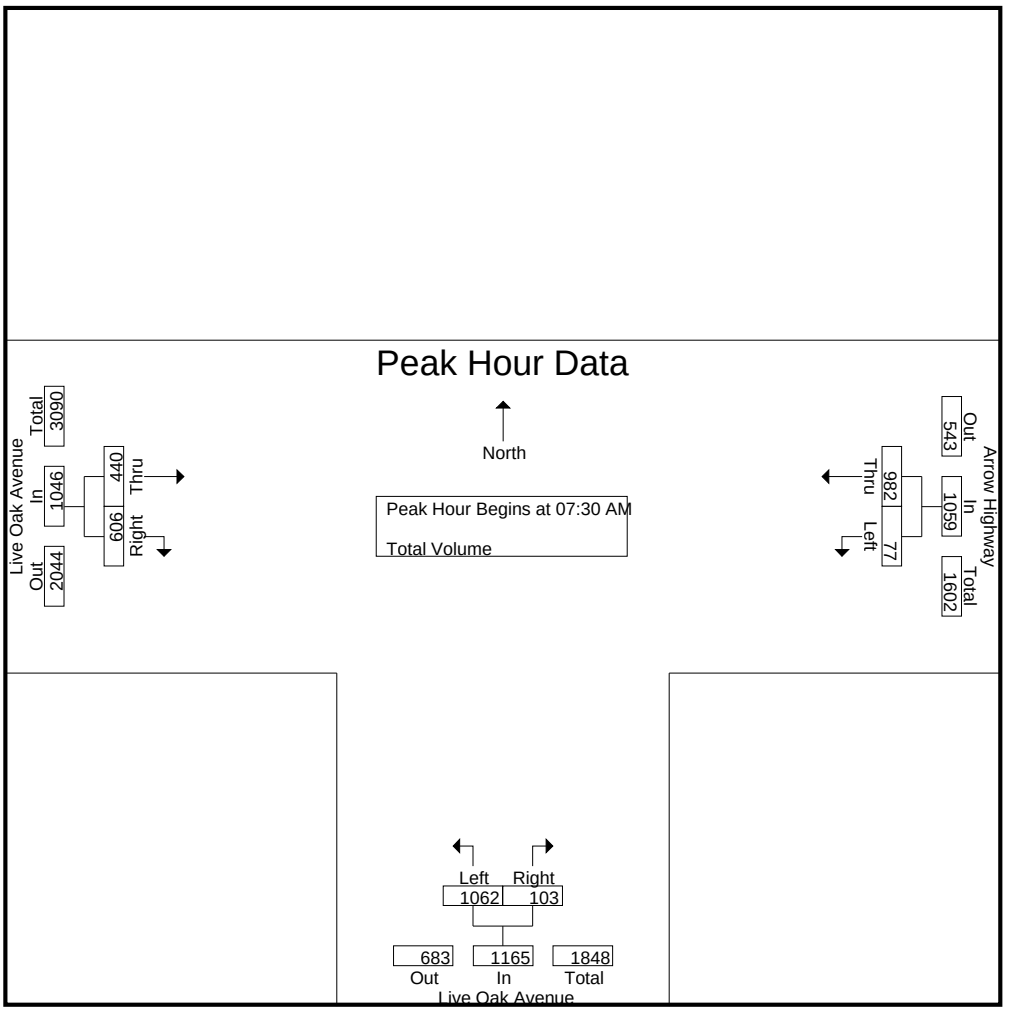
	Arrow Highway Westbound			Live Oak Avenue Northbound			Live Oak Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	24	277	301	195	19	214	62	105	167	682
07:15 AM	10	281	291	254	19	273	73	121	194	758
07:30 AM	12	249	261	305	24	329	88	118	206	796
07:45 AM	25	284	309	278	30	308	128	135	263	880
Total	71	1091	1162	1032	92	1124	351	479	830	3116
08:00 AM	27	241	268	258	24	282	116	163	279	829
08:15 AM	13	208	221	221	25	246	108	190	298	765
08:30 AM	10	223	233	252	26	278	115	163	278	789
08:45 AM	10	242	252	238	28	266	107	157	264	782
Total	60	914	974	969	103	1072	446	673	1119	3165
Grand Total	131	2005	2136	2001	195	2196	797	1152	1949	6281
Apprch %	6.1	93.9		91.1	8.9		40.9	59.1		
Total %	2.1	31.9	34	31.9	3.1	35	12.7	18.3	31	

	Arrow Highway Westbound			Live Oak Avenue Northbound			Live Oak Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. 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	12	249	261	**305**	24	**329**	88	118	206	796
07:45 AM	25	**284**	**309**	278	**30**	308	**128**	135	263	**880**
08:00 AM	**27**	241	268	258	24	282	116	163	279	829
08:15 AM	13	208	221	221	25	246	108	**190**	**298**	765
Total Volume	77	982	1059	1062	103	1165	440	606	1046	3270
% App. Total	7.3	92.7		91.2	8.8		42.1	57.9		
PHF	.713	.864	.857	.870	.858	.885	.859	.797	.878	.929

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

File Name : 01_IRW_LiOak_Arrow AM
Site Code : 05724506
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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:15 AM			08:00 AM		
+0 mins.	24	277	301	254	19	273	**116**	163	279
+15 mins.	10	281	291	**305**	24	**329**	108	**190**	**298**
+30 mins.	12	249	261	278	**30**	308	115	163	278
+45 mins.	**25**	**284**	**309**	258	24	282	107	157	264
Total Volume	71	1091	1162	1095	97	1192	446	673	1119
% App. Total	6.1	93.9		91.9	8.1		39.9	60.1	
PHF	.710	.960	.940	.898	.808	.906	.961	.886	.939

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City of Irwindale
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Weather: Clear

File Name : 01_IRW_LiOak_Arrow PM
Site Code : 05724506
Start Date : 5/22/2024
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Groups Printed- Total Volume

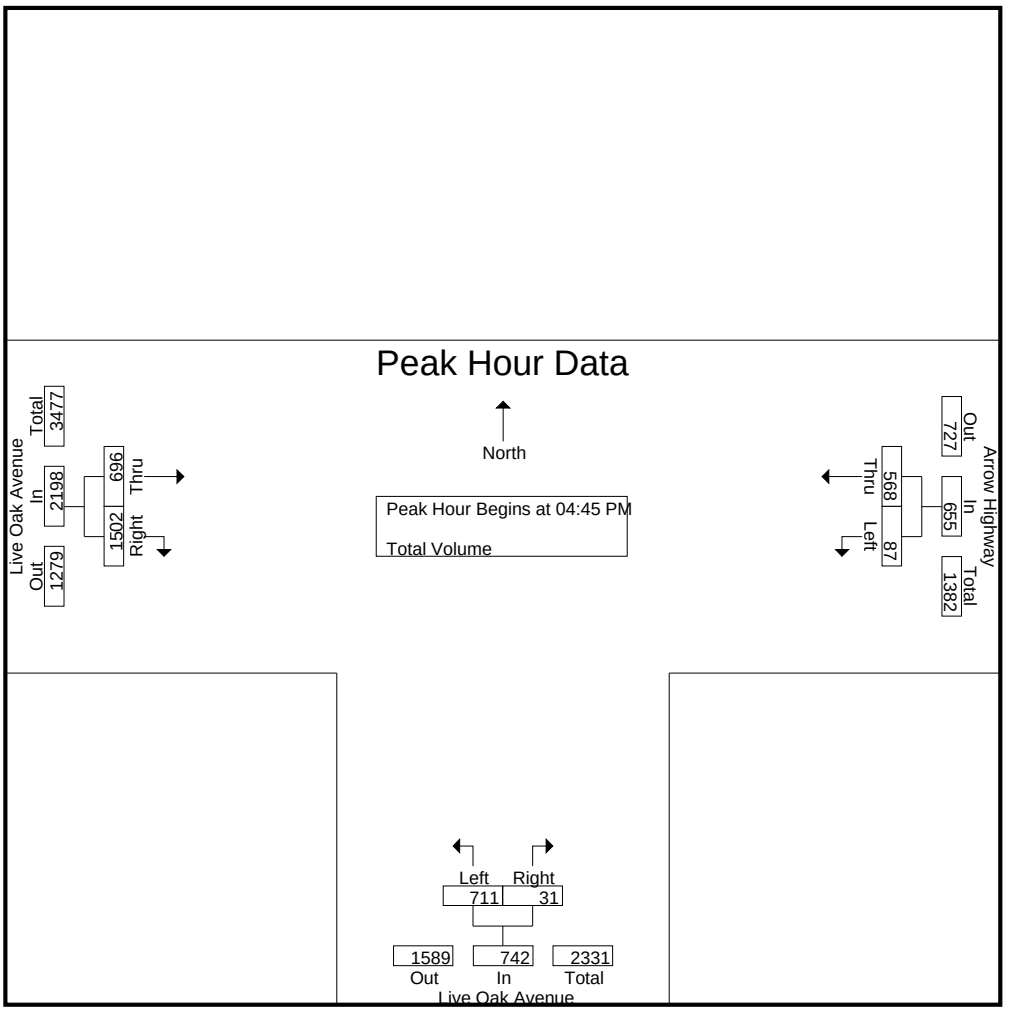
	Arrow Highway Westbound			Live Oak Avenue Northbound			Live Oak Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	12	106	118	136	11	147	166	353	519	784
04:15 PM	12	128	140	148	7	155	178	354	532	827
04:30 PM	21	119	140	159	10	169	150	385	535	844
04:45 PM	26	137	163	163	9	172	179	370	549	884
Total	71	490	561	606	37	643	673	1462	2135	3339
05:00 PM	26	138	164	198	8	206	189	345	534	904
05:15 PM	15	153	168	173	9	182	162	378	540	890
05:30 PM	20	140	160	177	5	182	166	409	575	917
05:45 PM	21	121	142	179	5	184	169	354	523	849
Total	82	552	634	727	27	754	686	1486	2172	3560
Grand Total	153	1042	1195	1333	64	1397	1359	2948	4307	6899
Apprch %	12.8	87.2		95.4	4.6		31.6	68.4		
Total %	2.2	15.1	17.3	19.3	0.9	20.2	19.7	42.7	62.4	

	Arrow Highway Westbound			Live Oak Avenue Northbound			Live Oak Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. 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	**26**	137	163	163	**9**	172	179	370	549	884
05:00 PM	26	138	164	**198**	8	**206**	**189**	345	534	904
05:15 PM	15	**153**	**168**	173	9	182	162	378	540	890
05:30 PM	20	140	160	177	5	182	166	**409**	**575**	**917**
Total Volume	87	568	655	711	31	742	696	1502	2198	3595
% App. Total	13.3	86.7		95.8	4.2		31.7	68.3		
PHF	.837	.928	.975	.898	.861	.900	.921	.918	.956	.980

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

File Name : 01_IRW_LiOak_Arrow PM
Site Code : 05724506
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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			05:00 PM			04:45 PM		
+0 mins.	**26**	137	163	**198**	8	**206**	179	370	549
+15 mins.	26	138	164	173	**9**	182	**189**	345	534
+30 mins.	15	**153**	**168**	177	5	182	162	378	540
+45 mins.	20	140	160	179	5	184	166	**409**	**575**
Total Volume	87	568	655	727	27	754	696	1502	2198
% App. Total	13.3	86.7		96.4	3.6		31.7	68.3	
PHF	.837	.928	.975	.918	.750	.915	.921	.918	.956

Location: Irwindale
N/S: Live Oak Avenue
E/W: Live Oak Ave/Arrow Hwy

Date: 5/22/2024
Day: Wednesday

PEDESTRIANS

	North Leg Dead End	East Leg Arrow Highway	South Leg Live Oak Avenue	West Leg Live Oak Avenue	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	1	1	0	0	2
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	1	1	0	0	2

	North Leg Dead End	East Leg Arrow Highway	South Leg Live Oak Avenue	West Leg Live Oak Avenue	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	1	0	0	0	1
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	1	0	0	0	1

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Location: Irwindale
N/S: Live Oak Avenue
E/W: Live Oak Ave/Arrow Hwy

Date: 5/22/2024
Day: Wednesday

BICYCLES

	Southbound Dead End			Westbound Arrow Highway			Northbound Live Oak Avenue			Eastbound Live Oak Avenue			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	1
TOTAL VOLUMES:	0	0	0	0	0	0	1	0	0	0	1	2	4

	Southbound Dead End			Westbound Arrow Highway			Northbound Live Oak Avenue			Eastbound Live Oak Avenue			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	1	0	0	0	1	0	2
4:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	1	0	2	0	0	0	0	0	3
5:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
TOTAL VOLUMES:	0	0	0	0	3	0	4	0	0	0	1	0	8

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

File Name : 02_IRW_605S Off_Arrow AM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

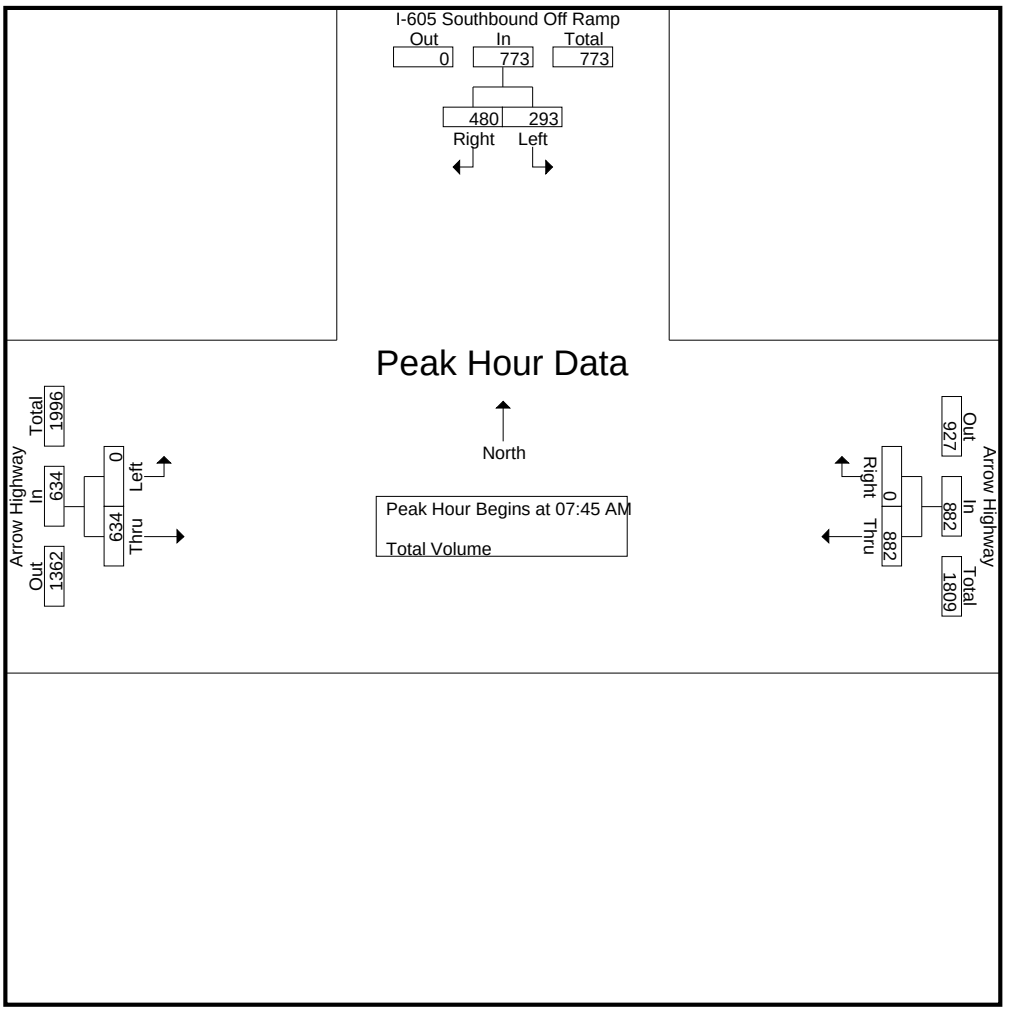
	I-605 Southbound Off Ramp Southbound			Arrow Highway Westbound			Arrow Highway Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	50	87	137	297	0	297	0	90	90	524
07:15 AM	58	109	167	306	0	306	0	108	108	581
07:30 AM	59	123	182	215	0	215	0	123	123	520
07:45 AM	71	141	212	243	0	243	0	150	150	605
Total	238	460	698	1061	0	1061	0	471	471	2230
08:00 AM	62	80	142	212	0	212	0	167	167	521
08:15 AM	88	127	215	188	0	188	0	157	157	560
08:30 AM	72	132	204	239	0	239	0	160	160	603
08:45 AM	82	109	191	197	0	197	0	119	119	507
Total	304	448	752	836	0	836	0	603	603	2191
Grand Total	542	908	1450	1897	0	1897	0	1074	1074	4421
Apprch %	37.4	62.6		100	0		0	100		
Total %	12.3	20.5	32.8	42.9	0	42.9	0	24.3	24.3	

	I-605 Southbound Off Ramp Southbound			Arrow Highway Westbound			Arrow Highway Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. 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	71	**141**	212	**243**	0	**243**	0	150	150	**605**
08:00 AM	62	80	142	212	0	212	0	**167**	**167**	521
08:15 AM	**88**	127	**215**	188	0	188	0	157	157	560
08:30 AM	72	132	204	239	0	239	0	160	160	603
Total Volume	293	480	773	882	0	882	0	634	634	2289
% App. Total	37.9	62.1		100	0		0	100		
PHF	.832	.851	.899	.907	.000	.907	.000	.949	.949	.946

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

File Name : 02_IRW_605S Off_Arrow AM
Site Code : 05724506
Start Date : 5/22/2024
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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.	71	**141**	212	297	0	297	0	150	150
+15 mins.	62	80	142	**306**	0	**306**	0	**167**	**167**
+30 mins.	**88**	127	**215**	215	0	215	0	157	157
+45 mins.	72	132	204	243	0	243	0	160	160
Total Volume	293	480	773	1061	0	1061	0	634	634
% App. Total	37.9	62.1		100	0		0	100	
PHF	.832	.851	.899	.867	.000	.867	.000	.949	.949

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

File Name : 02_IRW_605S Off_Arrow PM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

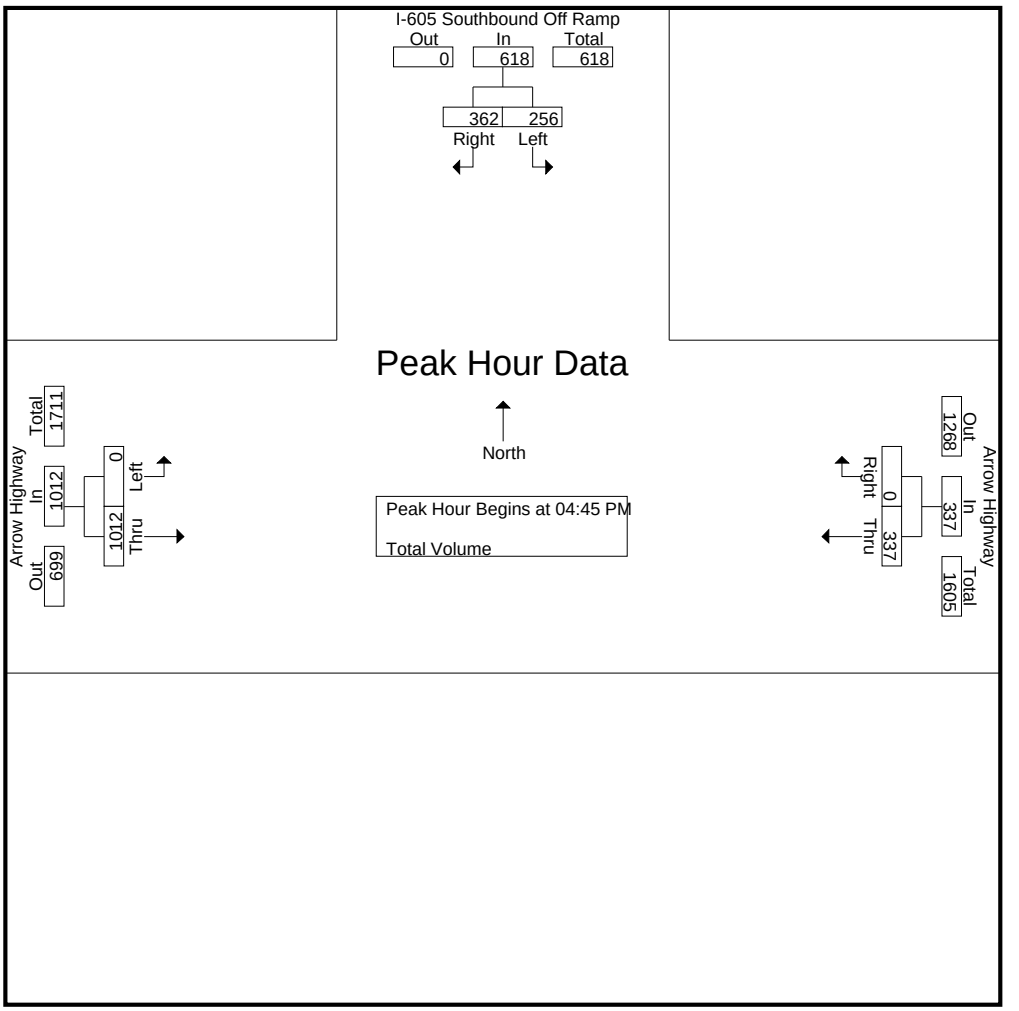
	I-605 Southbound Off Ramp Southbound			Arrow Highway Westbound			Arrow Highway Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	73	39	112	73	0	73	0	243	243	428
04:15 PM	75	78	153	100	0	100	0	249	249	502
04:30 PM	69	58	127	82	0	82	0	221	221	430
04:45 PM	66	71	137	101	0	101	0	266	266	504
Total	283	246	529	356	0	356	0	979	979	1864
05:00 PM	64	78	142	72	0	72	0	268	268	482
05:15 PM	55	73	128	81	0	81	0	252	252	461
05:30 PM	71	140	211	83	0	83	0	226	226	520
05:45 PM	64	70	134	84	0	84	0	221	221	439
Total	254	361	615	320	0	320	0	967	967	1902
Grand Total	537	607	1144	676	0	676	0	1946	1946	3766
Apprch %	46.9	53.1		100	0		0	100		
Total %	14.3	16.1	30.4	18	0	18	0	51.7	51.7	

	I-605 Southbound Off Ramp Southbound			Arrow Highway Westbound			Arrow Highway Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. 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	66	71	137	**101**	0	**101**	0	266	266	504
05:00 PM	64	78	142	72	0	72	0	**268**	**268**	482
05:15 PM	55	73	128	81	0	81	0	252	252	461
05:30 PM	**71**	**140**	**211**	83	0	83	0	226	226	**520**
Total Volume	256	362	618	337	0	337	0	1012	1012	1967
% App. Total	41.4	58.6		100	0		0	100		
PHF	.901	.646	.732	.834	.000	.834	.000	.944	.944	.946

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

File Name : 02_IRW_605S Off_Arrow PM
Site Code : 05724506
Start Date : 5/22/2024
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:

	04:45 PM			04:00 PM			04:45 PM		
+0 mins.	66	71	137	73	0	73	0	266	266
+15 mins.	64	78	142	100	0	100	0	**268**	**268**
+30 mins.	55	73	128	82	0	82	0	252	252
+45 mins.	**71**	**140**	**211**	**101**	0	**101**	0	226	226
Total Volume	256	362	618	356	0	356	0	1012	1012
% App. Total	41.4	58.6		100	0		0	100	
PHF	.901	.646	.732	.881	.000	.881	.000	.944	.944

Location: Irwindale
N/S: I-605 SB Off Ramp
E/W: Arrow Highway

Date: 5/22/2024
Day: Wednesday

PEDESTRIANS

	North Leg I-605 SB Off Ramp	East Leg Arrow Highway	South Leg Dead End	West Leg Arrow Highway	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg I-605 SB Off Ramp	East Leg Arrow Highway	South Leg Dead End	West Leg Arrow Highway	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	2	0	0	0	2
4:15 PM	0	0	0	0	0
4:30 PM	1	0	0	0	1
4:45 PM	0	0	0	0	0
5:00 PM	1	0	0	0	1
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	4	0	0	0	4

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Location: Irwindale
N/S: I-605 SB Off Ramp
E/W: Arrow Highway

Date: 5/22/2024
Day: Wednesday

BICYCLES

	Southbound I-605 SB Off Ramp			Westbound Arrow Highway			Northbound Dead End			Eastbound Arrow Highway			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound I-605 SB Off Ramp			Westbound Arrow Highway			Northbound Dead End			Eastbound Arrow Highway			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	1	0	0	0	0	0	1	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	2
5:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
TOTAL VOLUMES:	0	0	0	0	2	0	0	0	0	0	5	0	7

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

File Name : 03_IRW_605S On_LiOak AM
Site Code : 05724506
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Groups Printed- Total Volume

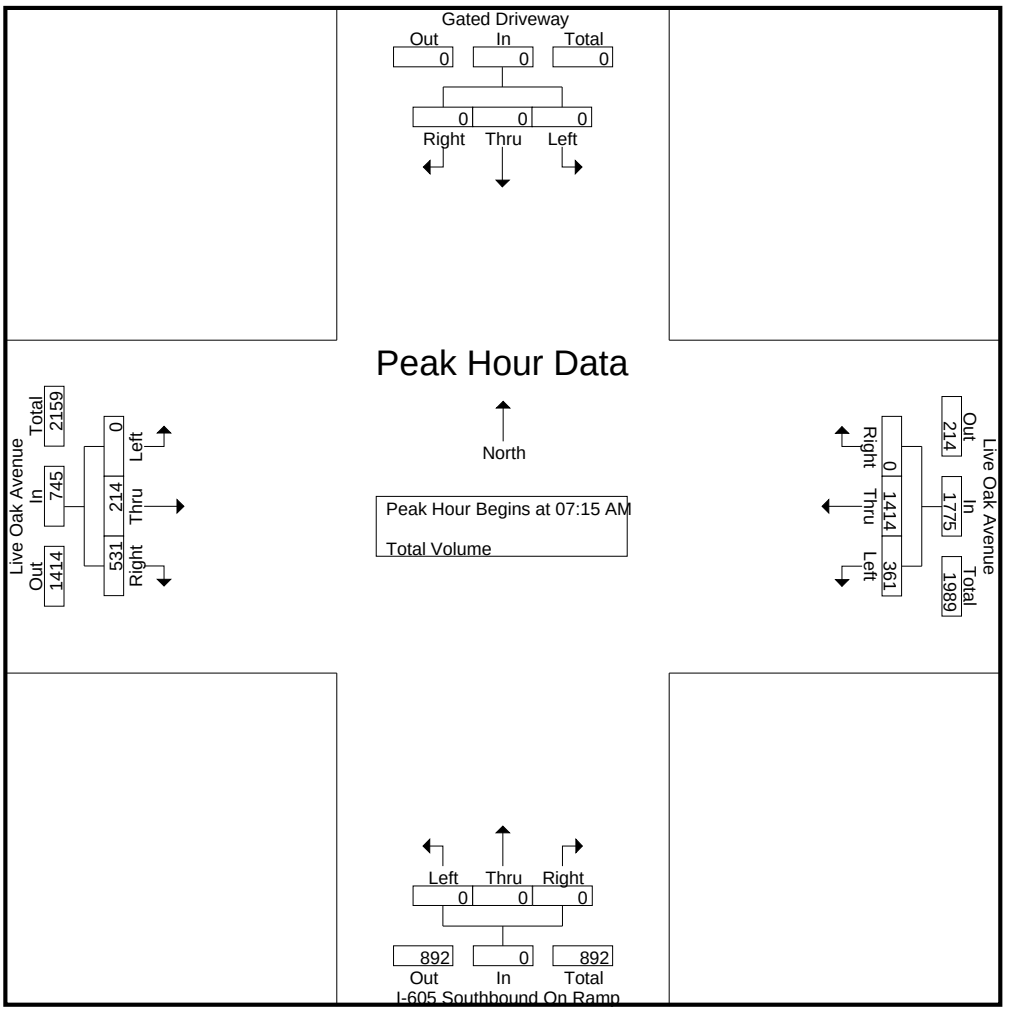
	Gated Driveway Southbound				Live Oak Avenue Westbound				I-605 Southbound On Ramp Northbound				Live Oak Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	110	245	0	355	0	0	0	0	0	22	152	174	529
07:15 AM	0	0	0	0	96	402	0	498	0	0	0	0	0	39	134	173	671
07:30 AM	0	0	0	0	105	374	0	479	0	0	0	0	0	44	116	160	639
07:45 AM	0	0	0	0	88	336	0	424	0	0	0	0	0	76	118	194	618
Total	0	0	0	0	399	1357	0	1756	0	0	0	0	0	181	520	701	2457
08:00 AM	0	0	0	0	72	302	0	374	0	0	0	0	0	55	163	218	592
08:15 AM	0	0	0	0	84	286	0	370	0	0	0	0	0	56	183	239	609
08:30 AM	0	0	0	0	77	333	0	410	0	0	0	0	0	79	145	224	634
08:45 AM	0	0	0	0	78	277	0	355	0	0	0	0	0	72	112	184	539
Total	0	0	0	0	311	1198	0	1509	0	0	0	0	0	262	603	865	2374
Grand Total	0	0	0	0	710	2555	0	3265	0	0	0	0	0	443	1123	1566	4831
Apprch %	0	0	0		21.7	78.3	0		0	0	0		0	28.3	71.7		
Total %	0	0	0	0	14.7	52.9	0	67.6	0	0	0	0	0	9.2	23.2	32.4	

	Gated Driveway Southbound				Live Oak Avenue Westbound				I-605 Southbound On Ramp Northbound				Live Oak Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. 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	96	**402**	0	**498**	0	0	0	0	0	39	134	173	**671**
07:30 AM	0	0	0	0	**105**	374	0	479	0	0	0	0	0	44	116	160	639
07:45 AM	0	0	0	0	88	336	0	424	0	0	0	0	0	**76**	118	194	618
08:00 AM	0	0	0	0	72	302	0	374	0	0	0	0	0	55	**163**	**218**	592
Total Volume	0	0	0	0	361	1414	0	1775	0	0	0	0	0	214	531	745	2520
% App. Total	0	0	0		20.3	79.7	0		0	0	0		0	28.7	71.3		
PHF	.000	.000	.000	.000	.860	.879	.000	.891	.000	.000	.000	.000	.000	.704	.814	.854	.939

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

File Name : 03_IRW_605S On_LiOak AM
Site Code : 05724506
Start Date : 5/22/2024
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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:15 AM				07:00 AM				07:45 AM			
+0 mins.	0	0	0	0	96	**402**	0	**498**	0	0	0	0	0	76	118	194
+15 mins.	0	0	0	0	**105**	374	0	479	0	0	0	0	0	55	163	218
+30 mins.	0	0	0	0	88	336	0	424	0	0	0	0	0	56	**183**	**239**
+45 mins.	0	0	0	0	72	302	0	374	0	0	0	0	0	**79**	145	224
Total Volume	0	0	0	0	361	1414	0	1775	0	0	0	0	0	266	609	875
% App. Total	0	0	0		20.3	79.7	0		0	0	0		0	30.4	69.6	
PHF	.000	.000	.000	.000	.860	.879	.000	.891	.000	.000	.000	.000	.000	.842	.832	.915

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

File Name : 03_IRW_605S On_LiOak PM
Site Code : 05724506
Start Date : 5/22/2024
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Groups Printed- Total Volume

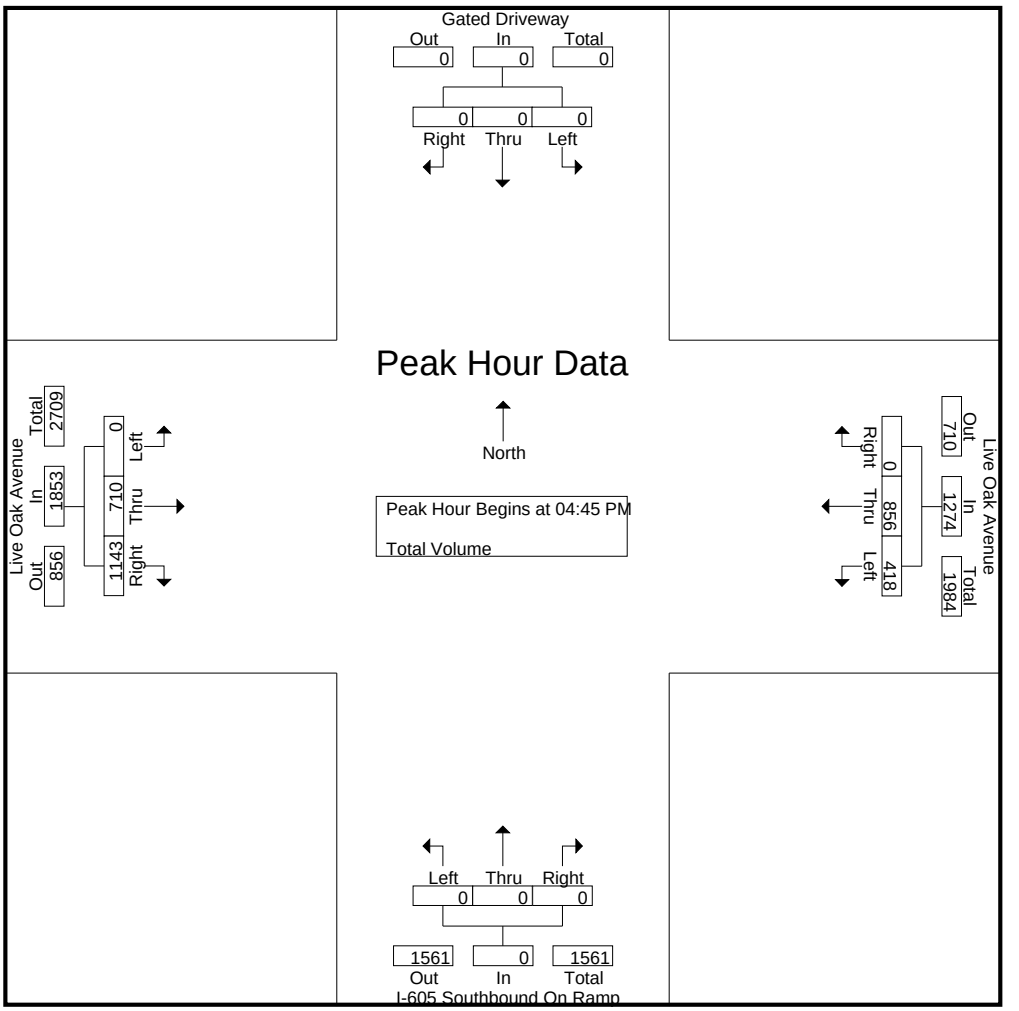
	Gated Driveway Southbound				Live Oak Avenue Westbound				I-605 Southbound On Ramp Northbound				Live Oak Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	99	180	0	279	0	0	0	0	0	185	250	435	714
04:15 PM	0	0	0	0	99	180	0	279	0	0	0	0	0	176	242	418	697
04:30 PM	0	0	0	0	132	211	0	343	0	0	0	0	0	184	267	451	794
04:45 PM	0	0	0	0	112	208	0	320	0	0	0	0	0	180	290	470	790
Total	0	0	0	0	442	779	0	1221	0	0	0	0	0	725	1049	1774	2995
05:00 PM	0	0	0	0	106	241	0	347	0	0	0	0	0	151	290	441	788
05:15 PM	0	0	0	0	87	200	0	287	0	0	0	0	0	189	273	462	749
05:30 PM	0	0	0	0	113	207	0	320	0	0	0	0	0	190	290	480	800
05:45 PM	0	0	0	0	73	209	0	282	0	0	0	0	0	167	260	427	709
Total	0	0	0	0	379	857	0	1236	0	0	0	0	0	697	1113	1810	3046
Grand Total	0	0	0	0	821	1636	0	2457	0	0	0	0	0	1422	2162	3584	6041
Apprch %	0	0	0		33.4	66.6	0		0	0	0		0	39.7	60.3		
Total %	0	0	0	0	13.6	27.1	0	40.7	0	0	0	0	0	23.5	35.8	59.3	

	Gated Driveway Southbound				Live Oak Avenue Westbound				I-605 Southbound On Ramp Northbound				Live Oak Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	112	208	0	320	0	0	0	0	0	180	**290**	470	790
05:00 PM	0	0	0	0	106	**241**	0	**347**	0	0	0	0	0	151	290	441	788
05:15 PM	0	0	0	0	87	200	0	287	0	0	0	0	0	189	273	462	749
05:30 PM	0	0	0	0	**113**	207	0	320	0	0	0	0	0	**190**	290	**480**	**800**
Total Volume	0	0	0	0	418	856	0	1274	0	0	0	0	0	710	1143	1853	3127
% App. Total	0	0	0		32.8	67.2	0		0	0	0		0	38.3	61.7		
PHF	.000	.000	.000	.000	.925	.888	.000	.918	.000	.000	.000	.000	.000	.934	.985	.965	.977

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

File Name : 03_IRW_605S On_LiOak PM
Site Code : 05724506
Start Date : 5/22/2024
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				04:45 PM			
+0 mins.	0	0	0	0	**132**	211	0	343	0	0	0	0	0	180	**290**	470
+15 mins.	0	0	0	0	112	208	0	320	0	0	0	0	0	151	290	441
+30 mins.	0	0	0	0	106	**241**	0	**347**	0	0	0	0	0	189	273	462
+45 mins.	0	0	0	0	87	200	0	287	0	0	0	0	0	**190**	290	**480**
Total Volume	0	0	0	0	437	860	0	1297	0	0	0	0	0	710	1143	1853
% App. Total	0	0	0		33.7	66.3	0		0	0	0		0	38.3	61.7	
PHF	.000	.000	.000	.000	.828	.892	.000	.934	.000	.000	.000	.000	.000	.934	.985	.965

Location: Irwindale
N/S: I-605 SB On Ramp
E/W: Live Oak Avenue

Date: 5/22/2024
Day: Wednesday

PEDESTRIANS

	North Leg Gated Driveway	East Leg Live Oak Avenue	South Leg I-605 SB On Ramp	West Leg Live Oak Avenue	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	1	0	0	0	1
8:45 AM	0	0	1	0	1
TOTAL VOLUMES:	1	0	1	0	2

	North Leg Gated Driveway	East Leg Live Oak Avenue	South Leg I-605 SB On Ramp	West Leg Live Oak Avenue	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	1	0	2	0	3
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	1	0	0	0	1
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	2	0	2	0	4

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Location: Irwindale
N/S: I-605 SB On Ramp
E/W: Live Oak Avenue

Date: 5/22/2024
Day: Wednesday

BICYCLES

	Southbound Gated Driveway			Westbound Live Oak Avenue			Northbound I-605 SB On Ramp			Eastbound Live Oak Avenue			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
8:15 AM	0	0	0	0	1	0	0	0	0	0	1	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
TOTAL VOLUMES:	0	0	0	0	1	0	0	0	0	0	5	0	6

	Southbound Gated Driveway			Westbound Live Oak Avenue			Northbound I-605 SB On Ramp			Eastbound Live Oak Avenue			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	3	0	0	0	0	0	0	0	3

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

File Name : 04_IRW_605N Off_LiOak AM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

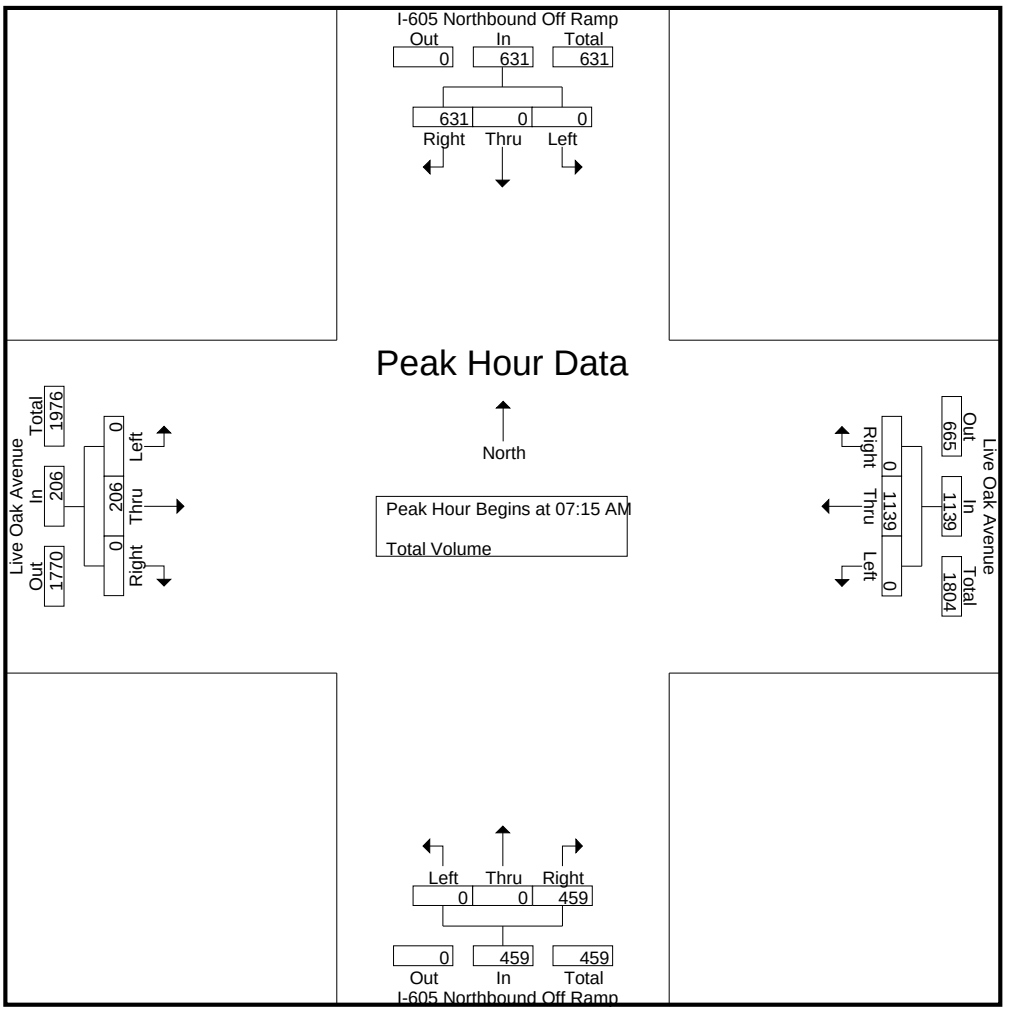
	I-605 Northbound Off Ramp Southbound				Live Oak Avenue Westbound				I-605 Northbound Off Ramp Northbound				Live Oak Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	128	128	0	237	0	237	0	0	78	78	0	24	0	24	467
07:15 AM	0	0	152	152	0	352	0	352	0	0	113	113	0	41	0	41	658
07:30 AM	0	0	157	157	0	328	0	328	0	0	111	111	0	41	0	41	637
07:45 AM	0	0	168	168	0	238	0	238	0	0	142	142	0	69	0	69	617
Total	0	0	605	605	0	1155	0	1155	0	0	444	444	0	175	0	175	2379
08:00 AM	0	0	154	154	0	221	0	221	0	0	93	93	0	55	0	55	523
08:15 AM	0	0	172	172	0	199	0	199	0	0	95	95	0	57	0	57	523
08:30 AM	0	0	182	182	0	230	0	230	0	0	79	79	0	83	0	83	574
08:45 AM	0	0	171	171	0	181	0	181	0	0	122	122	0	70	0	70	544
Total	0	0	679	679	0	831	0	831	0	0	389	389	0	265	0	265	2164
Grand Total	0	0	1284	1284	0	1986	0	1986	0	0	833	833	0	440	0	440	4543
Apprch %	0	0	100		0	100	0		0	0	100		0	100	0		
Total %	0	0	28.3	28.3	0	43.7	0	43.7	0	0	18.3	18.3	0	9.7	0	9.7	

	I-605 Northbound Off Ramp Southbound				Live Oak Avenue Westbound				I-605 Northbound Off Ramp Northbound				Live Oak Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. 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	152	152	0	**352**	0	**352**	0	0	113	113	0	41	0	41	**658**
07:30 AM	0	0	157	157	0	328	0	328	0	0	111	111	0	41	0	41	637
07:45 AM	0	0	**168**	**168**	0	238	0	238	0	0	**142**	**142**	0	**69**	0	**69**	617
08:00 AM	0	0	154	154	0	221	0	221	0	0	93	93	0	55	0	55	523
Total Volume	0	0	631	631	0	1139	0	1139	0	0	459	459	0	206	0	206	2435
% App. Total	0	0	100		0	100	0		0	0	100		0	100	0		
PHF	.000	.000	.939	.939	.000	.809	.000	.809	.000	.000	.808	.808	.000	.746	.000	.746	.925

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

File Name : 04_IRW_605N Off_LiOak AM
Site Code : 05724506
Start Date : 5/22/2024
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:

	08:00 AM				07:00 AM				07:15 AM				08:00 AM			
+0 mins.	0	0	154	154	0	237	0	237	0	0	113	113	0	55	0	55
+15 mins.	0	0	172	172	0	**352**	0	**352**	0	0	111	111	0	57	0	57
+30 mins.	0	0	**182**	**182**	0	328	0	328	0	0	**142**	**142**	0	**83**	0	**83**
+45 mins.	0	0	171	171	0	238	0	238	0	0	93	93	0	70	0	70
Total Volume	0	0	679	679	0	1155	0	1155	0	0	459	459	0	265	0	265
% App. Total	0	0	100		0	100	0		0	0	100		0	100	0	
PHF	.000	.000	.933	.933	.000	.820	.000	.820	.000	.000	.808	.808	.000	.798	.000	.798

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

File Name : 04_IRW_605N Off_LiOak PM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

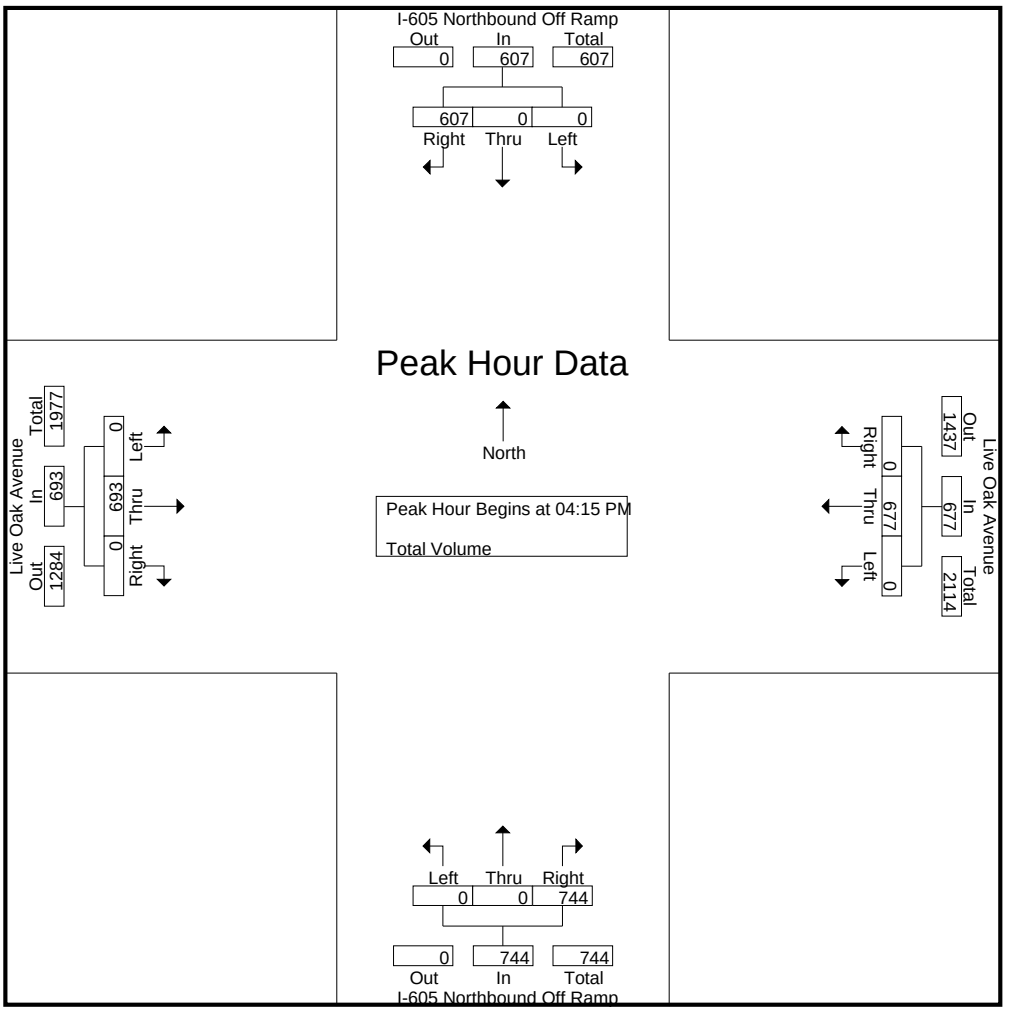
	I-605 Northbound Off Ramp Southbound				Live Oak Avenue Westbound				I-605 Northbound Off Ramp Northbound				Live Oak Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	127	127	0	155	0	155	0	0	127	127	0	198	0	198	607
04:15 PM	0	0	130	130	0	147	0	147	0	0	163	163	0	168	0	168	608
04:30 PM	0	0	163	163	0	181	0	181	0	0	204	204	0	183	0	183	731
04:45 PM	0	0	157	157	0	156	0	156	0	0	221	221	0	183	0	183	717
Total	0	0	577	577	0	639	0	639	0	0	715	715	0	732	0	732	2663
05:00 PM	0	0	157	157	0	193	0	193	0	0	156	156	0	159	0	159	665
05:15 PM	0	0	140	140	0	142	0	142	0	0	140	140	0	182	0	182	604
05:30 PM	0	0	140	140	0	185	0	185	0	0	177	177	0	201	0	201	703
05:45 PM	0	0	159	159	0	124	0	124	0	0	226	226	0	162	0	162	671
Total	0	0	596	596	0	644	0	644	0	0	699	699	0	704	0	704	2643
Grand Total	0	0	1173	1173	0	1283	0	1283	0	0	1414	1414	0	1436	0	1436	5306
Apprch %	0	0	100		0	100	0		0	0	100		0	100	0		
Total %	0	0	22.1	22.1	0	24.2	0	24.2	0	0	26.6	26.6	0	27.1	0	27.1	

	I-605 Northbound Off Ramp Southbound				Live Oak Avenue Westbound				I-605 Northbound Off Ramp Northbound				Live Oak Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	130	130	0	147	0	147	0	0	163	163	0	168	0	168	608
04:30 PM	0	0	**163**	**163**	0	181	0	181	0	0	204	204	0	**183**	0	**183**	**731**
04:45 PM	0	0	157	157	0	156	0	156	0	0	**221**	**221**	0	183	0	183	717
05:00 PM	0	0	157	157	0	**193**	0	**193**	0	0	156	156	0	159	0	159	665
Total Volume	0	0	607	607	0	677	0	677	0	0	744	744	0	693	0	693	2721
% App. Total	0	0	100		0	100	0		0	0	100		0	100	0		
PHF	.000	.000	.931	.931	.000	.877	.000	.877	.000	.000	.842	.842	.000	.947	.000	.947	.931

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

File Name : 04_IRW_605N Off_LiOak PM
Site Code : 05724506
Start Date : 5/22/2024
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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				04:15 PM				04:00 PM			
+0 mins.	0	0	**163**	**163**	0	147	0	147	0	0	163	163	0	**198**	0	**198**
+15 mins.	0	0	157	157	0	181	0	181	0	0	204	204	0	168	0	168
+30 mins.	0	0	157	157	0	156	0	156	0	0	**221**	**221**	0	183	0	183
+45 mins.	0	0	140	140	0	**193**	0	**193**	0	0	156	156	0	183	0	183
Total Volume	0	0	617	617	0	677	0	677	0	0	744	744	0	732	0	732
% App. Total	0	0	100		0	100	0		0	0	100		0	100	0	
PHF	.000	.000	.946	.946	.000	.877	.000	.877	.000	.000	.842	.842	.000	.924	.000	.924

Location: Irwindale
N/S: I-605 NB Off Ramp
E/W: Live Oak Avenue

Date: 5/22/2024
Day: Wednesday

PEDESTRIANS

	North Leg I-605 NB Off Ramp	East Leg Live Oak Avenue	South Leg I-605 NB Off Ramp	West Leg	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	1	0	0	0	1
8:45 AM	0	0	1	0	1
TOTAL VOLUMES:	1	0	1	0	2

	North Leg I-605 NB Off Ramp	East Leg Live Oak Avenue	South Leg I-605 NB Off Ramp	West Leg	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	1	0	0	0	1
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	1	1
5:00 PM	2	0	1	0	3
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	3	0	1	1	5

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Location: Irwindale
N/S: I-605 NB Off Ramp
E/W: Live Oak Avenue

Date: 5/22/2024
Day: Wednesday

BICYCLES

	Southbound I-605 NB Off Ramp			Westbound Live Oak Avenue			Northbound I-605 NB Off Ramp			Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
8:15 AM	0	0	0	0	1	0	0	0	0	0	1	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
TOTAL VOLUMES:	0	0	0	0	1	0	0	0	0	0	4	0	5

	Southbound I-605 NB Off Ramp			Westbound Live Oak Avenue			Northbound I-605 NB Off Ramp			Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	3	0	0	0	0	0	0	0	3
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	2	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	6	0	0	0	0	0	0	0	6

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

File Name : 05_IRW_Arrow_LiOak E AM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

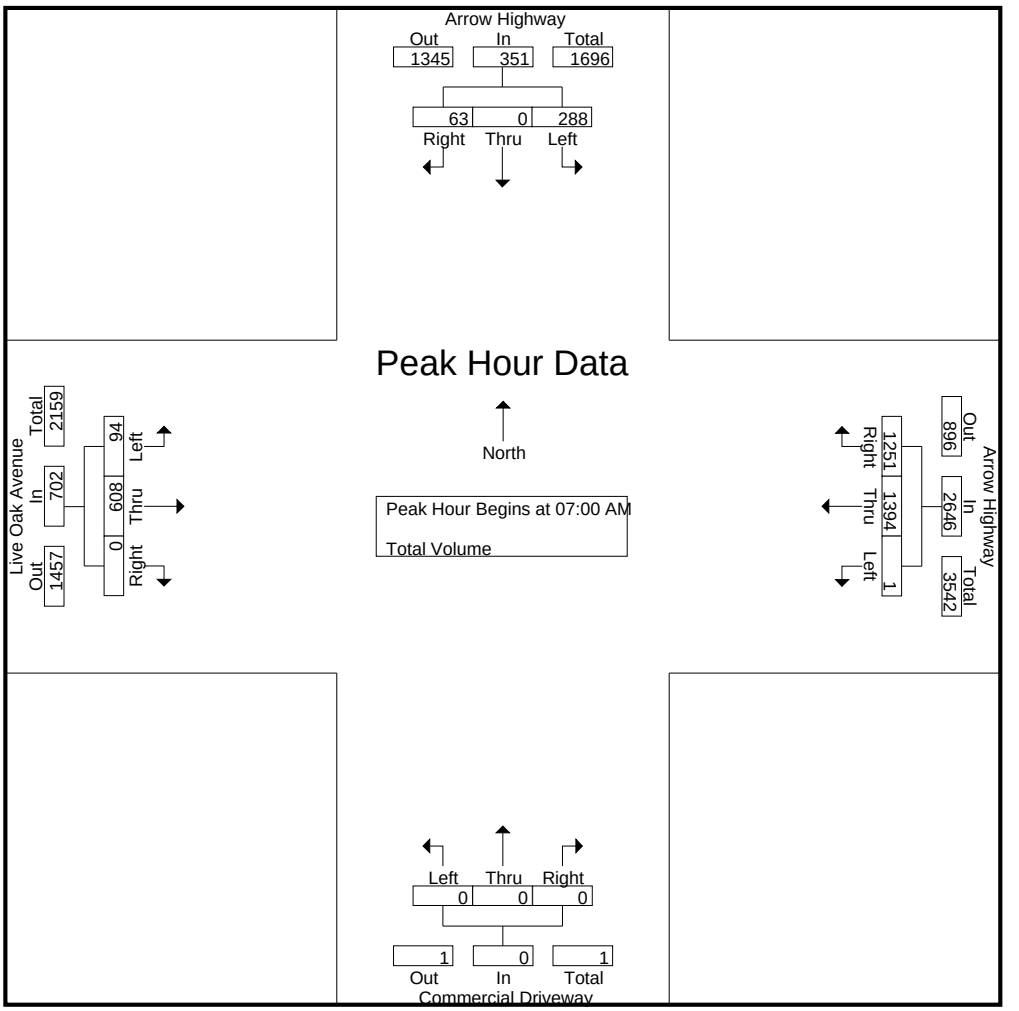
	Arrow Highway Southbound				Arrow Highway Westbound				Commercial Driveway Northbound				Live Oak Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	56	0	17	73	0	327	331	658	0	0	0	0	21	115	0	136	867
07:15 AM	59	0	14	73	0	400	347	747	0	0	0	0	14	141	0	155	975
07:30 AM	83	0	17	100	1	378	297	676	0	0	0	0	26	166	0	192	968
07:45 AM	90	0	15	105	0	289	276	565	0	0	0	0	33	186	0	219	889
Total	288	0	63	351	1	1394	1251	2646	0	0	0	0	94	608	0	702	3699
08:00 AM	91	0	13	104	0	252	262	514	0	0	0	0	31	161	0	192	810
08:15 AM	95	0	18	113	0	206	226	432	0	0	0	0	23	128	0	151	696
08:30 AM	88	0	15	103	0	230	227	457	0	0	0	0	31	136	0	167	727
08:45 AM	91	0	20	111	0	199	242	441	0	0	0	0	15	149	0	164	716
Total	365	0	66	431	0	887	957	1844	0	0	0	0	100	574	0	674	2949
Grand Total	653	0	129	782	1	2281	2208	4490	0	0	0	0	194	1182	0	1376	6648
Apprch %	83.5	0	16.5		0	50.8	49.2		0	0	0		14.1	85.9	0		
Total %	9.8	0	1.9	11.8	0	34.3	33.2	67.5	0	0	0	0	2.9	17.8	0	20.7	

	Arrow Highway Southbound				Arrow Highway Westbound				Commercial Driveway Northbound				Live Oak Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. 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	56	0	**17**	73	0	327	331	658	0	0	0	0	21	115	0	136	867
07:15 AM	59	0	14	73	0	**400**	**347**	**747**	0	0	0	0	14	141	0	155	**975**
07:30 AM	83	0	17	100	**1**	378	297	676	0	0	0	0	26	166	0	192	968
07:45 AM	**90**	0	15	**105**	0	289	276	565	0	0	0	0	**33**	**186**	0	**219**	889
Total Volume	288	0	63	351	1	1394	1251	2646	0	0	0	0	94	608	0	702	3699
% App. Total	82.1	0	17.9		0	52.7	47.3		0	0	0		13.4	86.6	0		
PHF	.800	.000	.926	.836	.250	.871	.901	.886	.000	.000	.000	.000	.712	.817	.000	.801	.948

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

File Name : 05_IRW_Arrow_LiOak E AM
Site Code : 05724506
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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				07:00 AM				07:15 AM			
+0 mins.	91	0	13	104	0	327	331	658	0	0	0	0	14	141	0	155
+15 mins.	**95**	0	18	**113**	0	**400**	**347**	**747**	0	0	0	0	26	166	0	192
+30 mins.	88	0	15	103	**1**	378	297	676	0	0	0	0	**33**	**186**	0	**219**
+45 mins.	91	0	**20**	111	0	289	276	565	0	0	0	0	31	161	0	192
Total Volume	365	0	66	431	1	1394	1251	2646	0	0	0	0	104	654	0	758
% App. Total	84.7	0	15.3		0	52.7	47.3		0	0	0		13.7	86.3	0	
PHF	.961	.000	.825	.954	.250	.871	.901	.886	.000	.000	.000	.000	.788	.879	.000	.865

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City of Irwindale
N/S: Arrow Highway (East)
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Weather: Clear

File Name : 05_IRW_Arrow_LiOak E PM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

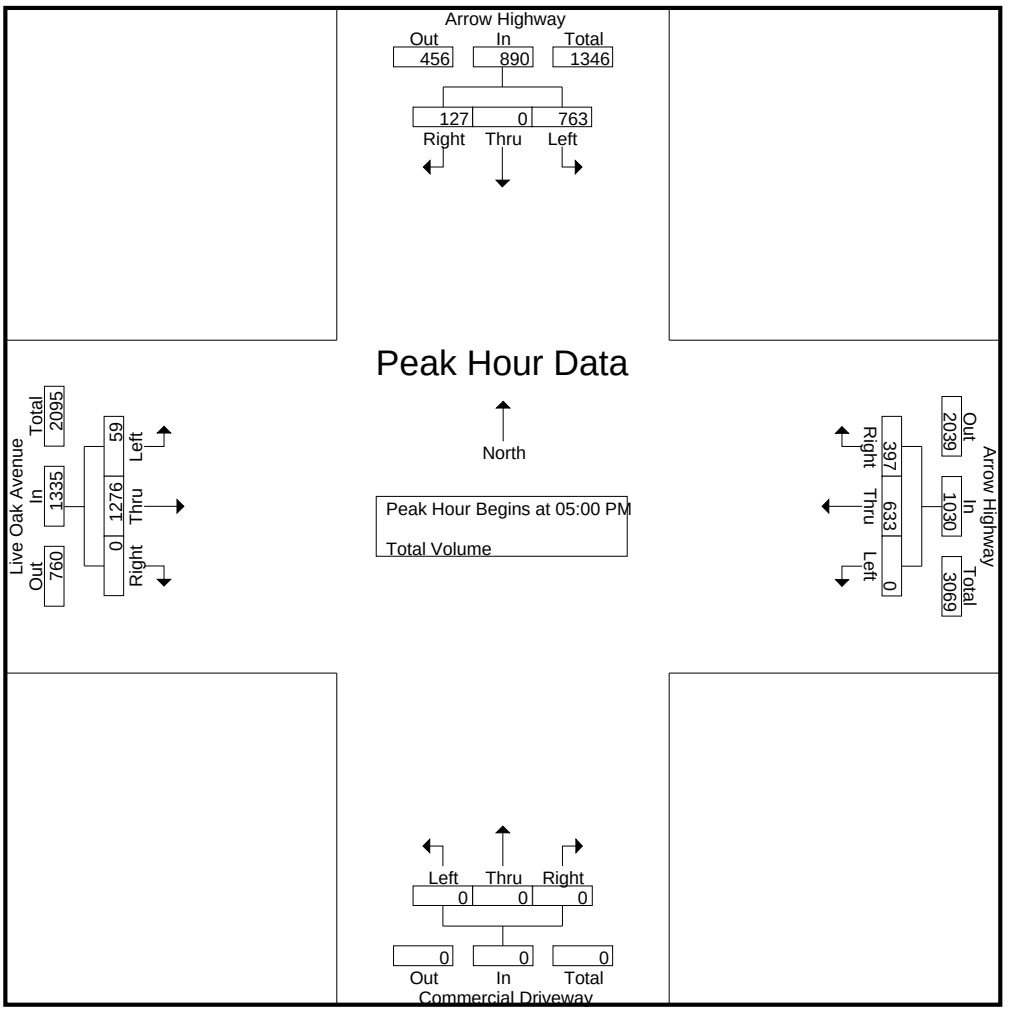
	Arrow Highway Southbound				Arrow Highway Westbound				Commercial Driveway Northbound				Live Oak Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	208	0	30	238	0	145	97	242	0	0	0	0	16	263	0	279	759
04:15 PM	182	0	30	212	0	159	129	288	0	0	0	0	13	275	0	288	788
04:30 PM	191	0	29	220	0	193	92	285	0	0	0	0	14	304	0	318	823
04:45 PM	180	0	25	205	0	140	103	243	0	0	0	0	11	297	0	308	756
Total	761	0	114	875	0	637	421	1058	0	0	0	0	54	1139	0	1193	3126
05:00 PM	153	0	34	187	0	188	92	280	0	0	0	0	16	337	0	353	820
05:15 PM	239	0	51	290	0	144	108	252	0	0	0	0	10	293	0	303	845
05:30 PM	197	0	25	222	0	160	100	260	0	0	0	0	18	321	0	339	821
05:45 PM	174	0	17	191	0	141	97	238	0	0	0	0	15	325	0	340	769
Total	763	0	127	890	0	633	397	1030	0	0	0	0	59	1276	0	1335	3255
Grand Total	1524	0	241	1765	0	1270	818	2088	0	0	0	0	113	2415	0	2528	6381
Apprch %	86.3	0	13.7		0	60.8	39.2		0	0	0		4.5	95.5	0		
Total %	23.9	0	3.8	27.7	0	19.9	12.8	32.7	0	0	0	0	1.8	37.8	0	39.6	

	Arrow Highway Southbound				Arrow Highway Westbound				Commercial Driveway Northbound				Live Oak Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. 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	153	0	34	187	0	**188**	92	**280**	0	0	0	0	16	**337**	0	**353**	820
05:15 PM	**239**	0	**51**	**290**	0	144	**108**	252	0	0	0	0	10	293	0	303	**845**
05:30 PM	197	0	25	222	0	160	100	260	0	0	0	0	**18**	321	0	339	821
05:45 PM	174	0	17	191	0	141	97	238	0	0	0	0	15	325	0	340	769
Total Volume	763	0	127	890	0	633	397	1030	0	0	0	0	59	1276	0	1335	3255
% App. Total	85.7	0	14.3		0	61.5	38.5		0	0	0		4.4	95.6	0		
PHF	.798	.000	.623	.767	.000	.842	.919	.920	.000	.000	.000	.000	.819	.947	.000	.945	.963

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Weather: Clear

File Name : 05_IRW_Arrow_LiOak E PM
Site Code : 05724506
Start Date : 5/22/2024
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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				04:15 PM				04:00 PM				05:00 PM			
+0 mins.	180	0	25	205	0	159	**129**	**288**	0	0	0	0	16	**337**	0	**353**
+15 mins.	153	0	34	187	0	**193**	92	285	0	0	0	0	10	293	0	303
+30 mins.	**239**	0	**51**	**290**	0	140	103	243	0	0	0	0	**18**	321	0	339
+45 mins.	197	0	25	222	0	188	92	280	0	0	0	0	15	325	0	340
Total Volume	769	0	135	904	0	680	416	1096	0	0	0	0	59	1276	0	1335
% App. Total	85.1	0	14.9		0	62	38		0	0	0		4.4	95.6	0	
PHF	.804	.000	.662	.779	.000	.881	.806	.951	.000	.000	.000	.000	.819	.947	.000	.945

Location: Irwindale
N/S: Arrow Highway
E/W: Live Oak Ave/Arrow Hwy

Date: 5/22/2024
Day: Wednesday

PEDESTRIANS

	North Leg Arrow Highway	East Leg Arrow Highway	South Leg Commercial Driveway	West Leg Live Oak Avenue	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	1	0	1
7:15 AM	0	0	2	0	2
7:30 AM	0	0	2	3	5
7:45 AM	0	0	1	1	2
8:00 AM	0	0	1	0	1
8:15 AM	0	0	3	0	3
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	1	1
TOTAL VOLUMES:	0	0	10	5	15

	North Leg Arrow Highway	East Leg Arrow Highway	South Leg Commercial Driveway	West Leg Live Oak Avenue	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	2	2	4
4:15 PM	0	0	0	1	1
4:30 PM	0	0	1	0	1
4:45 PM	0	0	0	1	1
5:00 PM	0	0	2	0	2
5:15 PM	0	0	1	0	1
5:30 PM	0	0	1	1	2
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	7	5	12

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Location: Irwindale
N/S: Arrow Highway
E/W: Live Oak Ave/Arrow Hwy

Date: 5/22/2024
Day: Wednesday

BICYCLES

	Southbound Arrow Highway			Westbound Arrow Highway			Northbound Commercial Driveway			Eastbound Live Oak Avenue			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	1	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	1	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
8:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	2	0	0	0	1	0	0	0	0	0	2	0	5

	Southbound Arrow Highway			Westbound Arrow Highway			Northbound Commercial Driveway			Eastbound Live Oak Avenue			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
TOTAL VOLUMES:	4	0	0	0	0	0	0	0	0	0	0	0	4

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City of Irwindale
N/S: Azusa Canyon Road
E/W: Arrow Highway
Weather: Clear

File Name : 06_IRW_AzuCyn_Arrow AM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

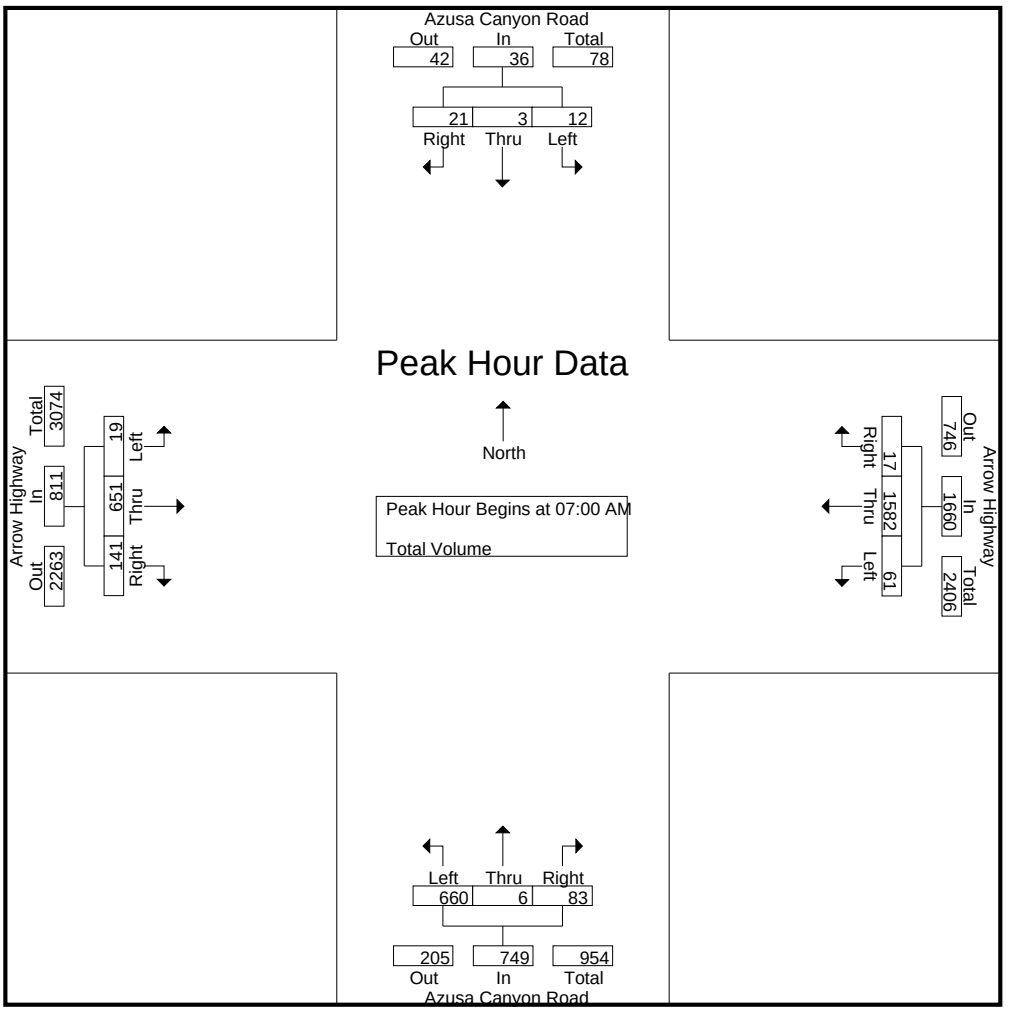
	Azusa Canyon Road Southbound				Arrow Highway Westbound				Azusa Canyon Road Northbound				Arrow Highway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	5	1	7	13	16	426	2	444	159	1	17	177	3	120	35	158	792
07:15 AM	2	1	4	7	5	364	3	372	220	1	17	238	1	145	29	175	792
07:30 AM	3	0	4	7	21	454	6	481	143	2	25	170	7	199	30	236	894
07:45 AM	2	1	6	9	19	338	6	363	138	2	24	164	8	187	47	242	778
Total	12	3	21	36	61	1582	17	1660	660	6	83	749	19	651	141	811	3256
08:00 AM	3	2	6	11	19	298	7	324	120	4	41	165	3	188	39	230	730
08:15 AM	5	0	3	8	15	293	7	315	73	2	17	92	4	182	45	231	646
08:30 AM	8	0	1	9	15	305	7	327	86	4	26	116	3	156	38	197	649
08:45 AM	1	1	7	9	24	289	9	322	93	3	34	130	9	163	35	207	668
Total	17	3	17	37	73	1185	30	1288	372	13	118	503	19	689	157	865	2693
Grand Total	29	6	38	73	134	2767	47	2948	1032	19	201	1252	38	1340	298	1676	5949
Apprch %	39.7	8.2	52.1		4.5	93.9	1.6		82.4	1.5	16.1		2.3	80	17.8		
Total %	0.5	0.1	0.6	1.2	2.3	46.5	0.8	49.6	17.3	0.3	3.4	21	0.6	22.5	5	28.2	

	Azusa Canyon Road Southbound				Arrow Highway Westbound				Azusa Canyon Road Northbound				Arrow Highway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. 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	**5**	**1**	**7**	**13**	16	426	2	444	159	1	17	177	3	120	35	158	792
07:15 AM	2	1	4	7	5	364	3	372	**220**	1	17	**238**	1	145	29	175	792
07:30 AM	3	0	4	7	**21**	**454**	**6**	**481**	143	**2**	**25**	170	7	**199**	30	236	**894**
07:45 AM	2	1	6	9	19	338	6	363	138	2	24	164	**8**	187	**47**	**242**	778
Total Volume	12	3	21	36	61	1582	17	1660	660	6	83	749	19	651	141	811	3256
% App. Total	33.3	8.3	58.3		3.7	95.3	1		88.1	0.8	11.1		2.3	80.3	17.4		
PHF	.600	.750	.750	.692	.726	.871	.708	.863	.750	.750	.830	.787	.594	.818	.750	.838	.911

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City of Irwindale
N/S: Azusa Canyon Road
E/W: Arrow Highway
Weather: Clear

File Name : 06_IRW_AzuCyn_Arrow AM
Site Code : 05724506
Start Date : 5/22/2024
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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				07:00 AM				07:30 AM			
+0 mins.	2	1	**6**	9	16	426	2	444	159	1	17	177	7	**199**	30	236
+15 mins.	3	**2**	6	**11**	5	364	3	372	**220**	1	17	**238**	**8**	187	**47**	**242**
+30 mins.	5	0	3	8	**21**	**454**	**6**	**481**	143	**2**	**25**	170	3	188	39	230
+45 mins.	**8**	0	1	9	19	338	6	363	138	2	24	164	4	182	45	231
Total Volume	18	3	16	37	61	1582	17	1660	660	6	83	749	22	756	161	939
% App. Total	48.6	8.1	43.2		3.7	95.3	1		88.1	0.8	11.1		2.3	80.5	17.1	
PHF	.563	.375	.667	.841	.726	.871	.708	.863	.750	.750	.830	.787	.688	.950	.856	.970

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City of Irwindale
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File Name : 06_IRW_AzuCyn_Arrow PM
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Page No : 1

Groups Printed- Total Volume

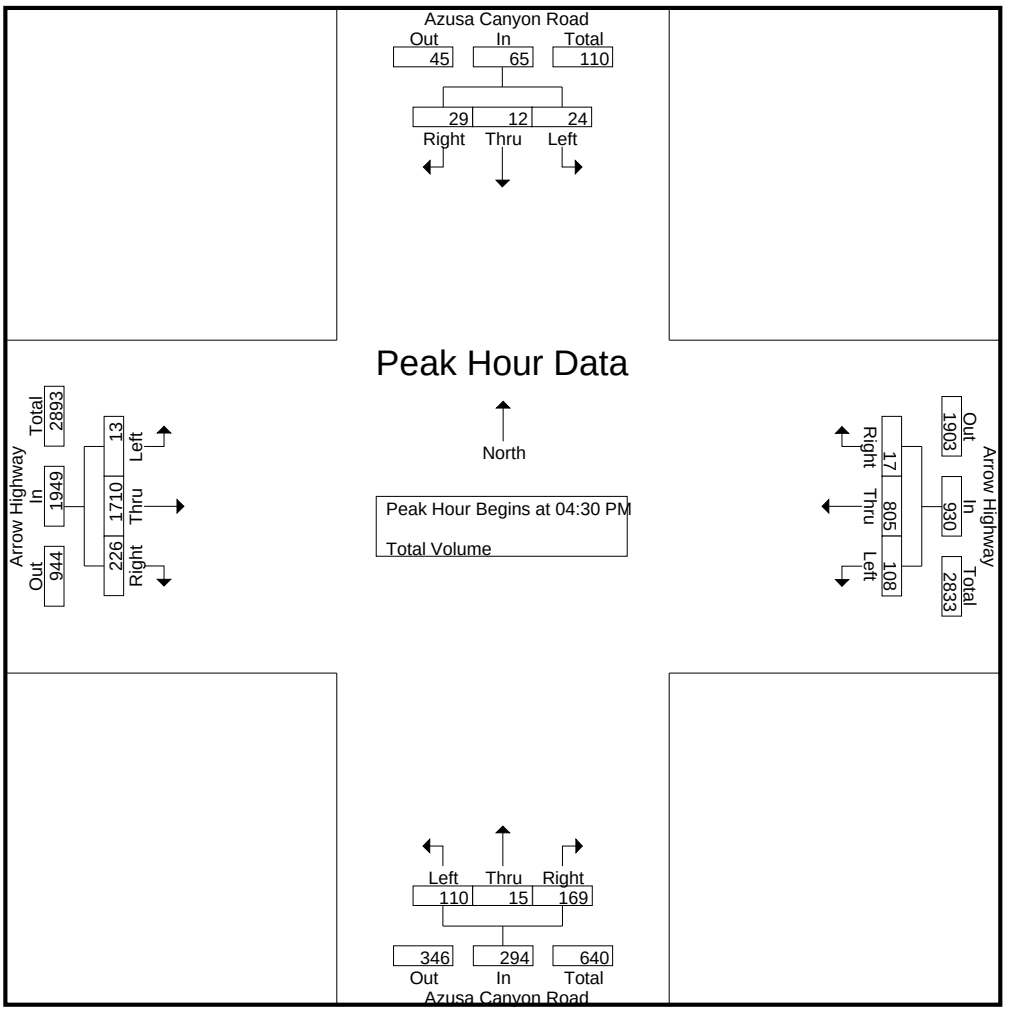
	Azusa Canyon Road Southbound				Arrow Highway Westbound				Azusa Canyon Road Northbound				Arrow Highway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	5	2	8	15	19	193	9	221	34	0	36	70	6	437	65	508	814
04:15 PM	9	4	16	29	22	216	4	242	27	1	37	65	6	374	42	422	758
04:30 PM	5	1	5	11	28	211	4	243	25	1	39	65	5	420	56	481	800
04:45 PM	8	5	13	26	35	175	6	216	25	4	53	82	0	406	46	452	776
Total	27	12	42	81	104	795	23	922	111	6	165	282	17	1637	209	1863	3148
05:00 PM	8	5	9	22	18	224	5	247	33	4	42	79	3	453	62	518	866
05:15 PM	3	1	2	6	27	195	2	224	27	6	35	68	5	431	62	498	796
05:30 PM	11	6	4	21	20	207	3	230	25	3	36	64	2	395	74	471	786
05:45 PM	9	2	5	16	28	170	10	208	21	6	33	60	8	386	54	448	732
Total	31	14	20	65	93	796	20	909	106	19	146	271	18	1665	252	1935	3180
Grand Total	58	26	62	146	197	1591	43	1831	217	25	311	553	35	3302	461	3798	6328
Apprch %	39.7	17.8	42.5		10.8	86.9	2.3		39.2	4.5	56.2		0.9	86.9	12.1		
Total %	0.9	0.4	1	2.3	3.1	25.1	0.7	28.9	3.4	0.4	4.9	8.7	0.6	52.2	7.3	60	

	Azusa Canyon Road Southbound				Arrow Highway Westbound				Azusa Canyon Road Northbound				Arrow Highway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. 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	5	1	5	11	28	211	4	243	25	1	39	65	**5**	420	56	481	800
04:45 PM	**8**	**5**	**13**	**26**	**35**	175	**6**	216	25	4	**53**	**82**	0	406	46	452	776
05:00 PM	8	5	9	22	18	**224**	5	**247**	**33**	4	42	79	3	**453**	**62**	**518**	**866**
05:15 PM	3	1	2	6	27	195	2	224	27	**6**	35	68	5	431	62	498	796
Total Volume	24	12	29	65	108	805	17	930	110	15	169	294	13	1710	226	1949	3238
% App. Total	36.9	18.5	44.6		11.6	86.6	1.8		37.4	5.1	57.5		0.7	87.7	11.6		
PHF	.750	.600	.558	.625	.771	.898	.708	.941	.833	.625	.797	.896	.650	.944	.911	.941	.935

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City of Irwindale
N/S: Azusa Canyon Road
E/W: Arrow Highway
Weather: Clear

File Name : 06_IRW_AzuCyn_Arrow PM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 2



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

	04:15 PM				04:15 PM				04:30 PM				04:30 PM			
+0 mins.	**9**	4	**16**	**29**	22	216	4	242	25	1	39	65	**5**	420	56	481
+15 mins.	5	1	5	11	28	211	4	243	25	4	**53**	**82**	0	406	46	452
+30 mins.	8	**5**	13	26	**35**	175	**6**	216	**33**	4	42	79	3	**453**	**62**	**518**
+45 mins.	8	5	9	22	18	**224**	5	**247**	27	**6**	35	68	5	431	62	498
Total Volume	30	15	43	88	103	826	19	948	110	15	169	294	13	1710	226	1949
% App. Total	34.1	17	48.9		10.9	87.1	2		37.4	5.1	57.5		0.7	87.7	11.6	
PHF	.833	.750	.672	.759	.736	.922	.792	.960	.833	.625	.797	.896	.650	.944	.911	.941

Location: Irwindale
N/S: Azusa Canyon Road
E/W: Arrow Highway

Date: 5/22/2024
Day: Wednesday

PEDESTRIANS

	North Leg Azusa Canyon Road	East Leg Arrow Highway	South Leg Azusa Canyon Road	West Leg Arrow Highway	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	4	3	0	7
7:15 AM	0	3	1	0	4
7:30 AM	0	0	3	0	3
7:45 AM	0	4	3	0	7
8:00 AM	0	3	3	0	6
8:15 AM	0	1	0	0	1
8:30 AM	0	2	0	0	2
8:45 AM	2	8	4	0	14
TOTAL VOLUMES:	2	25	17	0	44

	North Leg Azusa Canyon Road	East Leg Arrow Highway	South Leg Azusa Canyon Road	West Leg Arrow Highway	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	3	4	0	7
4:15 PM	0	3	1	0	4
4:30 PM	2	4	6	0	12
4:45 PM	0	0	0	0	0
5:00 PM	1	1	3	0	5
5:15 PM	0	5	3	0	8
5:30 PM	1	3	1	0	5
5:45 PM	0	9	6	0	15
TOTAL VOLUMES:	4	28	24	0	56

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Location: Irwindale
N/S: Azusa Canyon Road
E/W: Arrow Highway

Date: 5/22/2024
Day: Wednesday

BICYCLES

	Southbound Azusa Canyon Road			Westbound Arrow Highway			Northbound Azusa Canyon Road			Eastbound Arrow Highway			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
7:15 AM	0	1	0	0	0	0	0	1	0	0	0	0	2
7:30 AM	0	1	0	0	0	0	0	2	0	0	0	0	3
7:45 AM	0	9	0	0	0	0	0	0	0	0	0	0	9
8:00 AM	0	0	0	0	0	0	0	1	0	0	1	0	2
8:15 AM	0	0	0	0	0	0	0	2	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
TOTAL VOLUMES:	0	12	0	0	0	0	0	7	0	0	1	0	20

	Southbound Azusa Canyon Road			Westbound Arrow Highway			Northbound Azusa Canyon Road			Eastbound Arrow Highway			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	1	0	0	0	0	0	2	0	0	0	0	3
4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
4:45 PM	1	1	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	1	0	0	0	0	0	1	0	0	0	0	2
5:15 PM	0	2	0	0	0	0	0	0	1	0	0	0	3
5:30 PM	0	0	0	0	0	0	0	2	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	7	0	0	0	0	7
TOTAL VOLUMES:	1	8	0	0	0	0	0	12	1	0	0	0	22

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City of Irwindale
N/S: Martin Road
E/W: W 1st Street
Weather: Clear

File Name : 07_IRW_MARTIN_1ST AM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

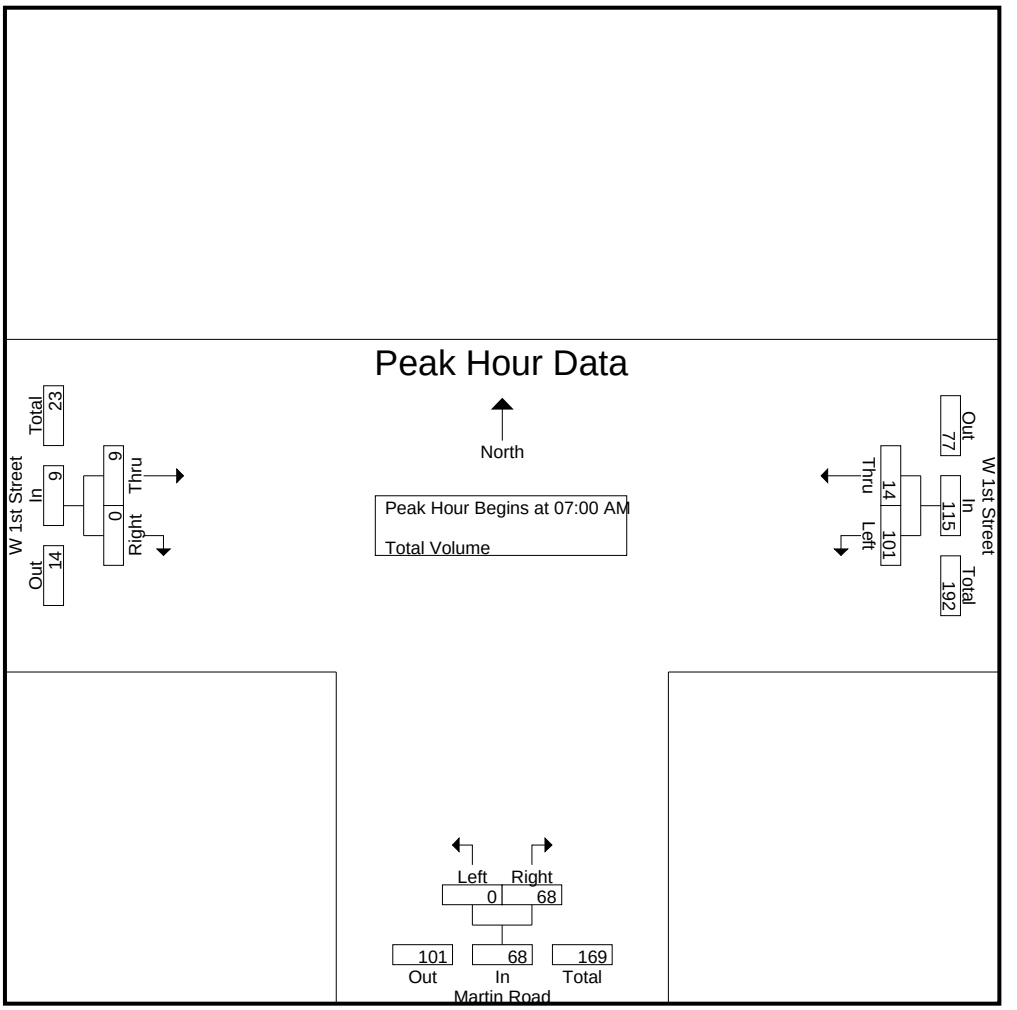
	W 1st Street Westbound			Martin Road Northbound			W 1st Street Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	36	4	40	0	32	32	3	0	3	75
07:15 AM	15	4	19	0	15	15	1	0	1	35
07:30 AM	20	3	23	0	13	13	0	0	0	36
07:45 AM	30	3	33	0	8	8	5	0	5	46
Total	101	14	115	0	68	68	9	0	9	192
08:00 AM	23	2	25	0	6	6	1	0	1	32
08:15 AM	18	2	20	0	5	5	1	0	1	26
08:30 AM	28	0	28	0	8	8	6	0	6	42
08:45 AM	40	4	44	0	7	7	4	0	4	55
Total	109	8	117	0	26	26	12	0	12	155
Grand Total	210	22	232	0	94	94	21	0	21	347
Apprch %	90.5	9.5		0	100		100	0		
Total %	60.5	6.3	66.9	0	27.1	27.1	6.1	0	6.1	

	W 1st Street Westbound			Martin Road Northbound			W 1st Street Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. 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	36	4	40	0	32	32	3	0	3	75
07:15 AM	15	4	19	0	15	15	1	0	1	35
07:30 AM	20	3	23	0	13	13	0	0	0	36
07:45 AM	30	3	33	0	8	8	5	0	5	46
Total Volume	101	14	115	0	68	68	9	0	9	192
% App. Total	87.8	12.2		0	100		100	0		
PHF	.701	.875	.719	.000	.531	.531	.450	.000	.450	.640

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City of Irwindale
N/S: Martin Road
E/W: W 1st Street
Weather: Clear

File Name : 07_IRW_MARTIN_1ST AM
Site Code : 05724506
Start Date : 5/22/2024



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.	23	2	25	0	32	32	5	0	5
+15 mins.	18	2	20	0	15	15	1	0	1
+30 mins.	28	0	28	0	13	13	1	0	1
+45 mins.	40	4	44	0	8	8	6	0	6
Total Volume	109	8	117	0	68	68	13	0	13
% App. Total	93.2	6.8		0	100		100	0	
PHF	.681	.500	.665	.000	.531	.531	.542	.000	.542

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City of Irwindale
N/S: Martin Road
E/W: W 1st Street
Weather: Clear

File Name : 07_IRW_MARTIN_1ST PM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

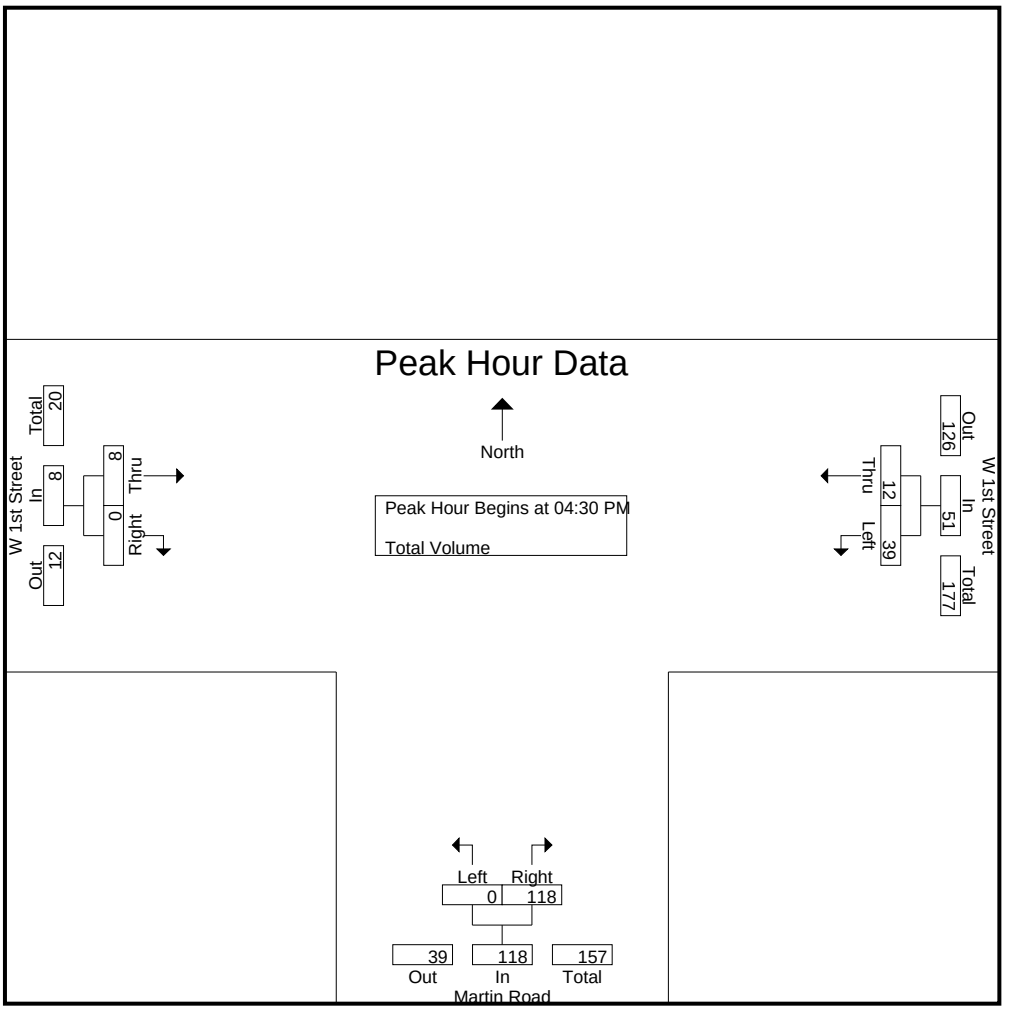
	W 1st Street Westbound			Martin Road Northbound			W 1st Street Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	10	5	15	0	39	39	1	0	1	55
04:15 PM	8	1	9	0	15	15	4	0	4	28
04:30 PM	10	0	10	0	45	45	2	0	2	57
04:45 PM	9	4	13	0	21	21	2	0	2	36
Total	37	10	47	0	120	120	9	0	9	176
05:00 PM	10	3	13	0	36	36	2	0	2	51
05:15 PM	10	5	15	0	16	16	2	0	2	33
05:30 PM	4	0	4	0	25	25	4	0	4	33
05:45 PM	5	2	7	0	19	19	1	0	1	27
Total	29	10	39	0	96	96	9	0	9	144
Grand Total	66	20	86	0	216	216	18	0	18	320
Apprch %	76.7	23.3		0	100		100	0		
Total %	20.6	6.2	26.9	0	67.5	67.5	5.6	0	5.6	

	W 1st Street Westbound			Martin Road Northbound			W 1st Street Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. 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	10	0	10	0	45	45	2	0	2	57
04:45 PM	9	4	13	0	21	21	2	0	2	36
05:00 PM	10	3	13	0	36	36	2	0	2	51
05:15 PM	10	5	15	0	16	16	2	0	2	33
Total Volume	39	12	51	0	118	118	8	0	8	177
% App. Total	76.5	23.5		0	100		100	0		
PHF	.975	.600	.850	.000	.656	.656	1.00	.000	1.00	.776

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City of Irwindale
N/S: Martin Road
E/W: W 1st Street
Weather: Clear

File Name : 07_IRW_MARTIN_1ST PM
Site Code : 05724506
Start Date : 5/22/2024



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			04:15 PM		
+0 mins.	10	0	10	0	39	39	4	0	4
+15 mins.	9	4	13	0	15	15	2	0	2
+30 mins.	10	3	13	0	45	45	2	0	2
+45 mins.	10	5	15	0	21	21	2	0	2
Total Volume	39	12	51	0	120	120	10	0	10
% App. Total	76.5	23.5		0	100		100	0	
PHF	.975	.600	.850	.000	.667	.667	.625	.000	.625

Location: Irwindale
N/S: Martin Road
E/W: W 1st Street

Date: 5/22/2024
Day: Wednesday

PEDESTRIANS

	North Leg Martin Road	East Leg W 1st Street	South Leg Martin Road	West Leg W 1st Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	1	0	1
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	1	0	1

	North Leg Martin Road	East Leg W 1st Street	South Leg Martin Road	West Leg W 1st Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	1	1
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	1	1

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Location: Irwindale
N/S: Martin Road
E/W: W 1st Street

Date: 5/22/2024
Day: Wednesday

BICYCLES

	Southbound Martin Road			Westbound W 1st Street			Northbound Martin Road			Eastbound W 1st Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	1
7:15 AM	0	0	0	2	0	0	0	0	0	0	0	0	2
7:30 AM	0	0	0	1	0	0	0	0	1	0	0	0	2
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	3	0	0	0	0	2	0	0	0	5

	Southbound Martin Road			Westbound W 1st Street			Northbound Martin Road			Eastbound W 1st Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	2	0	0	0	2
5:30 PM	0	0	0	1	0	0	0	0	1	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	1	0	0	0	0	3	0	0	0	4

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City of Azusa
N/S: Irwindale Brew Yard Driveway
E/W: W 1st Street
Weather: Clear

File Name : 08_AZU_IBY DW_1st AM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

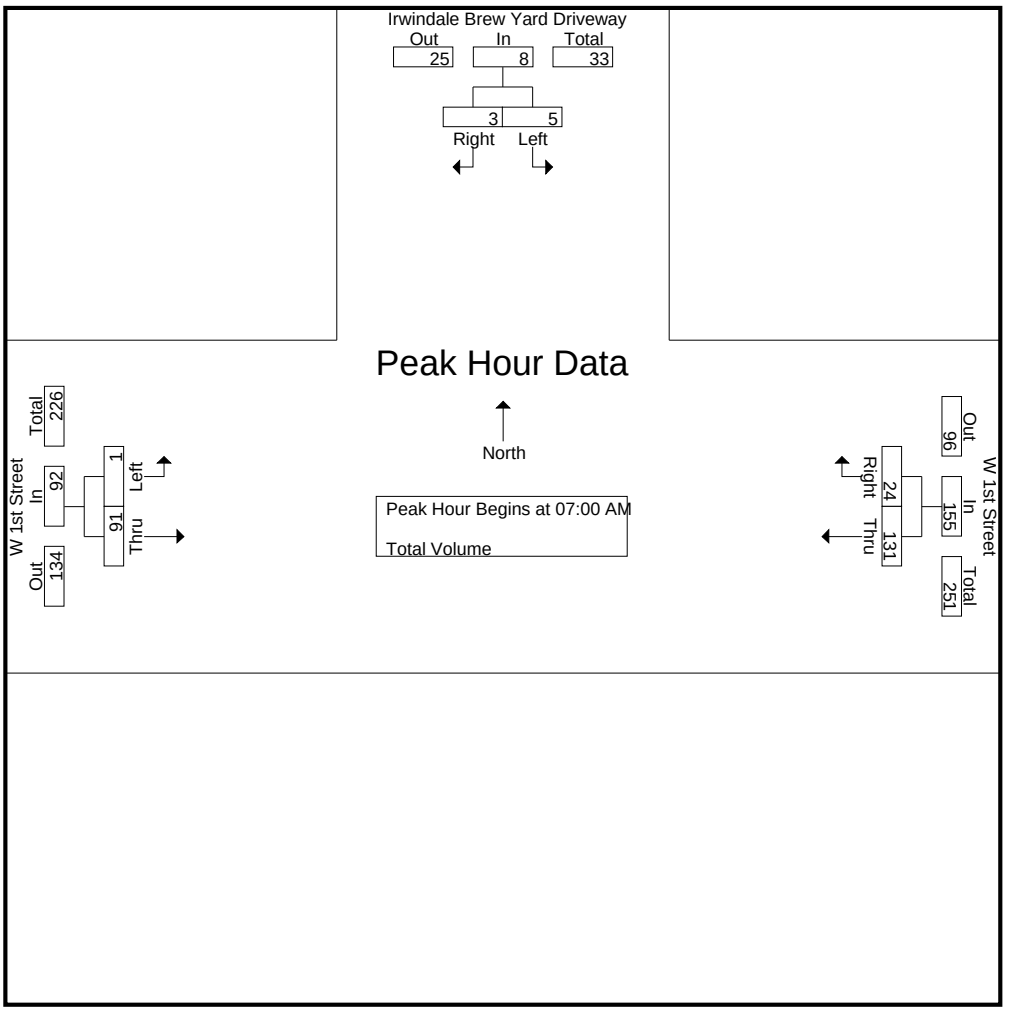
	Irwindale Brew Yard Driveway Southbound			W 1st Street Westbound			W 1st Street Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	0	0	0	48	5	53	1	39	40	93
07:15 AM	1	3	4	21	5	26	0	19	19	49
07:30 AM	4	0	4	27	6	33	0	16	16	53
07:45 AM	0	0	0	35	8	43	0	17	17	60
Total	5	3	8	131	24	155	1	91	92	255
08:00 AM	0	0	0	29	3	32	0	10	10	42
08:15 AM	1	0	1	23	1	24	0	10	10	35
08:30 AM	2	0	2	38	3	41	0	17	17	60
08:45 AM	1	0	1	51	3	54	0	18	18	73
Total	4	0	4	141	10	151	0	55	55	210
Grand Total	9	3	12	272	34	306	1	146	147	465
Apprch %	75	25		88.9	11.1		0.7	99.3		
Total %	1.9	0.6	2.6	58.5	7.3	65.8	0.2	31.4	31.6	

	Irwindale Brew Yard Driveway Southbound			W 1st Street Westbound			W 1st Street Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. 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	0	0	0	**48**	5	**53**	**1**	**39**	**40**	**93**
07:15 AM	1	**3**	**4**	21	5	26	0	19	19	49
07:30 AM	**4**	0	4	27	6	33	0	16	16	53
07:45 AM	0	0	0	35	**8**	43	0	17	17	60
Total Volume	5	3	8	131	24	155	1	91	92	255
% App. Total	62.5	37.5		84.5	15.5		1.1	98.9		
PHF	.313	.250	.500	.682	.750	.731	.250	.583	.575	.685

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City of Azusa
N/S: Irwindale Brew Yard Driveway
E/W: W 1st Street
Weather: Clear

File Name : 08_AZU_IBY DW_1st AM
Site Code : 05724506
Start Date : 5/22/2024
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		
+0 mins.	0	0	0	**48**	5	**53**	**1**	**39**	**40**
+15 mins.	1	**3**	**4**	21	5	26	0	19	19
+30 mins.	**4**	0	4	27	6	33	0	16	16
+45 mins.	0	0	0	35	**8**	43	0	17	17
Total Volume	5	3	8	131	24	155	1	91	92
% App. Total	62.5	37.5		84.5	15.5		1.1	98.9	
PHF	.313	.250	.500	.682	.750	.731	.250	.583	.575

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City of Azusa
N/S: Irwindale Brew Yard Driveway
E/W: W 1st Street
Weather: Clear

File Name : 08_AZU_IBY DW_1st PM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

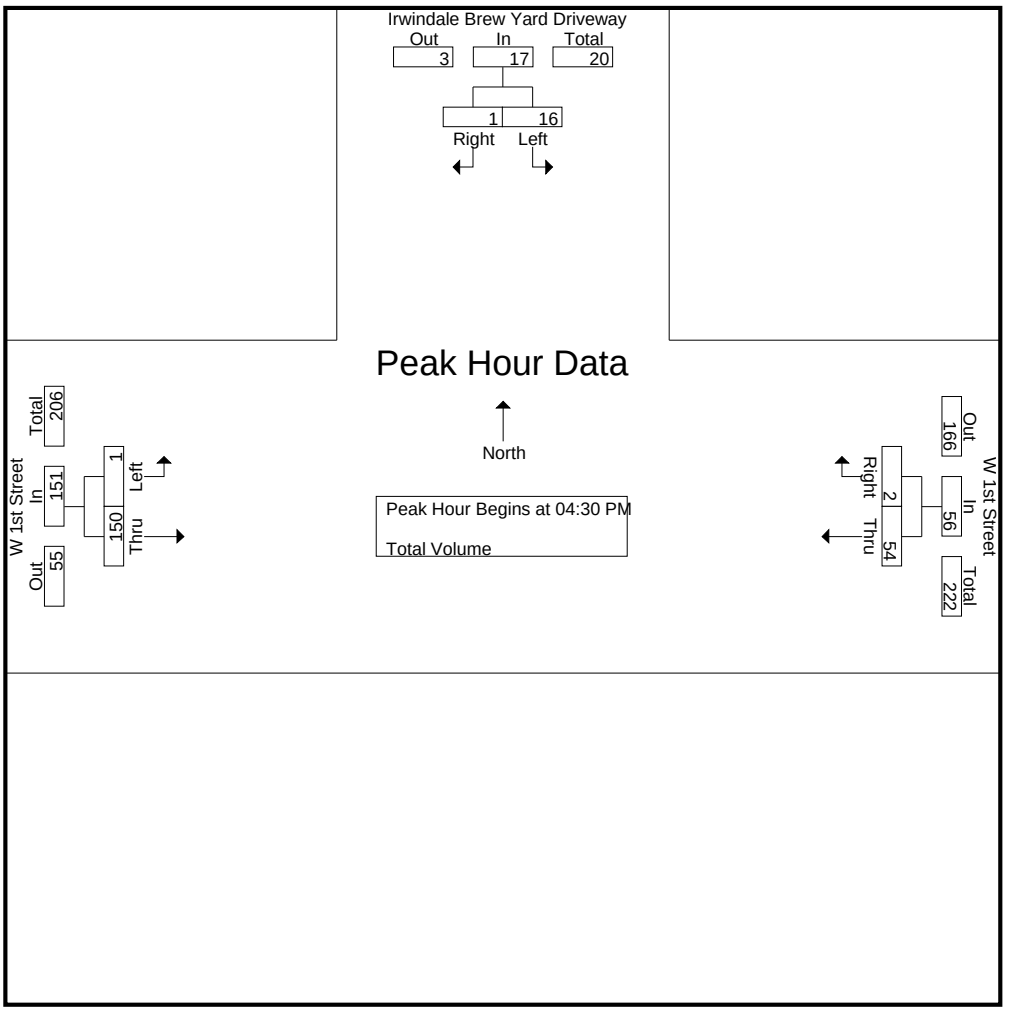
	Irwindale Brew Yard Driveway Southbound			W 1st Street Westbound			W 1st Street Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	3	1	4	15	0	15	0	48	48	67
04:15 PM	1	0	1	10	1	11	0	23	23	35
04:30 PM	1	0	1	10	0	10	0	53	53	64
04:45 PM	6	0	6	16	0	16	0	29	29	51
Total	11	1	12	51	1	52	0	153	153	217
05:00 PM	4	1	5	14	1	15	1	43	44	64
05:15 PM	5	0	5	14	1	15	0	25	25	45
05:30 PM	6	0	6	9	0	9	0	33	33	48
05:45 PM	3	0	3	11	5	16	0	22	22	41
Total	18	1	19	48	7	55	1	123	124	198
Grand Total	29	2	31	99	8	107	1	276	277	415
Apprch %	93.5	6.5		92.5	7.5		0.4	99.6		
Total %	7	0.5	7.5	23.9	1.9	25.8	0.2	66.5	66.7	

	Irwindale Brew Yard Driveway Southbound			W 1st Street Westbound			W 1st Street Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. 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	1	0	1	10	0	10	0	**53**	**53**	**64**
04:45 PM	**6**	0	**6**	**16**	0	**16**	0	29	29	51
05:00 PM	4	**1**	5	14	**1**	15	**1**	43	44	64
05:15 PM	5	0	5	14	1	15	0	25	25	45
Total Volume	16	1	17	54	2	56	1	150	151	224
% App. Total	94.1	5.9		96.4	3.6		0.7	99.3		
PHF	.667	.250	.708	.844	.500	.875	.250	.708	.712	.875

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City of Azusa
N/S: Irwindale Brew Yard Driveway
E/W: W 1st Street
Weather: Clear

File Name : 08_AZU_IBY DW_1st PM
Site Code : 05724506
Start Date : 5/22/2024
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:

	04:45 PM			04:30 PM			04:00 PM		
+0 mins.	**6**	0	**6**	10	0	10	0	48	48
+15 mins.	4	**1**	5	**16**	0	**16**	0	23	23
+30 mins.	5	0	5	14	**1**	15	0	**53**	**53**
+45 mins.	6	0	6	14	1	15	0	29	29
Total Volume	21	1	22	54	2	56	0	153	153
% App. Total	95.5	4.5		96.4	3.6		0	100	
PHF	.875	.250	.917	.844	.500	.875	.000	.722	.722

Location: Irwindale
N/S: Irwindale Brew Yard DW
E/W: W 1st Street

Date: 5/22/2024
Day: Wednesday

PEDESTRIANS

	North Leg Irwindale Brew Yard DW	East Leg W 1st Street	South Leg Dead End	West Leg W 1st Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	2	0	2
7:30 AM	0	0	1	0	1
7:45 AM	0	0	2	0	2
8:00 AM	0	0	9	0	9
8:15 AM	0	0	0	0	0
8:30 AM	0	0	3	0	3
8:45 AM	0	0	1	0	1
TOTAL VOLUMES:	0	0	18	0	18

	North Leg Irwindale Brew Yard DW	East Leg W 1st Street	South Leg Dead End	West Leg W 1st Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	2	0	2
4:15 PM	0	0	1	0	1
4:30 PM	0	0	2	0	2
4:45 PM	0	0	2	0	2
5:00 PM	0	0	1	0	1
5:15 PM	0	0	2	0	2
5:30 PM	0	0	2	0	2
5:45 PM	0	1	1	0	2
TOTAL VOLUMES:	0	1	13	0	14

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Location: Irwindale
N/S: Irwindale Brew Yard DW
E/W: W 1st Street

Date: 5/22/2024
Day: Wednesday

BICYCLES

	Southbound Irwindale Brew Yard DW			Westbound W 1st Street			Northbound Dead End			Eastbound W 1st Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:15 AM	0	0	0	0	3	0	0	0	0	0	0	0	3
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
TOTAL VOLUMES:	0	0	0	0	4	0	0	0	0	0	4	0	8

	Southbound Irwindale Brew Yard DW			Westbound W 1st Street			Northbound Dead End			Eastbound W 1st Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:30 PM	0	0	0	0	1	0	0	0	0	0	1	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	1	0	0	0	0	0	4	0	5

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City of Irwindale
N/S: Irwindale Avenue
E/W: Foothill Boulevard
Weather: Clear

File Name : 09_IRW_Irwdl_Foot AM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

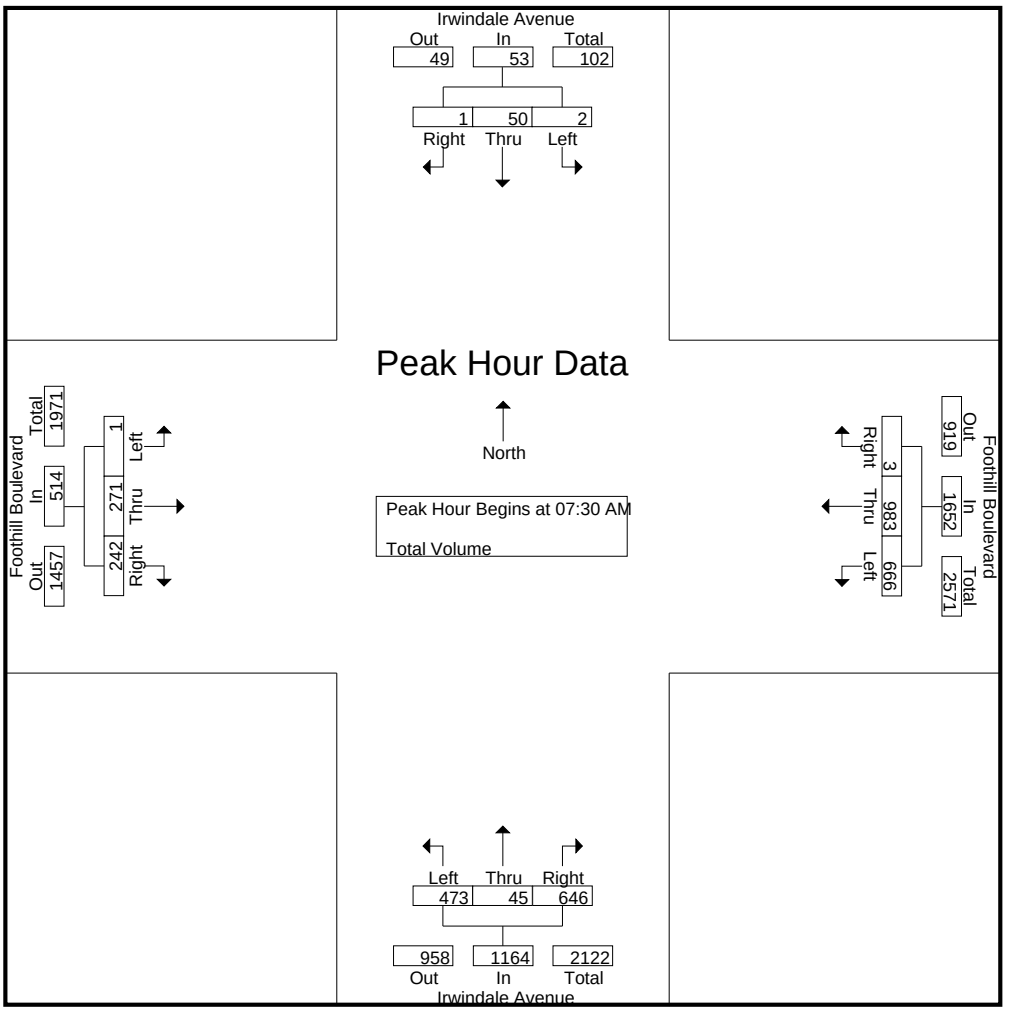
	Irwindale Avenue Southbound				Foothill Boulevard Westbound				Irwindale Avenue Northbound				Foothill Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	9	0	10	168	336	1	505	95	10	102	207	1	43	45	89	811
07:15 AM	0	3	1	4	166	315	1	482	105	17	94	216	0	49	65	114	816
07:30 AM	1	13	0	14	195	282	0	477	106	13	134	253	1	41	66	108	852
07:45 AM	1	16	0	17	131	238	2	371	120	14	163	297	0	72	64	136	821
Total	3	41	1	45	660	1171	4	1835	426	54	493	973	2	205	240	447	3300
08:00 AM	0	10	1	11	183	254	1	438	128	11	165	304	0	73	45	118	871
08:15 AM	0	11	0	11	157	209	0	366	119	7	184	310	0	85	67	152	839
08:30 AM	0	15	0	15	178	185	0	363	107	15	148	270	0	85	59	144	792
08:45 AM	0	12	1	13	121	163	0	284	80	13	193	286	1	89	56	146	729
Total	0	48	2	50	639	811	1	1451	434	46	690	1170	1	332	227	560	3231
Grand Total	3	89	3	95	1299	1982	5	3286	860	100	1183	2143	3	537	467	1007	6531
Apprch %	3.2	93.7	3.2		39.5	60.3	0.2		40.1	4.7	55.2		0.3	53.3	46.4		
Total %	0	1.4	0	1.5	19.9	30.3	0.1	50.3	13.2	1.5	18.1	32.8	0	8.2	7.2	15.4	

	Irwindale Avenue Southbound				Foothill Boulevard Westbound				Irwindale Avenue Northbound				Foothill Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. 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	**1**	13	0	14	**195**	**282**	0	**477**	106	13	134	253	**1**	41	66	108	852
07:45 AM	1	**16**	0	**17**	131	238	**2**	371	120	**14**	163	297	0	72	64	136	821
08:00 AM	0	10	**1**	11	183	254	1	438	**128**	11	165	304	0	73	45	118	**871**
08:15 AM	0	11	0	11	157	209	0	366	119	7	**184**	**310**	0	**85**	**67**	**152**	839
Total Volume	2	50	1	53	666	983	3	1652	473	45	646	1164	1	271	242	514	3383
% App. Total	3.8	94.3	1.9		40.3	59.5	0.2		40.6	3.9	55.5		0.2	52.7	47.1		
PHF	.500	.781	.250	.779	.854	.871	.375	.866	.924	.804	.878	.939	.250	.797	.903	.845	.971

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City of Irwindale
N/S: Irwindale Avenue
E/W: Foothill Boulevard
Weather: Clear

File Name : 09_IRW_Irwdl_Foot AM
Site Code : 05724506
Start Date : 5/22/2024
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:

	07:45 AM				07:00 AM				07:45 AM				08:00 AM			
+0 mins.	**1**	**16**	0	**17**	168	**336**	1	**505**	120	14	163	297	0	73	45	118
+15 mins.	0	10	**1**	11	166	315	1	482	**128**	11	165	304	0	85	**67**	**152**
+30 mins.	0	11	0	11	**195**	282	0	477	119	7	**184**	**310**	0	85	59	144
+45 mins.	0	15	0	15	131	238	**2**	371	107	**15**	148	270	**1**	**89**	56	146
Total Volume	1	52	1	54	660	1171	4	1835	474	47	660	1181	1	332	227	560
% App. Total	1.9	96.3	1.9		36	63.8	0.2		40.1	4	55.9		0.2	59.3	40.5	
PHF	.250	.813	.250	.794	.846	.871	.500	.908	.926	.783	.897	.952	.250	.933	.847	.921

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City of Irwindale
N/S: Irwindale Avenue
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File Name : 09_IRW_Irwdl_Foot PM
Site Code : 05724506
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Groups Printed- Total Volume

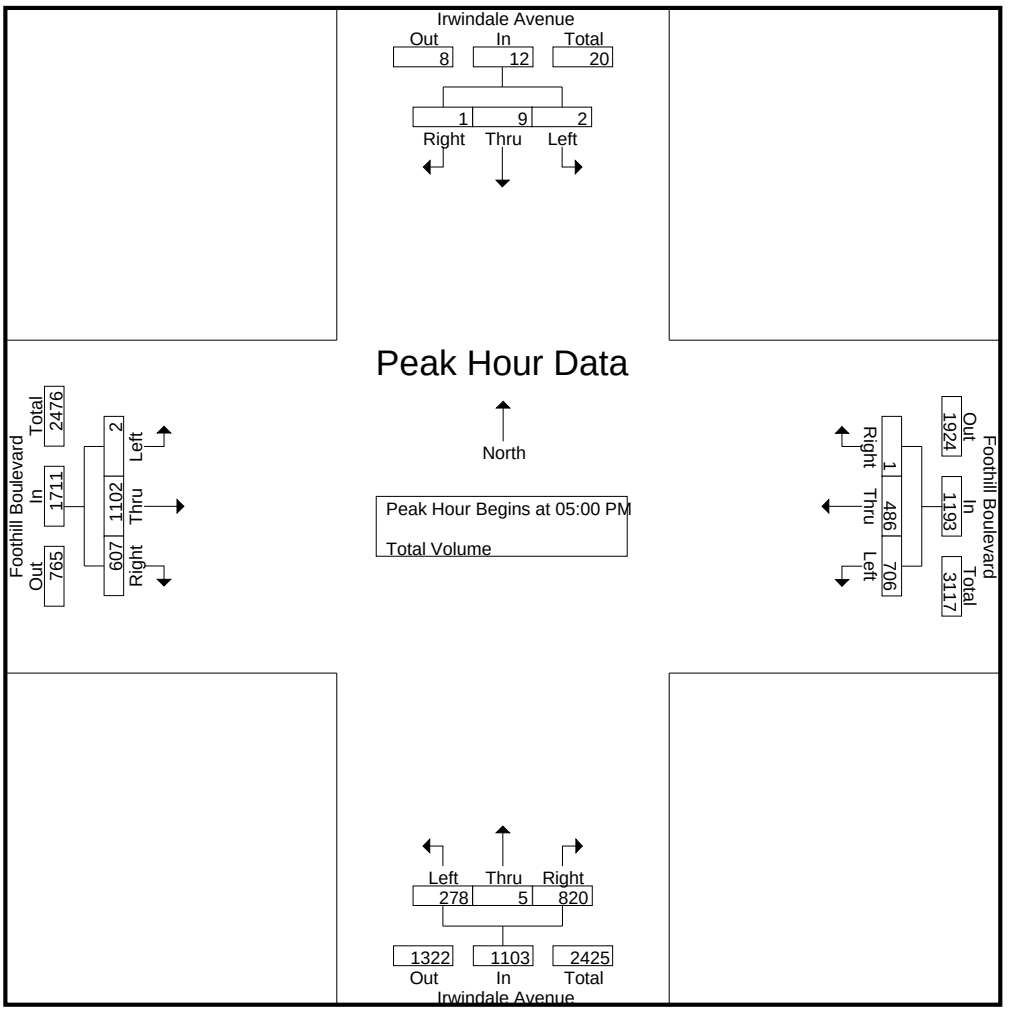
	Irwindale Avenue Southbound				Foothill Boulevard Westbound				Irwindale Avenue Northbound				Foothill Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	6	1	8	167	112	1	280	65	2	187	254	1	286	119	406	948
04:15 PM	1	10	2	13	172	105	2	279	64	2	190	256	1	239	142	382	930
04:30 PM	0	2	0	2	169	111	0	280	68	0	173	241	2	296	149	447	970
04:45 PM	0	7	0	7	152	112	1	265	59	2	208	269	0	282	157	439	980
Total	2	25	3	30	660	440	4	1104	256	6	758	1020	4	1103	567	1674	3828
05:00 PM	1	4	0	5	167	136	0	303	62	0	212	274	0	282	157	439	1021
05:15 PM	1	1	1	3	198	122	1	321	63	1	196	260	0	288	152	440	1024
05:30 PM	0	1	0	1	176	116	0	292	72	2	185	259	1	267	151	419	971
05:45 PM	0	3	0	3	165	112	0	277	81	2	227	310	1	265	147	413	1003
Total	2	9	1	12	706	486	1	1193	278	5	820	1103	2	1102	607	1711	4019
Grand Total	4	34	4	42	1366	926	5	2297	534	11	1578	2123	6	2205	1174	3385	7847
Apprch %	9.5	81	9.5		59.5	40.3	0.2		25.2	0.5	74.3		0.2	65.1	34.7		
Total %	0.1	0.4	0.1	0.5	17.4	11.8	0.1	29.3	6.8	0.1	20.1	27.1	0.1	28.1	15	43.1	

	Irwindale Avenue Southbound				Foothill Boulevard Westbound				Irwindale Avenue Northbound				Foothill Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. 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	**1**	**4**	0	**5**	167	**136**	0	303	62	0	212	274	0	282	**157**	439	1021
05:15 PM	1	1	**1**	3	**198**	122	**1**	**321**	63	1	196	260	0	**288**	152	**440**	**1024**
05:30 PM	0	1	0	1	176	116	0	292	72	**2**	185	259	**1**	267	151	419	971
05:45 PM	0	3	0	3	165	112	0	277	**81**	2	**227**	**310**	1	265	147	413	1003
Total Volume	2	9	1	12	706	486	1	1193	278	5	820	1103	2	1102	607	1711	4019
% App. Total	16.7	75	8.3		59.2	40.7	0.1		25.2	0.5	74.3		0.1	64.4	35.5		
PHF	.500	.563	.250	.600	.891	.893	.250	.929	.858	.625	.903	.890	.500	.957	.967	.972	.981

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City of Irwindale
N/S: Irwindale Avenue
E/W: Foothill Boulevard
Weather: Clear

File Name : 09_IRW_Irwdl_Foot PM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 2



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

	04:00 PM				05:00 PM				05:00 PM				04:30 PM			
+0 mins.	**1**	6	1	8	167	**136**	0	303	62	0	212	274	**2**	**296**	149	**447**
+15 mins.	1	**10**	**2**	**13**	**198**	122	**1**	**321**	63	1	196	260	0	282	**157**	439
+30 mins.	0	2	0	2	176	116	0	292	72	**2**	185	259	0	282	157	439
+45 mins.	0	7	0	7	165	112	0	277	**81**	2	**227**	**310**	0	288	152	440
Total Volume	2	25	3	30	706	486	1	1193	278	5	820	1103	2	1148	615	1765
% App. Total	6.7	83.3	10		59.2	40.7	0.1		25.2	0.5	74.3		0.1	65	34.8	
PHF	.500	.625	.375	.577	.891	.893	.250	.929	.858	.625	.903	.890	.250	.970	.979	.987

Location: Irwindale
N/S: Irwindale Avenue
E/W: Foothill Boulevard

Date: 5/22/2024
Day: Wednesday

PEDESTRIANS

	North Leg Irwindale Avenue	East Leg Foothill Boulevard	South Leg Irwindale Avenue	West Leg Foothill Boulevard	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	1	1	0	2
7:30 AM	0	0	1	0	1
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	1	2	0	3

	North Leg Irwindale Avenue	East Leg Foothill Boulevard	South Leg Irwindale Avenue	West Leg Foothill Boulevard	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	2	0	1	1	4
4:15 PM	0	0	1	0	1
4:30 PM	2	0	1	0	3
4:45 PM	2	2	0	0	4
5:00 PM	1	0	2	0	3
5:15 PM	1	1	1	1	4
5:30 PM	0	0	2	3	5
5:45 PM	1	0	1	1	3
TOTAL VOLUMES:	9	3	9	6	27

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Location: Irwindale
N/S: Irwindale Avenue
E/W: Foothill Boulevard

Date: 5/22/2024
Day: Wednesday

BICYCLES

	Southbound Irwindale Avenue			Westbound Foothill Boulevard			Northbound Irwindale Avenue			Eastbound Foothill Boulevard			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
8:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
TOTAL VOLUMES:	0	0	0	0	2	0	1	0	0	0	2	0	5

	Southbound Irwindale Avenue			Westbound Foothill Boulevard			Northbound Irwindale Avenue			Eastbound Foothill Boulevard			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	1	0	0	1	0	0	0	0	0	0	0	1	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	2	0	0	1	1	0	0	0	0	0	1	1	6

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City of Irwindale
N/S: Irwindale Avenue
E/W: I-210 Westbound Ramps
Weather: Clear

File Name : 10_IRW_Irwdl_210WOff AM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

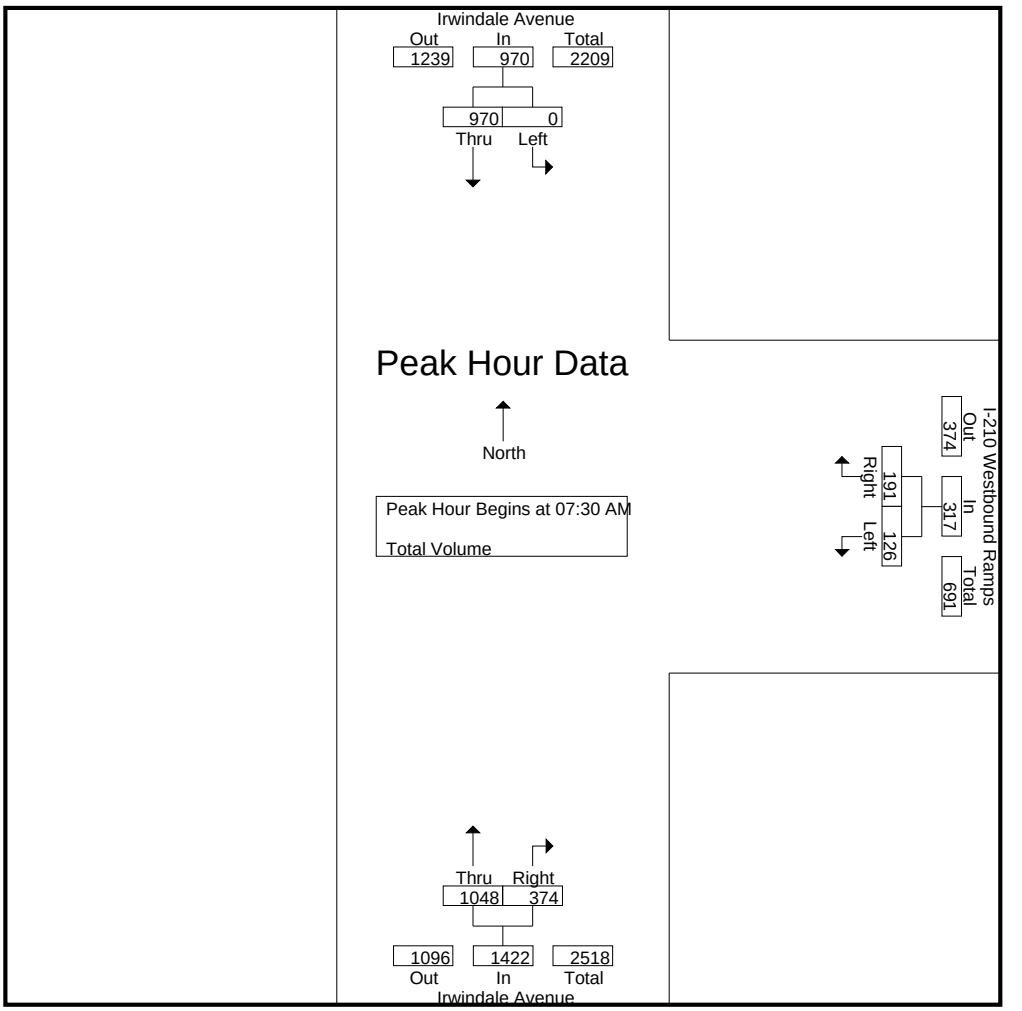
	Irwindale Avenue Southbound			I-210 Westbound Ramps Westbound			Irwindale Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	222	222	18	29	47	181	130	311	580
07:15 AM	0	258	258	15	27	42	190	152	342	642
07:30 AM	0	246	246	23	27	50	254	115	369	665
07:45 AM	0	243	243	24	34	58	260	112	372	673
Total	0	969	969	80	117	197	885	509	1394	2560
08:00 AM	0	220	220	40	67	107	275	85	360	687
08:15 AM	0	261	261	39	63	102	259	62	321	684
08:30 AM	0	242	242	36	42	78	216	54	270	590
08:45 AM	0	225	225	46	35	81	263	69	332	638
Total	0	948	948	161	207	368	1013	270	1283	2599
Grand Total	0	1917	1917	241	324	565	1898	779	2677	5159
Apprch %	0	100		42.7	57.3		70.9	29.1		
Total %	0	37.2	37.2	4.7	6.3	11	36.8	15.1	51.9	

	Irwindale Avenue Southbound			I-210 Westbound Ramps Westbound			Irwindale Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. 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	246	246	23	27	50	254	**115**	369	665
07:45 AM	0	243	243	24	34	58	260	112	**372**	673
08:00 AM	0	220	220	**40**	**67**	**107**	**275**	85	360	**687**
08:15 AM	0	**261**	**261**	39	63	102	259	62	321	684
Total Volume	0	970	970	126	191	317	1048	374	1422	2709
% App. Total	0	100		39.7	60.3		73.7	26.3		
PHF	.000	.929	.929	.788	.713	.741	.953	.813	.956	.986

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City of Irwindale
N/S: Irwindale Avenue
E/W: I-210 Westbound Ramps
Weather: Clear

File Name : 10_IRW_Irwdl_210WOff AM
Site Code : 05724506
Start Date : 5/22/2024
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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			08:00 AM			07:15 AM		
+0 mins.	0	246	246	40	**67**	**107**	190	**152**	342
+15 mins.	0	243	243	39	63	102	254	115	369
+30 mins.	0	220	220	36	42	78	260	112	**372**
+45 mins.	0	**261**	**261**	**46**	35	81	**275**	85	360
Total Volume	0	970	970	161	207	368	979	464	1443
% App. Total	0	100		43.8	56.2		67.8	32.2	
PHF	.000	.929	.929	.875	.772	.860	.890	.763	.970

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City of Irwindale
N/S: Irwindale Avenue
E/W: I-210 Westbound Ramps
Weather: Clear

File Name : 10_IRW_Irwdl_210WOff PM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

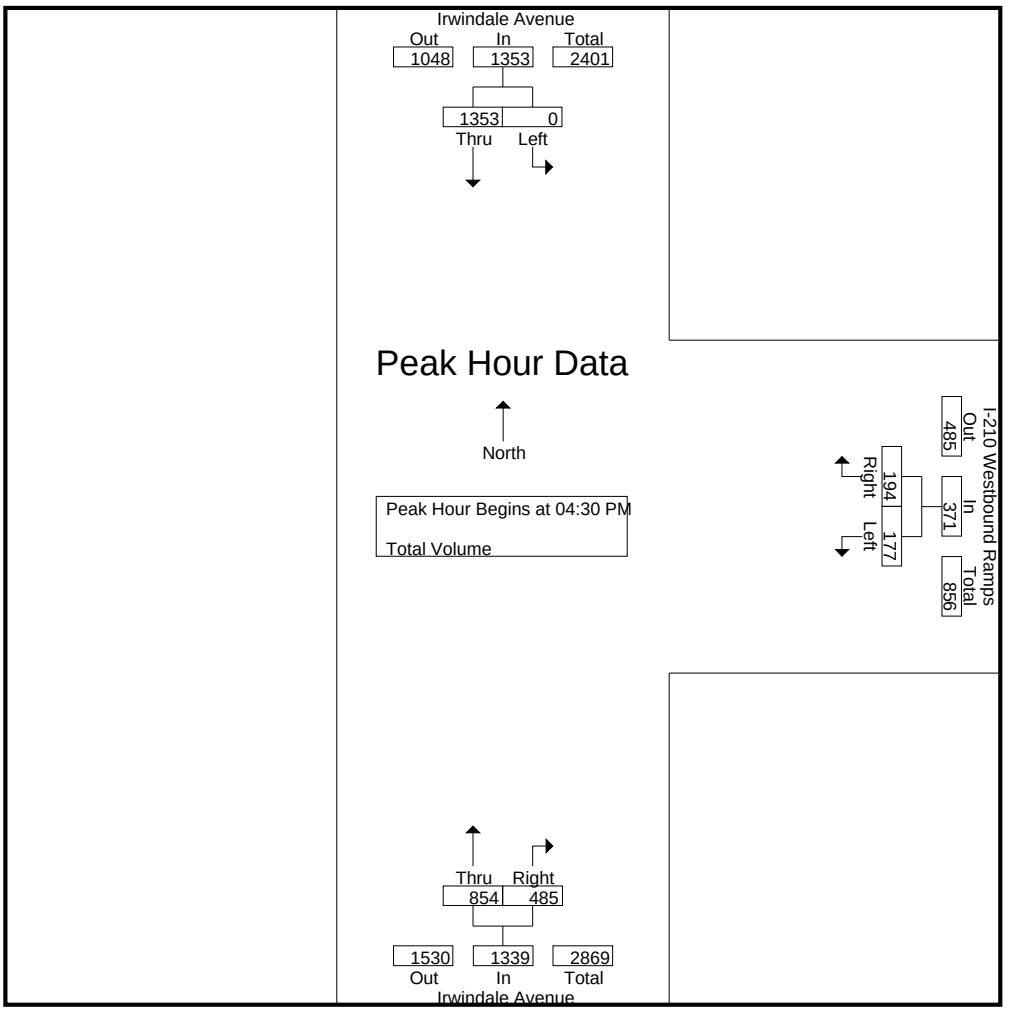
	Irwindale Avenue Southbound			I-210 Westbound Ramps Westbound			Irwindale Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	313	313	43	50	93	222	121	343	749
04:15 PM	0	314	314	32	43	75	204	86	290	679
04:30 PM	0	334	334	43	47	90	195	125	320	744
04:45 PM	0	317	317	46	54	100	214	120	334	751
Total	0	1278	1278	164	194	358	835	452	1287	2923
05:00 PM	0	336	336	51	42	93	226	142	368	797
05:15 PM	0	366	366	37	51	88	219	98	317	771
05:30 PM	0	315	315	39	56	95	231	95	326	736
05:45 PM	0	312	312	55	58	113	225	84	309	734
Total	0	1329	1329	182	207	389	901	419	1320	3038
Grand Total	0	2607	2607	346	401	747	1736	871	2607	5961
Apprch %	0	100		46.3	53.7		66.6	33.4		
Total %	0	43.7	43.7	5.8	6.7	12.5	29.1	14.6	43.7	

	Irwindale Avenue Southbound			I-210 Westbound Ramps Westbound			Irwindale Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. 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	334	334	43	47	90	195	125	320	744
04:45 PM	0	317	317	46	**54**	**100**	214	120	334	751
05:00 PM	0	336	336	**51**	42	93	**226**	**142**	**368**	**797**
05:15 PM	0	**366**	**366**	37	51	88	219	98	317	771
Total Volume	0	1353	1353	177	194	371	854	485	1339	3063
% App. Total	0	100		47.7	52.3		63.8	36.2		
PHF	.000	.924	.924	.868	.898	.928	.945	.854	.910	.961

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City of Irwindale
N/S: Irwindale Avenue
E/W: I-210 Westbound Ramps
Weather: Clear

File Name : 10_IRW_Irwdl_210WOff PM
Site Code : 05724506
Start Date : 5/22/2024
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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			05:00 PM			04:45 PM		
+0 mins.	0	334	334	51	42	93	214	120	334
+15 mins.	0	317	317	37	51	88	226	**142**	**368**
+30 mins.	0	336	336	39	56	95	219	98	317
+45 mins.	0	**366**	**366**	**55**	**58**	**113**	**231**	95	326
Total Volume	0	1353	1353	182	207	389	890	455	1345
% App. Total	0	100		46.8	53.2		66.2	33.8	
PHF	.000	.924	.924	.827	.892	.861	.963	.801	.914

Location: Irwindale
N/S: Irwindale Avenue
E/W: I-210 WB Ramps

Date: 5/22/2024
Day: Wednesday

PEDESTRIANS

	North Leg Irwindale Avenue	East Leg I-210 WB Ramps	South Leg Irwindale Avenue	West Leg I-210 WB Ramps	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	1	0	0	1
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	1	0	0	1

	North Leg Irwindale Avenue	East Leg I-210 WB Ramps	South Leg Irwindale Avenue	West Leg I-210 WB Ramps	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	1	0	0	1
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	1	1
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	1	1
5:15 PM	0	0	0	0	0
5:30 PM	0	1	0	1	2
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	2	0	3	5

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Location: Irwindale
N/S: Irwindale Avenue
E/W: I-210 WB Ramps

Date: 5/22/2024
Day: Wednesday

BICYCLES

	Southbound Irwindale Avenue			Westbound I-210 WB Ramps			Northbound Irwindale Avenue			Eastbound I-210 WB Ramps			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	1	0	0	0	0	1

	Southbound Irwindale Avenue			Westbound I-210 WB Ramps			Northbound Irwindale Avenue			Eastbound I-210 WB Ramps			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	3	0	0	0	0	0	0	0	0	0	0	3
TOTAL VOLUMES:	0	4	0	0	0	0	0	1	0	0	0	0	5

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City of Irwindale
N/S: Irwindale Avenue
E/W: I-210 Eastbound Ramps
Weather: Clear

File Name : 11_IRW_Irwdl_210E AM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

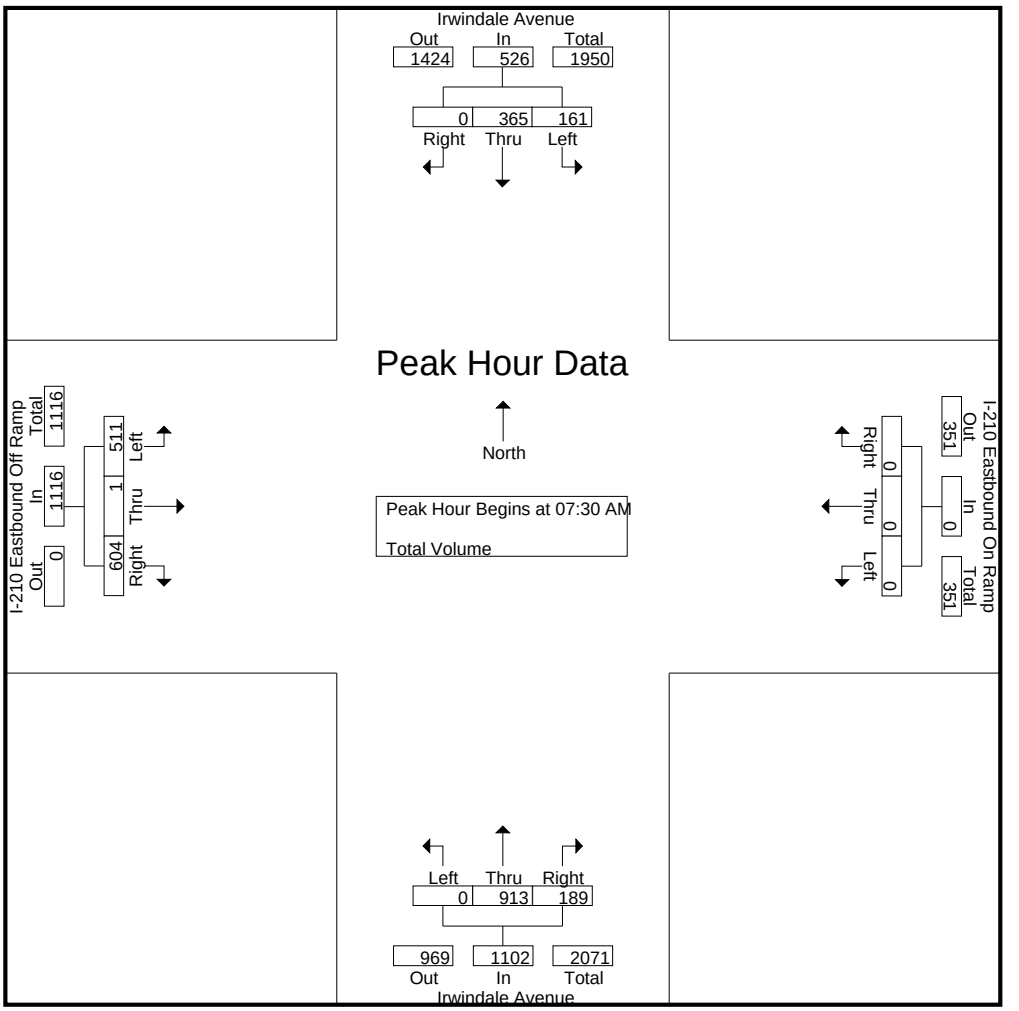
	Irwindale Avenue Southbound				I-210 Eastbound On Ramp Westbound				Irwindale Avenue Northbound				I-210 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	28	62	0	90	0	0	0	0	0	213	44	257	104	0	132	236	583
07:15 AM	46	65	0	111	0	0	0	0	0	247	45	292	86	0	99	185	588
07:30 AM	35	79	0	114	0	0	0	0	0	248	60	308	119	0	139	258	680
07:45 AM	39	94	0	133	0	0	0	0	0	251	49	300	124	0	175	299	732
Total	148	300	0	448	0	0	0	0	0	959	198	1157	433	0	545	978	2583
08:00 AM	31	90	0	121	0	0	0	0	0	219	43	262	135	0	146	281	664
08:15 AM	56	102	0	158	0	0	0	0	0	195	37	232	133	1	144	278	668
08:30 AM	31	120	0	151	0	0	0	0	0	150	52	202	110	1	164	275	628
08:45 AM	43	111	0	154	0	0	0	0	0	165	41	206	166	0	148	314	674
Total	161	423	0	584	0	0	0	0	0	729	173	902	544	2	602	1148	2634
Grand Total	309	723	0	1032	0	0	0	0	0	1688	371	2059	977	2	1147	2126	5217
Apprch %	29.9	70.1	0		0	0	0		0	82	18		46	0.1	54		
Total %	5.9	13.9	0	19.8	0	0	0	0	0	32.4	7.1	39.5	18.7	0	22	40.8	

	Irwindale Avenue Southbound				I-210 Eastbound On Ramp Westbound				Irwindale Avenue Northbound				I-210 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. 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	35	79	0	114	0	0	0	0	0	248	**60**	**308**	119	0	139	258	680
07:45 AM	39	94	0	133	0	0	0	0	0	**251**	49	300	124	0	**175**	**299**	**732**
08:00 AM	31	90	0	121	0	0	0	0	0	219	43	262	**135**	0	146	281	664
08:15 AM	**56**	**102**	0	**158**	0	0	0	0	0	195	37	232	133	**1**	144	278	668
Total Volume	161	365	0	526	0	0	0	0	0	913	189	1102	511	1	604	1116	2744
% App. Total	30.6	69.4	0		0	0	0		0	82.8	17.2		45.8	0.1	54.1		
PHF	.719	.895	.000	.832	.000	.000	.000	.000	.000	.909	.788	.894	.946	.250	.863	.933	.937

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City of Irwindale
N/S: Irwindale Avenue
E/W: I-210 Eastbound Ramps
Weather: Clear

File Name : 11_IRW_Irwdl_210E AM
Site Code : 05724506
Start Date : 5/22/2024
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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				07:15 AM				08:00 AM			
+0 mins.	31	90	0	121	0	0	0	0	0	247	45	292	135	0	146	281
+15 mins.	**56**	102	0	**158**	0	0	0	0	0	248	**60**	**308**	133	**1**	144	278
+30 mins.	31	**120**	0	151	0	0	0	0	0	**251**	49	300	110	1	**164**	275
+45 mins.	43	111	0	154	0	0	0	0	0	219	43	262	**166**	0	148	**314**
Total Volume	161	423	0	584	0	0	0	0	0	965	197	1162	544	2	602	1148
% App. Total	27.6	72.4	0		0	0	0		0	83	17		47.4	0.2	52.4	
PHF	.719	.881	.000	.924	.000	.000	.000	.000	.000	.961	.821	.943	.819	.500	.918	.914

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City of Irwindale
N/S: Irwindale Avenue
E/W: I-210 Eastbound Ramps
Weather: Clear

File Name : 11_IRW_Irwdl_210E PM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

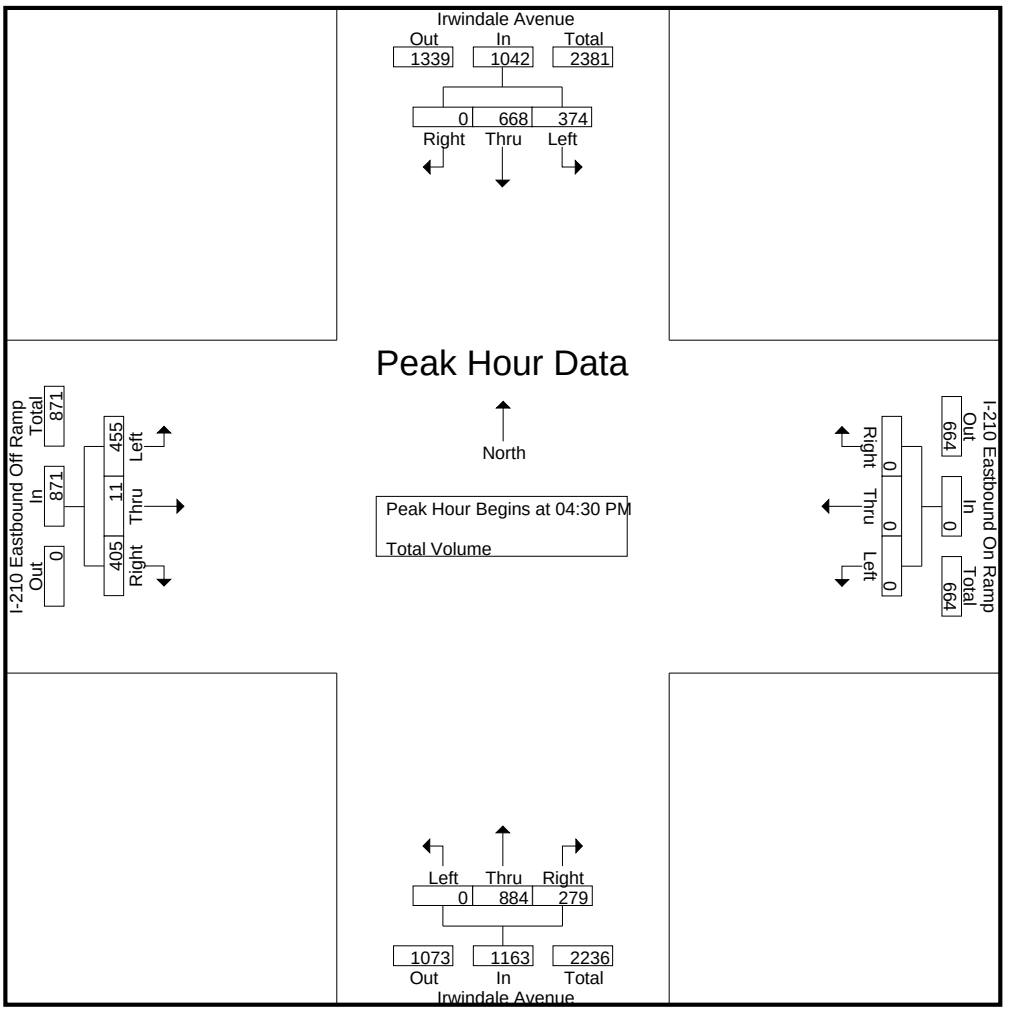
	Irwindale Avenue Southbound				I-210 Eastbound On Ramp Westbound				Irwindale Avenue Northbound				I-210 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	72	151	0	223	0	0	0	0	0	244	84	328	99	1	105	205	756
04:15 PM	86	146	0	232	0	0	0	0	0	167	57	224	109	4	100	213	669
04:30 PM	92	163	0	255	0	0	0	0	0	220	74	294	107	1	125	233	782
04:45 PM	95	154	0	249	0	0	0	0	0	218	61	279	117	3	88	208	736
Total	345	614	0	959	0	0	0	0	0	849	276	1125	432	9	418	859	2943
05:00 PM	98	183	0	281	0	0	0	0	0	248	71	319	117	2	93	212	812
05:15 PM	89	168	0	257	0	0	0	0	0	198	73	271	114	5	99	218	746
05:30 PM	90	161	0	251	0	0	0	0	0	216	64	280	109	2	108	219	750
05:45 PM	82	161	0	243	0	0	0	0	0	180	45	225	126	2	107	235	703
Total	359	673	0	1032	0	0	0	0	0	842	253	1095	466	11	407	884	3011
Grand Total	704	1287	0	1991	0	0	0	0	0	1691	529	2220	898	20	825	1743	5954
Apprch %	35.4	64.6	0		0	0	0		0	76.2	23.8		51.5	1.1	47.3		
Total %	11.8	21.6	0	33.4	0	0	0	0	0	28.4	8.9	37.3	15.1	0.3	13.9	29.3	

	Irwindale Avenue Southbound				I-210 Eastbound On Ramp Westbound				Irwindale Avenue Northbound				I-210 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. 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	92	163	0	255	0	0	0	0	0	220	**74**	294	107	1	**125**	**233**	782
04:45 PM	95	154	0	249	0	0	0	0	0	218	61	279	**117**	3	88	208	736
05:00 PM	**98**	**183**	0	**281**	0	0	0	0	0	**248**	71	**319**	117	2	93	212	**812**
05:15 PM	89	168	0	257	0	0	0	0	0	198	73	271	114	**5**	99	218	746
Total Volume	374	668	0	1042	0	0	0	0	0	884	279	1163	455	11	405	871	3076
% App. Total	35.9	64.1	0		0	0	0		0	76	24		52.2	1.3	46.5		
PHF	.954	.913	.000	.927	.000	.000	.000	.000	.000	.891	.943	.911	.972	.550	.810	.935	.947

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City of Irwindale
N/S: Irwindale Avenue
E/W: I-210 Eastbound Ramps
Weather: Clear

File Name : 11_IRW_Irwdl_210E PM
Site Code : 05724506
Start Date : 5/22/2024
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				05:00 PM			
+0 mins.	92	163	0	255	0	0	0	0	0	220	**74**	294	117	2	93	212
+15 mins.	95	154	0	249	0	0	0	0	0	218	61	279	114	**5**	99	218
+30 mins.	**98**	**183**	0	**281**	0	0	0	0	0	**248**	71	**319**	109	2	**108**	219
+45 mins.	89	168	0	257	0	0	0	0	0	198	73	271	**126**	2	107	**235**
Total Volume	374	668	0	1042	0	0	0	0	0	884	279	1163	466	11	407	884
% App. Total	35.9	64.1	0		0	0	0		0	76	24		52.7	1.2	46	
PHF	.954	.913	.000	.927	.000	.000	.000	.000	.000	.891	.943	.911	.925	.550	.942	.940

Location: Irwindale
N/S: Irwindale Avenue
E/W: I-210 EB Ramps

Date: 5/22/2024
Day: Wednesday

PEDESTRIANS

	North Leg Irwindale Avenue	East Leg I-210 EB Ramps	South Leg Irwindale Avenue	West Leg I-210 EB Ramps	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	1	0	0	1
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	1	0	0	1

	North Leg Irwindale Avenue	East Leg I-210 EB Ramps	South Leg Irwindale Avenue	West Leg I-210 EB Ramps	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	1	0	0	1
4:45 PM	0	0	0	0	0
5:00 PM	0	1	0	0	1
5:15 PM	0	0	0	0	0
5:30 PM	0	1	0	0	1
5:45 PM	0	2	0	0	2
TOTAL VOLUMES:	0	5	0	0	5

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951-268-6268

Location: Irwindale
N/S: Irwindale Avenue
E/W: I-210 EB Ramps

Date: 5/22/2024
Day: Wednesday

BICYCLES

	Southbound Irwindale Avenue			Westbound I-210 EB Ramps			Northbound Irwindale Avenue			Eastbound I-210 EB Ramps			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound Irwindale Avenue			Westbound I-210 EB Ramps			Northbound Irwindale Avenue			Eastbound I-210 EB Ramps			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

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City of Irwindale
N/S: Irwindale Avenue
E/W: Jardine De Rosa/Irwindale Road
Weather: Clear

File Name : 12_IRW_Irwdl_Jar AM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

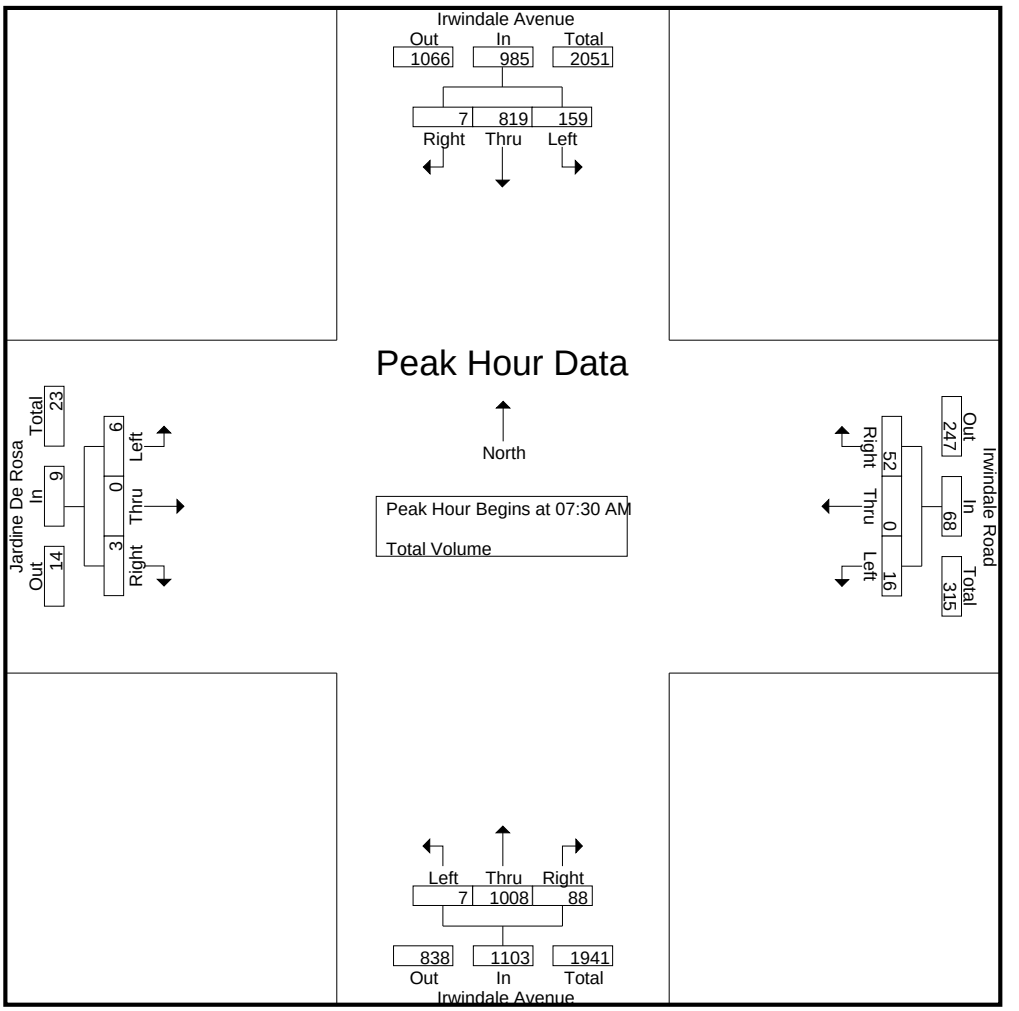
	Irwindale Avenue Southbound				Irwindale Road Westbound				Irwindale Avenue Northbound				Jardine De Rosa Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	27	170	2	199	8	0	9	17	1	260	25	286	1	0	4	5	507
07:15 AM	22	137	0	159	9	0	12	21	3	303	6	312	1	0	3	4	496
07:30 AM	30	187	3	220	4	0	17	21	0	274	21	295	0	0	2	2	538
07:45 AM	40	233	2	275	6	0	13	19	1	277	27	305	2	0	0	2	601
Total	119	727	7	853	27	0	51	78	5	1114	79	1198	4	0	9	13	2142
08:00 AM	45	193	1	239	2	0	12	14	4	240	21	265	0	0	1	1	519
08:15 AM	44	206	1	251	4	0	10	14	2	217	19	238	4	0	0	4	507
08:30 AM	40	241	3	284	7	0	19	26	2	183	18	203	1	0	2	3	516
08:45 AM	36	222	0	258	1	0	11	12	0	197	19	216	0	0	0	0	486
Total	165	862	5	1032	14	0	52	66	8	837	77	922	5	0	3	8	2028
Grand Total	284	1589	12	1885	41	0	103	144	13	1951	156	2120	9	0	12	21	4170
Apprch %	15.1	84.3	0.6		28.5	0	71.5		0.6	92	7.4		42.9	0	57.1		
Total %	6.8	38.1	0.3	45.2	1	0	2.5	3.5	0.3	46.8	3.7	50.8	0.2	0	0.3	0.5	

	Irwindale Avenue Southbound				Irwindale Road Westbound				Irwindale Avenue Northbound				Jardine De Rosa Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. 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	30	187	**3**	220	4	0	**17**	**21**	0	274	21	295	0	0	**2**	2	538
07:45 AM	40	**233**	2	**275**	**6**	0	13	19	1	**277**	**27**	**305**	2	0	0	2	**601**
08:00 AM	**45**	193	1	239	2	0	12	14	**4**	240	21	265	0	0	1	1	519
08:15 AM	44	206	1	251	4	0	10	14	2	217	19	238	**4**	0	0	**4**	507
Total Volume	159	819	7	985	16	0	52	68	7	1008	88	1103	6	0	3	9	2165
% App. Total	16.1	83.1	0.7		23.5	0	76.5		0.6	91.4	8		66.7	0	33.3		
PHF	.883	.879	.583	.895	.667	.000	.765	.810	.438	.910	.815	.904	.375	.000	.375	.563	.901

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City of Irwindale
N/S: Irwindale Avenue
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Weather: Clear

File Name : 12_IRW_Irwdl_Jar AM
Site Code : 05724506
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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				07:00 AM				07:00 AM			
+0 mins.	40	233	2	275	8	0	9	17	1	260	25	286	1	0	**4**	**5**
+15 mins.	**45**	193	1	239	**9**	0	12	**21**	**3**	**303**	6	**312**	1	0	3	4
+30 mins.	44	206	1	251	4	0	**17**	21	0	274	21	295	0	0	2	2
+45 mins.	40	**241**	**3**	**284**	6	0	13	19	1	277	**27**	305	**2**	0	0	2
Total Volume	169	873	7	1049	27	0	51	78	5	1114	79	1198	4	0	9	13
% App. Total	16.1	83.2	0.7		34.6	0	65.4		0.4	93	6.6		30.8	0	69.2	
PHF	.939	.906	.583	.923	.750	.000	.750	.929	.417	.919	.731	.960	.500	.000	.563	.650

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City of Irwindale
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Weather: Clear

File Name : 12_IRW_Irwdl_Jar PM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

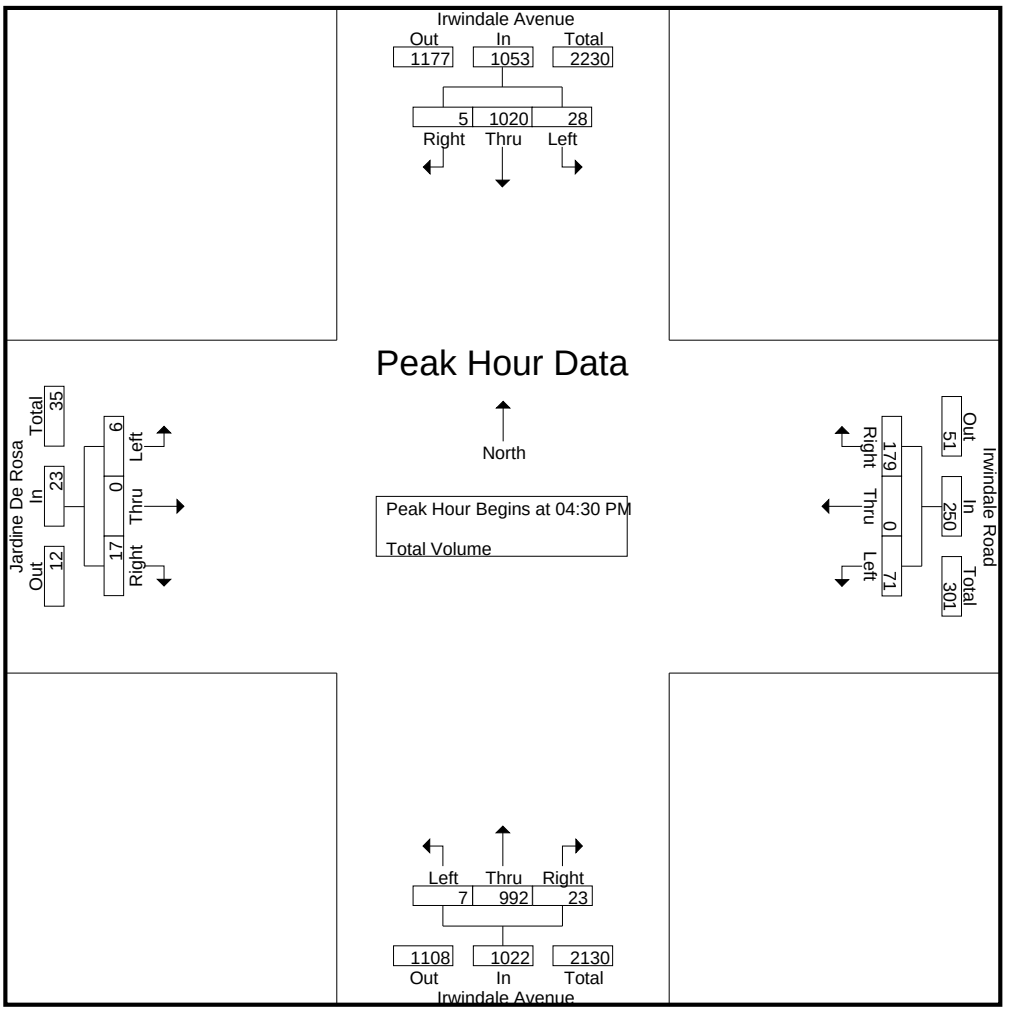
	Irwindale Avenue Southbound				Irwindale Road Westbound				Irwindale Avenue Northbound				Jardine De Rosa Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	6	251	1	258	32	0	45	77	0	274	9	283	3	0	4	7	625
04:15 PM	8	245	0	253	9	0	23	32	4	195	8	207	1	0	5	6	498
04:30 PM	10	272	2	284	24	0	60	84	2	234	3	239	2	0	4	6	613
04:45 PM	8	235	2	245	3	0	23	26	2	263	8	273	0	0	5	5	549
Total	32	1003	5	1040	68	0	151	219	8	966	28	1002	6	0	18	24	2285
05:00 PM	6	246	1	253	34	0	70	104	2	254	8	264	3	0	5	8	629
05:15 PM	4	267	0	271	10	0	26	36	1	241	4	246	1	0	3	4	557
05:30 PM	8	261	0	269	13	0	29	42	2	235	6	243	1	0	7	8	562
05:45 PM	12	256	0	268	7	0	26	33	0	201	5	206	1	0	2	3	510
Total	30	1030	1	1061	64	0	151	215	5	931	23	959	6	0	17	23	2258
Grand Total	62	2033	6	2101	132	0	302	434	13	1897	51	1961	12	0	35	47	4543
Apprch %	3	96.8	0.3		30.4	0	69.6		0.7	96.7	2.6		25.5	0	74.5		
Total %	1.4	44.8	0.1	46.2	2.9	0	6.6	9.6	0.3	41.8	1.1	43.2	0.3	0	0.8	1	

	Irwindale Avenue Southbound				Irwindale Road Westbound				Irwindale Avenue Northbound				Jardine De Rosa Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. 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	**10**	**272**	**2**	**284**	24	0	60	84	**2**	234	3	239	2	0	4	6	613
04:45 PM	8	235	2	245	3	0	23	26	2	**263**	**8**	**273**	0	0	**5**	5	549
05:00 PM	6	246	1	253	**34**	0	**70**	**104**	2	254	8	264	**3**	0	5	**8**	**629**
05:15 PM	4	267	0	271	10	0	26	36	1	241	4	246	1	0	3	4	557
Total Volume	28	1020	5	1053	71	0	179	250	7	992	23	1022	6	0	17	23	2348
% App. Total	2.7	96.9	0.5		28.4	0	71.6		0.7	97.1	2.3		26.1	0	73.9		
PHF	.700	.938	.625	.927	.522	.000	.639	.601	.875	.943	.719	.936	.500	.000	.850	.719	.933

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City of Irwindale
N/S: Irwindale Avenue
E/W: Jardine De Rosa/Irwindale Road
Weather: Clear

File Name : 12_IRW_Irwdl_Jar PM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 2



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

	05:00 PM				04:30 PM				04:45 PM				04:15 PM			
+0 mins.	6	246	**1**	253	24	0	60	84	**2**	**263**	**8**	**273**	1	0	**5**	6
+15 mins.	4	**267**	0	**271**	3	0	23	26	2	254	8	264	2	0	4	6
+30 mins.	8	261	0	269	**34**	0	**70**	**104**	1	241	4	246	0	0	5	5
+45 mins.	**12**	256	0	268	10	0	26	36	2	235	6	243	**3**	0	5	**8**
Total Volume	30	1030	1	1061	71	0	179	250	7	993	26	1026	6	0	19	25
% App. Total	2.8	97.1	0.1		28.4	0	71.6		0.7	96.8	2.5		24	0	76	
PHF	.625	.964	.250	.979	.522	.000	.639	.601	.875	.944	.813	.940	.500	.000	.950	.781

Location: Irwindale
N/S: Irwindale Avenue
E/W: Jardine De Rosa/Irwindale Rd

Date: 5/22/2024
Day: Wednesday

PEDESTRIANS

	North Leg Irwindale Avenue	East Leg Irwindale Road	South Leg Irwindale Avenue	West Leg Jardine De Rosa	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	1	0	0	1
7:15 AM	0	2	0	0	2
7:30 AM	0	1	0	0	1
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	1	1
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	4	0	1	5

	North Leg Irwindale Avenue	East Leg Irwindale Road	South Leg Irwindale Avenue	West Leg Jardine De Rosa	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	3	0	0	3
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	1	1
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	2	2
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	3	0	3	6

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Location: Irwindale
N/S: Irwindale Avenue
E/W: Jardine De Rosa/Irwindale Rd

Date: 5/22/2024
Day: Wednesday

BICYCLES

	Southbound Irwindale Avenue			Westbound Irwindale Road			Northbound Irwindale Avenue			Eastbound Jardine De Rosa			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	1
8:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	1	1	0	0	0	2	4

	Southbound Irwindale Avenue			Westbound Irwindale Road			Northbound Irwindale Avenue			Eastbound Jardine De Rosa			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	1	1	0	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	1
5:45 PM	0	3	0	0	0	0	0	0	0	0	0	0	3
TOTAL VOLUMES:	0	4	0	0	0	0	0	1	1	0	0	1	7

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City of Azusa
N/S: Irwindale Avenue
E/W: W 1st Street
Weather: Clear

File Name : 13_AZU_Irwdl_1st AM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

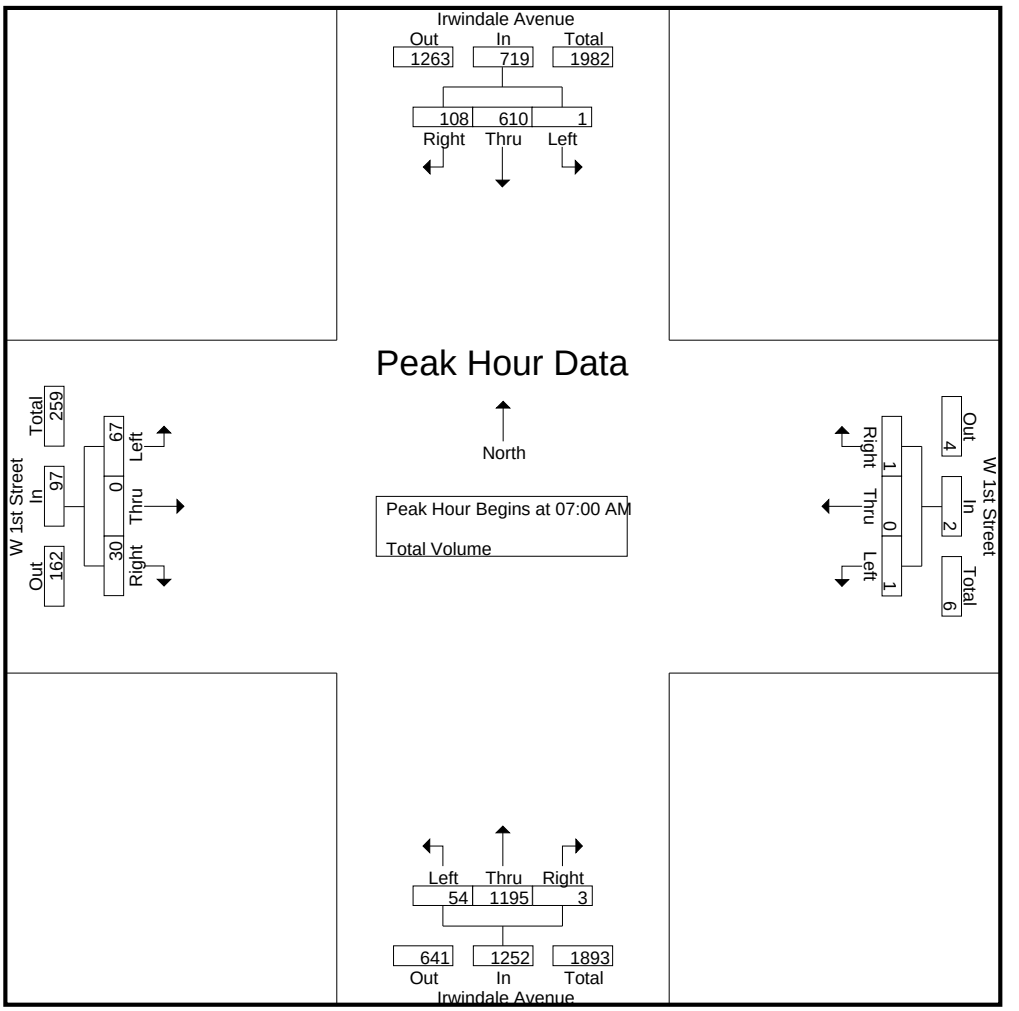
	Irwindale Avenue Southbound				W 1st Street Westbound				Irwindale Avenue Northbound				W 1st Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	133	38	171	0	0	0	0	17	285	1	303	26	0	9	35	509
07:15 AM	0	125	19	144	1	0	1	2	7	308	0	315	18	0	7	25	486
07:30 AM	1	152	29	182	0	0	0	0	14	304	0	318	14	0	7	21	521
07:45 AM	0	200	22	222	0	0	0	0	16	298	2	316	9	0	7	16	554
Total	1	610	108	719	1	0	1	2	54	1195	3	1252	67	0	30	97	2070
08:00 AM	1	155	26	182	0	0	1	1	10	277	2	289	13	0	4	17	489
08:15 AM	1	157	16	174	0	0	0	0	5	218	0	223	8	0	6	14	411
08:30 AM	3	206	32	241	1	0	0	1	11	217	3	231	15	0	7	22	495
08:45 AM	0	154	35	189	1	0	0	1	19	202	5	226	15	0	9	24	440
Total	5	672	109	786	2	0	1	3	45	914	10	969	51	0	26	77	1835
Grand Total	6	1282	217	1505	3	0	2	5	99	2109	13	2221	118	0	56	174	3905
Apprch %	0.4	85.2	14.4		60	0	40		4.5	95	0.6		67.8	0	32.2		
Total %	0.2	32.8	5.6	38.5	0.1	0	0.1	0.1	2.5	54	0.3	56.9	3	0	1.4	4.5	

	Irwindale Avenue Southbound				W 1st Street Westbound				Irwindale Avenue Northbound				W 1st Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. 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	0	133	**38**	171	0	0	0	0	**17**	285	1	303	**26**	0	**9**	**35**	509
07:15 AM	0	125	19	144	**1**	0	**1**	**2**	7	**308**	0	315	18	0	7	25	486
07:30 AM	**1**	152	29	182	0	0	0	0	14	304	0	**318**	14	0	7	21	521
07:45 AM	0	**200**	22	**222**	0	0	0	0	16	298	**2**	316	9	0	7	16	**554**
Total Volume	1	610	108	719	1	0	1	2	54	1195	3	1252	67	0	30	97	2070
% App. Total	0.1	84.8	15		50	0	50		4.3	95.4	0.2		69.1	0	30.9		
PHF	.250	.763	.711	.810	.250	.000	.250	.250	.794	.970	.375	.984	.644	.000	.833	.693	.934

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City of Azusa
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E/W: W 1st Street
Weather: Clear

File Name : 13_AZU_Irwdl_1st AM
Site Code : 05724506
Start Date : 5/22/2024
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:

	07:45 AM				07:15 AM				07:00 AM				07:00 AM			
+0 mins.	0	200	22	222	**1**	0	**1**	**2**	**17**	285	1	303	**26**	0	**9**	**35**
+15 mins.	1	155	26	182	0	0	0	0	7	**308**	0	315	18	0	7	25
+30 mins.	1	157	16	174	0	0	0	0	14	304	0	**318**	14	0	7	21
+45 mins.	**3**	**206**	**32**	**241**	0	0	1	1	16	298	**2**	316	9	0	7	16
Total Volume	5	718	96	819	1	0	2	3	54	1195	3	1252	67	0	30	97
% App. Total	0.6	87.7	11.7		33.3	0	66.7		4.3	95.4	0.2		69.1	0	30.9	
PHF	.417	.871	.750	.850	.250	.000	.500	.375	.794	.970	.375	.984	.644	.000	.833	.693

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City of Azusa
N/S: Irwindale Avenue
E/W: W 1st Street
Weather: Clear

File Name : 13_AZU_Irwdl_1st PM
Site Code : 05724506
Start Date : 5/22/2024
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Groups Printed- Total Volume

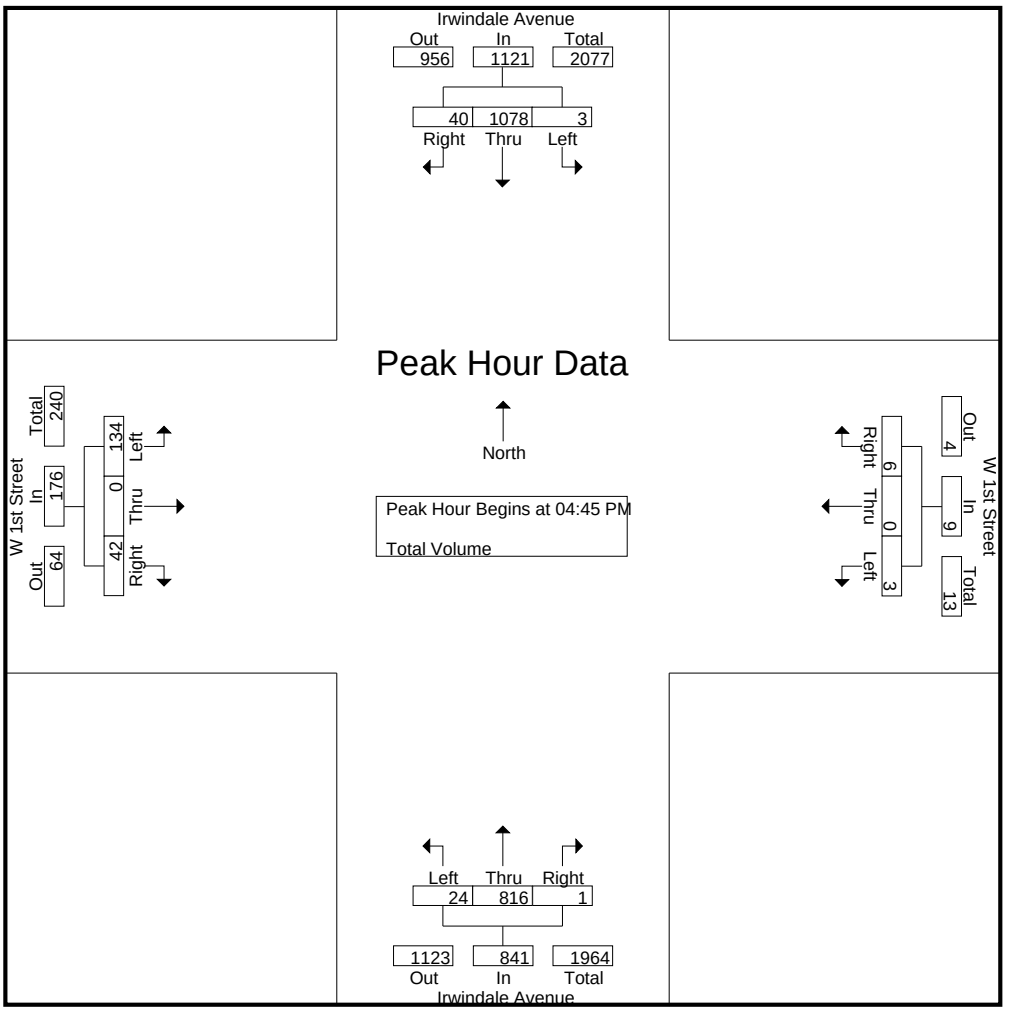
	Irwindale Avenue Southbound				W 1st Street Westbound				Irwindale Avenue Northbound				W 1st Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	5	261	15	281	4	0	4	8	6	201	2	209	47	0	18	65	563
04:15 PM	1	258	9	268	1	0	3	4	4	166	0	170	24	0	5	29	471
04:30 PM	0	281	8	289	4	0	2	6	3	183	1	187	34	0	22	56	538
04:45 PM	0	257	11	268	0	0	2	2	6	209	0	215	35	0	10	45	530
Total	6	1057	43	1106	9	0	11	20	19	759	3	781	140	0	55	195	2102
05:00 PM	2	280	6	288	2	0	1	3	11	193	0	204	36	0	15	51	546
05:15 PM	0	259	15	274	0	0	2	2	4	206	0	210	36	0	5	41	527
05:30 PM	1	282	8	291	1	0	1	2	3	208	1	212	27	0	12	39	544
05:45 PM	2	261	10	273	0	0	1	1	6	174	1	181	29	0	8	37	492
Total	5	1082	39	1126	3	0	5	8	24	781	2	807	128	0	40	168	2109
Grand Total	11	2139	82	2232	12	0	16	28	43	1540	5	1588	268	0	95	363	4211
Apprch %	0.5	95.8	3.7		42.9	0	57.1		2.7	97	0.3		73.8	0	26.2		
Total %	0.3	50.8	1.9	53	0.3	0	0.4	0.7	1	36.6	0.1	37.7	6.4	0	2.3	8.6	

	Irwindale Avenue Southbound				W 1st Street Westbound				Irwindale Avenue Northbound				W 1st Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	257	11	268	0	0	**2**	2	6	**209**	0	**215**	35	0	10	45	530
05:00 PM	**2**	280	6	288	**2**	0	1	**3**	**11**	193	0	204	**36**	0	**15**	**51**	**546**
05:15 PM	0	259	**15**	274	0	0	2	2	4	206	0	210	36	0	5	41	527
05:30 PM	1	**282**	8	**291**	1	0	1	2	3	208	**1**	212	27	0	12	39	544
Total Volume	3	1078	40	1121	3	0	6	9	24	816	1	841	134	0	42	176	2147
% App. Total	0.3	96.2	3.6		33.3	0	66.7		2.9	97	0.1		76.1	0	23.9		
PHF	.375	.956	.667	.963	.375	.000	.750	.750	.545	.976	.250	.978	.931	.000	.700	.863	.983

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City of Azusa
N/S: Irwindale Avenue
E/W: W 1st Street
Weather: Clear

File Name : 13_AZU_Irwdl_1st PM
Site Code : 05724506
Start Date : 5/22/2024
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				04:00 PM				04:45 PM				04:00 PM			
+0 mins.	**2**	280	6	288	**4**	0	**4**	**8**	6	**209**	0	**215**	**47**	0	18	**65**
+15 mins.	0	259	**15**	274	1	0	3	4	**11**	193	0	204	24	0	5	29
+30 mins.	1	**282**	8	**291**	4	0	2	6	4	206	0	210	34	0	**22**	56
+45 mins.	2	261	10	273	0	0	2	2	3	208	**1**	212	35	0	10	45
Total Volume	5	1082	39	1126	9	0	11	20	24	816	1	841	140	0	55	195
% App. Total	0.4	96.1	3.5		45	0	55		2.9	97	0.1		71.8	0	28.2	
PHF	.625	.959	.650	.967	.563	.000	.688	.625	.545	.976	.250	.978	.745	.000	.625	.750

Location: Irwindale
N/S: Irwindale Avenue
E/W: W 1st Street

Date: 5/22/2024
Day: Wednesday

PEDESTRIANS

	North Leg Irwindale Avenue	East Leg W 1st Street	South Leg Irwindale Avenue	West Leg W 1st Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	3	3	0	6
7:15 AM	0	1	1	0	2
7:30 AM	0	2	0	0	2
7:45 AM	0	2	0	1	3
8:00 AM	0	1	1	1	3
8:15 AM	0	1	0	0	1
8:30 AM	0	1	0	0	1
8:45 AM	0	1	0	0	1
TOTAL VOLUMES:	0	12	5	2	19

	North Leg Irwindale Avenue	East Leg W 1st Street	South Leg Irwindale Avenue	West Leg W 1st Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	1	0	0	1
4:45 PM	0	1	0	1	2
5:00 PM	0	0	0	1	1
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	1	1
5:45 PM	0	1	0	1	2
TOTAL VOLUMES:	0	3	0	4	7

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Location: Irwindale
N/S: Irwindale Avenue
E/W: W 1st Street

Date: 5/22/2024
Day: Wednesday

BICYCLES

	Southbound Irwindale Avenue			Westbound W 1st Street			Northbound Irwindale Avenue			Eastbound W 1st Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	1	0	0	0	0	1

	Southbound Irwindale Avenue			Westbound W 1st Street			Northbound Irwindale Avenue			Eastbound W 1st Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	1	0	0	0	0	0	0	0	1	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
TOTAL VOLUMES:	0	3	0	0	0	0	0	0	0	1	0	0	4

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City of Azusa
N/S: Irwindale Avenue
E/W: W Gladstone Street
Weather: Clear

File Name : 14_AZU_Irwdl_Glad AM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

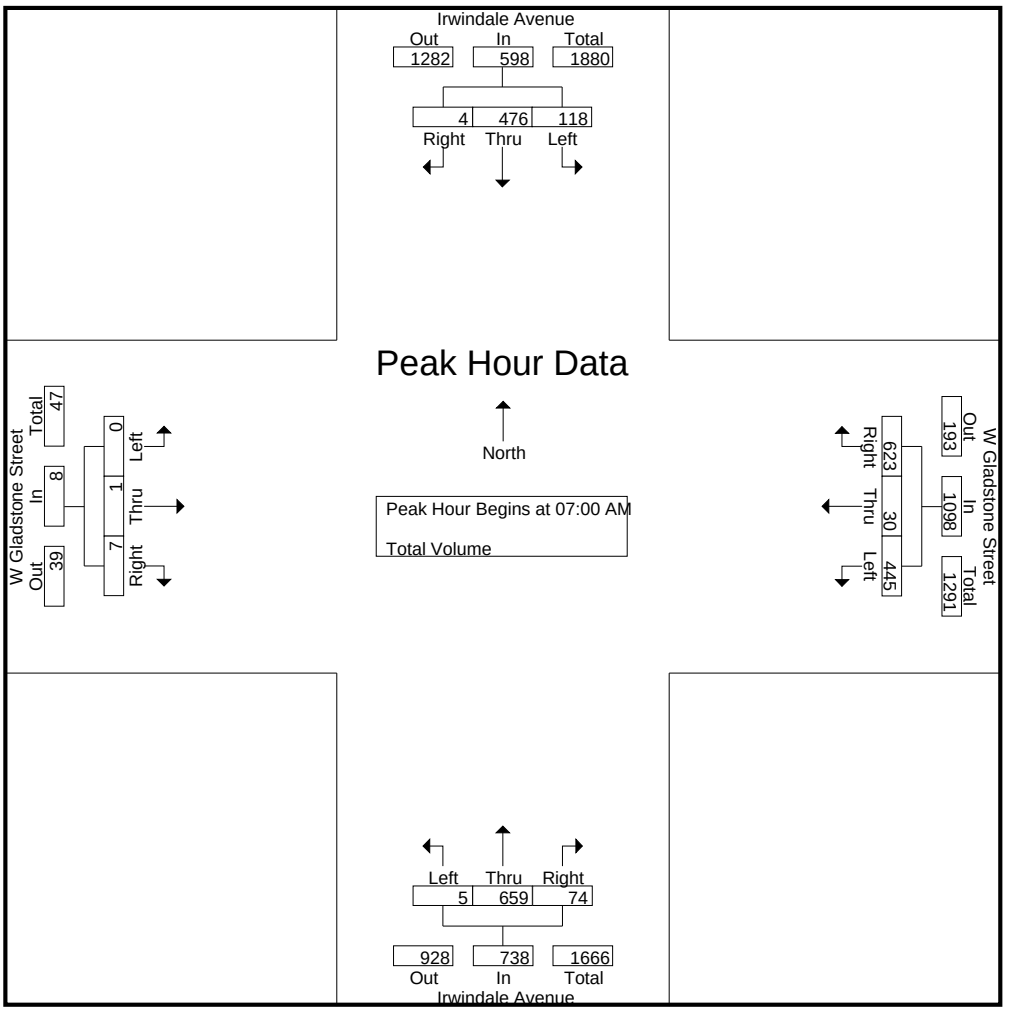
	Irwindale Avenue Southbound				W Gladstone Street Westbound				Irwindale Avenue Northbound				W Gladstone Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	30	89	2	121	116	6	161	283	0	147	22	169	0	1	3	4	577
07:15 AM	27	107	1	135	105	11	167	283	2	156	12	170	0	0	2	2	590
07:30 AM	25	109	0	134	112	4	153	269	3	165	15	183	0	0	0	0	586
07:45 AM	36	171	1	208	112	9	142	263	0	191	25	216	0	0	2	2	689
Total	118	476	4	598	445	30	623	1098	5	659	74	738	0	1	7	8	2442
08:00 AM	33	109	0	142	73	5	102	180	3	196	32	231	0	4	0	4	557
08:15 AM	21	124	2	147	69	3	84	156	2	149	16	167	0	1	0	1	471
08:30 AM	31	173	0	204	60	5	72	137	0	169	28	197	0	1	4	5	543
08:45 AM	23	125	2	150	58	7	63	128	4	166	24	194	1	1	3	5	477
Total	108	531	4	643	260	20	321	601	9	680	100	789	1	7	7	15	2048
Grand Total	226	1007	8	1241	705	50	944	1699	14	1339	174	1527	1	8	14	23	4490
Apprch %	18.2	81.1	0.6		41.5	2.9	55.6		0.9	87.7	11.4		4.3	34.8	60.9		
Total %	5	22.4	0.2	27.6	15.7	1.1	21	37.8	0.3	29.8	3.9	34	0	0.2	0.3	0.5	

	Irwindale Avenue Southbound				W Gladstone Street Westbound				Irwindale Avenue Northbound				W Gladstone Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. 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	30	89	**2**	121	**116**	6	161	**283**	0	147	22	169	0	**1**	**3**	**4**	577
07:15 AM	27	107	1	135	105	**11**	**167**	283	2	156	12	170	0	0	2	2	590
07:30 AM	25	109	0	134	112	4	153	269	**3**	165	15	183	0	0	0	0	586
07:45 AM	**36**	**171**	1	**208**	112	9	142	263	0	**191**	**25**	**216**	0	0	2	2	**689**
Total Volume	118	476	4	598	445	30	623	1098	5	659	74	738	0	1	7	8	2442
% App. Total	19.7	79.6	0.7		40.5	2.7	56.7		0.7	89.3	10		0	12.5	87.5		
PHF	.819	.696	.500	.719	.959	.682	.933	.970	.417	.863	.740	.854	.000	.250	.583	.500	.886

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City of Azusa
N/S: Irwindale Avenue
E/W: W Gladstone Street
Weather: Clear

File Name : 14_AZU_Irwdl_Glad AM
Site Code : 05724506
Start Date : 5/22/2024
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:

	07:45 AM				07:00 AM				07:45 AM				08:00 AM			
+0 mins.	**36**	171	1	**208**	**116**	6	161	**283**	0	191	25	216	0	**4**	0	4
+15 mins.	33	109	0	142	105	**11**	**167**	283	**3**	**196**	**32**	**231**	0	1	0	1
+30 mins.	21	124	**2**	147	112	4	153	269	2	149	16	167	0	1	**4**	**5**
+45 mins.	31	**173**	0	204	112	9	142	263	0	169	28	197	**1**	1	3	5
Total Volume	121	577	3	701	445	30	623	1098	5	705	101	811	1	7	7	15
% App. Total	17.3	82.3	0.4		40.5	2.7	56.7		0.6	86.9	12.5		6.7	46.7	46.7	
PHF	.840	.834	.375	.843	.959	.682	.933	.970	.417	.899	.789	.878	.250	.438	.438	.750

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City of Azusa
N/S: Irwindale Avenue
E/W: W Gladstone Street
Weather: Clear

File Name : 14_AZU_Irwdl_Glad PM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

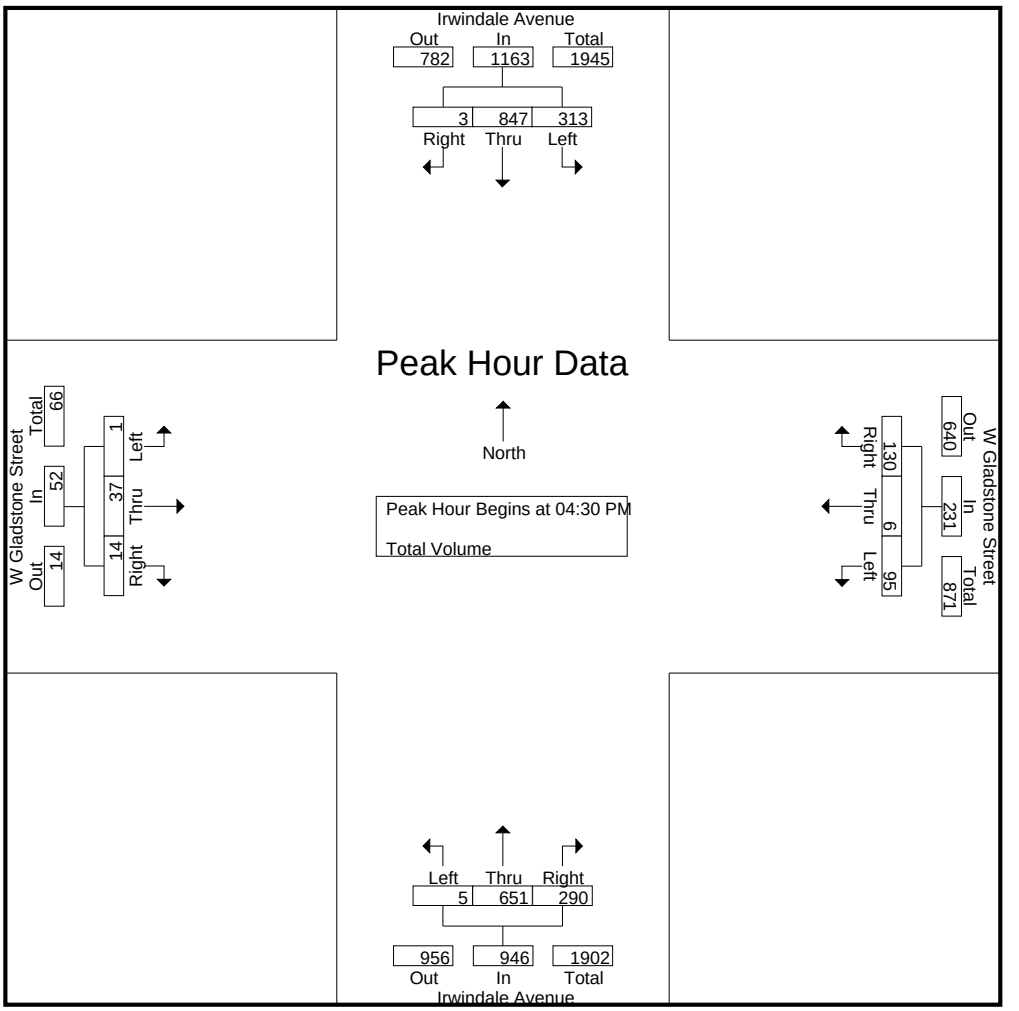
	Irwindale Avenue Southbound				W Gladstone Street Westbound				Irwindale Avenue Northbound				W Gladstone Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	67	226	0	293	26	1	39	66	2	166	81	249	0	7	7	14	622
04:15 PM	77	184	0	261	40	3	33	76	3	139	58	200	1	7	4	12	549
04:30 PM	83	232	2	317	26	1	36	63	1	150	71	222	1	7	4	12	614
04:45 PM	81	192	1	274	15	3	29	47	2	173	67	242	0	11	1	12	575
Total	308	834	3	1145	107	8	137	252	8	628	277	913	2	32	16	50	2360
05:00 PM	76	217	0	293	32	1	42	75	0	157	82	239	0	11	9	20	627
05:15 PM	73	206	0	279	22	1	23	46	2	171	70	243	0	8	0	8	576
05:30 PM	70	221	3	294	15	1	43	59	2	170	70	242	0	9	4	13	608
05:45 PM	68	197	0	265	40	1	24	65	1	139	60	200	0	3	4	7	537
Total	287	841	3	1131	109	4	132	245	5	637	282	924	0	31	17	48	2348
Grand Total	595	1675	6	2276	216	12	269	497	13	1265	559	1837	2	63	33	98	4708
Apprch %	26.1	73.6	0.3		43.5	2.4	54.1		0.7	68.9	30.4		2	64.3	33.7		
Total %	12.6	35.6	0.1	48.3	4.6	0.3	5.7	10.6	0.3	26.9	11.9	39	0	1.3	0.7	2.1	

	Irwindale Avenue Southbound				W Gladstone Street Westbound				Irwindale Avenue Northbound				W Gladstone Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. 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	**83**	**232**	**2**	**317**	26	1	36	63	1	150	71	222	**1**	7	4	12	614
04:45 PM	81	192	1	274	15	**3**	29	47	**2**	**173**	67	242	0	**11**	1	12	575
05:00 PM	76	217	0	293	**32**	1	**42**	**75**	0	157	**82**	239	0	11	**9**	**20**	**627**
05:15 PM	73	206	0	279	22	1	23	46	2	171	70	**243**	0	8	0	8	576
Total Volume	313	847	3	1163	95	6	130	231	5	651	290	946	1	37	14	52	2392
% App. Total	26.9	72.8	0.3		41.1	2.6	56.3		0.5	68.8	30.7		1.9	71.2	26.9		
PHF	.943	.913	.375	.917	.742	.500	.774	.770	.625	.941	.884	.973	.250	.841	.389	.650	.954

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City of Azusa
N/S: Irwindale Avenue
E/W: W Gladstone Street
Weather: Clear

File Name : 14_AZU_Irwdl_Glad PM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 2



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

	04:30 PM				04:15 PM				04:45 PM				04:15 PM			
+0 mins.	**83**	**232**	**2**	**317**	**40**	**3**	33	**76**	**2**	**173**	67	242	**1**	7	4	12
+15 mins.	81	192	1	274	26	1	36	63	0	157	**82**	239	1	7	4	12
+30 mins.	76	217	0	293	15	3	29	47	2	171	70	**243**	0	**11**	1	12
+45 mins.	73	206	0	279	32	1	**42**	75	2	170	70	242	0	11	**9**	**20**
Total Volume	313	847	3	1163	113	8	140	261	6	671	289	966	2	36	18	56
% App. Total	26.9	72.8	0.3		43.3	3.1	53.6		0.6	69.5	29.9		3.6	64.3	32.1	
PHF	.943	.913	.375	.917	.706	.667	.833	.859	.750	.970	.881	.994	.500	.818	.500	.700

Location: Irwindale
N/S: Irwindale Avenue
E/W: W Gladstone Street

Date: 5/22/2024
Day: Wednesday

PEDESTRIANS

	North Leg Irwindale Avenue	East Leg W Gladstone Street	South Leg Irwindale Avenue	West Leg W Gladstone Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	1	0	0	1
7:15 AM	0	1	1	0	2
7:30 AM	0	1	1	0	2
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	1	0	0	1
8:30 AM	0	1	0	0	1
8:45 AM	1	0	0	1	2
TOTAL VOLUMES:	1	5	2	1	9

	North Leg Irwindale Avenue	East Leg W Gladstone Street	South Leg Irwindale Avenue	West Leg W Gladstone Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	1	0	0	0	1
4:15 PM	0	0	0	1	1
4:30 PM	0	0	0	1	1
4:45 PM	0	3	0	0	3
5:00 PM	0	0	1	1	2
5:15 PM	0	1	0	0	1
5:30 PM	0	0	1	0	1
5:45 PM	0	1	0	0	1
TOTAL VOLUMES:	1	5	2	3	11

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Location: Irwindale
N/S: Irwindale Avenue
E/W: W Gladstone Street

Date: 5/22/2024
Day: Wednesday

BICYCLES

	Southbound Irwindale Avenue			Westbound W Gladstone Street			Northbound Irwindale Avenue			Eastbound W Gladstone Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	1	0	0	0	0	0	1	0	0	0	0	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	1	0	0	0	0	0	1	0	0	0	0	2

	Southbound Irwindale Avenue			Westbound W Gladstone Street			Northbound Irwindale Avenue			Eastbound W Gladstone Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

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City of Azusa
N/S: Irwindale Avenue
E/W: Arrow Highway
Weather: Clear

File Name : 15_AZU_Irwdl_Arrow AM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

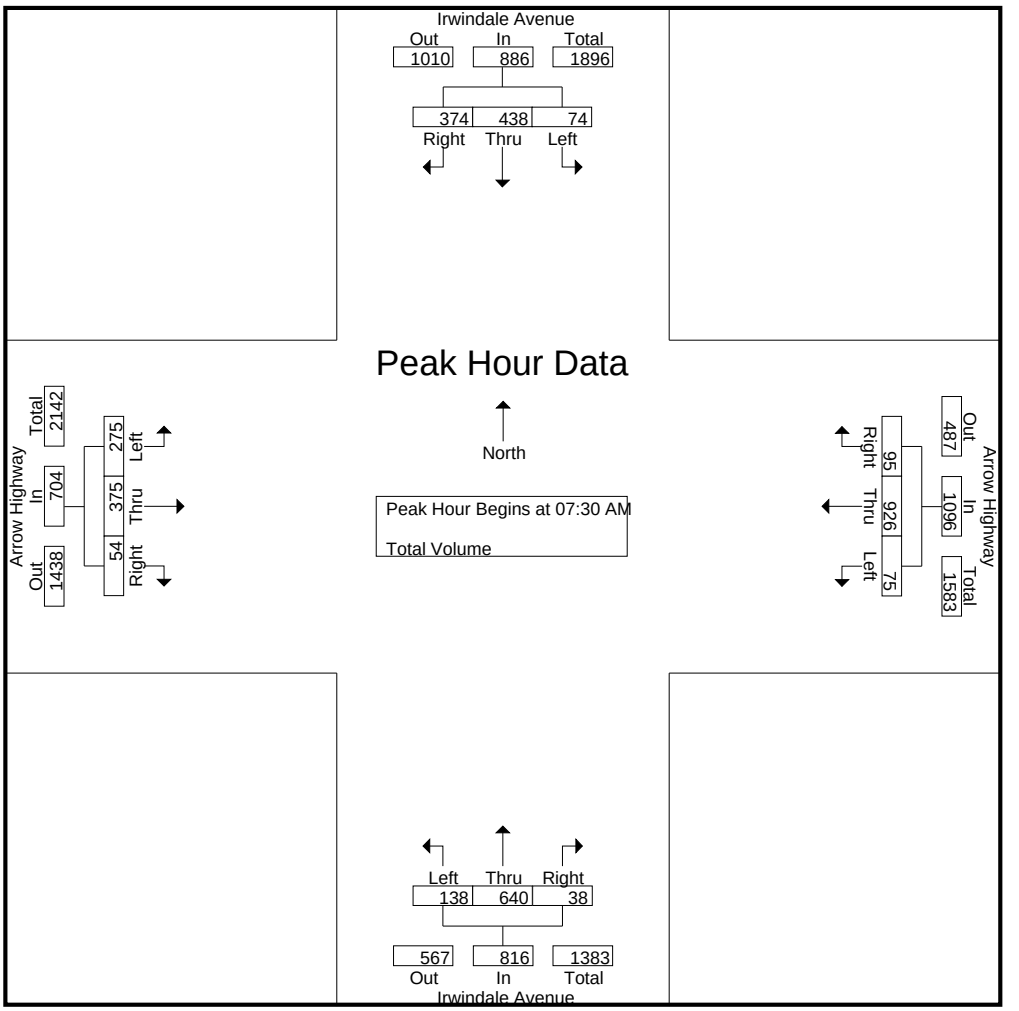
	Irwindale Avenue Southbound				Arrow Highway Westbound				Irwindale Avenue Northbound				Arrow Highway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	12	69	103	184	7	323	20	350	35	134	8	177	41	50	11	102	813
07:15 AM	19	73	123	215	4	243	19	266	33	131	6	170	60	82	13	155	806
07:30 AM	19	106	109	234	10	275	23	308	30	128	7	165	59	91	12	162	869
07:45 AM	23	140	98	261	26	214	25	265	35	198	10	243	64	97	11	172	941
Total	73	388	433	894	47	1055	87	1189	133	591	31	755	224	320	47	591	3429
08:00 AM	19	87	79	185	17	233	32	282	27	167	11	205	79	93	12	184	856
08:15 AM	13	105	88	206	22	204	15	241	46	147	10	203	73	94	19	186	836
08:30 AM	18	100	75	193	13	249	20	282	42	131	10	183	61	67	18	146	804
08:45 AM	27	102	87	216	19	167	16	202	33	148	10	191	79	103	24	206	815
Total	77	394	329	800	71	853	83	1007	148	593	41	782	292	357	73	722	3311
Grand Total	150	782	762	1694	118	1908	170	2196	281	1184	72	1537	516	677	120	1313	6740
Apprch %	8.9	46.2	45		5.4	86.9	7.7		18.3	77	4.7		39.3	51.6	9.1		
Total %	2.2	11.6	11.3	25.1	1.8	28.3	2.5	32.6	4.2	17.6	1.1	22.8	7.7	10	1.8	19.5	

	Irwindale Avenue Southbound				Arrow Highway Westbound				Irwindale Avenue Northbound				Arrow Highway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. 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	19	106	**109**	234	10	**275**	23	**308**	30	128	7	165	59	91	12	162	869
07:45 AM	**23**	**140**	98	**261**	**26**	214	25	265	35	**198**	10	**243**	64	**97**	11	172	**941**
08:00 AM	19	87	79	185	17	233	**32**	282	27	167	**11**	205	**79**	93	12	184	856
08:15 AM	13	105	88	206	22	204	15	241	**46**	147	10	203	73	94	**19**	**186**	836
Total Volume	74	438	374	886	75	926	95	1096	138	640	38	816	275	375	54	704	3502
% App. Total	8.4	49.4	42.2		6.8	84.5	8.7		16.9	78.4	4.7		39.1	53.3	7.7		
PHF	.804	.782	.858	.849	.721	.842	.742	.890	.750	.808	.864	.840	.870	.966	.711	.946	.930

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City of Azusa
N/S: Irwindale Avenue
E/W: Arrow Highway
Weather: Clear

File Name : 15_AZU_Irwdl_Arrow AM
Site Code : 05724506
Start Date : 5/22/2024
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				08:00 AM			
+0 mins.	19	73	**123**	215	7	**323**	20	**350**	35	**198**	10	**243**	**79**	93	12	184
+15 mins.	19	106	109	234	4	243	19	266	27	167	**11**	205	73	94	19	186
+30 mins.	**23**	**140**	98	**261**	10	275	23	308	**46**	147	10	203	61	67	18	146
+45 mins.	19	87	79	185	**26**	214	**25**	265	42	131	10	183	79	**103**	**24**	**206**
Total Volume	80	406	409	895	47	1055	87	1189	150	643	41	834	292	357	73	722
% App. Total	8.9	45.4	45.7		4	88.7	7.3		18	77.1	4.9		40.4	49.4	10.1	
PHF	.870	.725	.831	.857	.452	.817	.870	.849	.815	.812	.932	.858	.924	.867	.760	.876

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City of Azusa
N/S: Irwindale Avenue
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File Name : 15_AZU_Irwdl_Arrow PM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

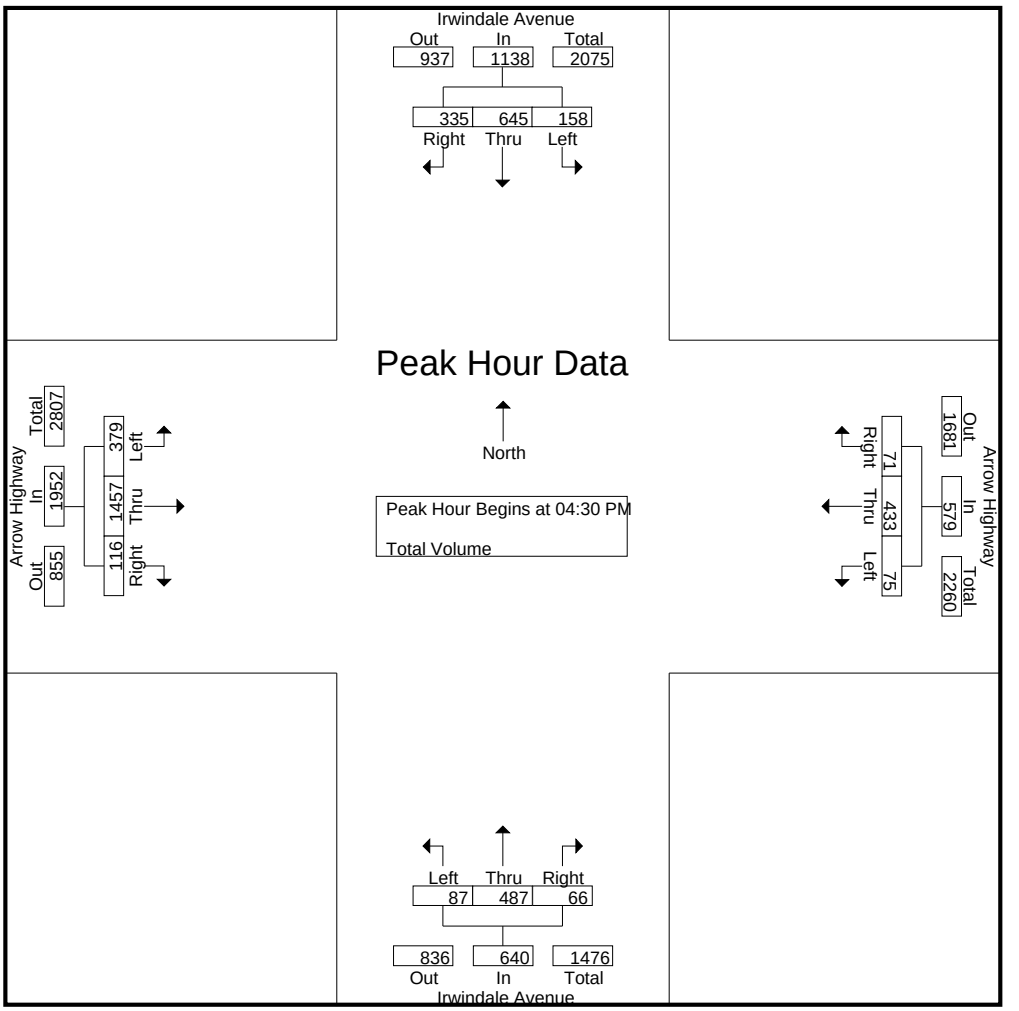
	Irwindale Avenue Southbound				Arrow Highway Westbound				Irwindale Avenue Northbound				Arrow Highway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	48	158	81	287	15	130	14	159	18	129	20	167	77	361	24	462	1075
04:15 PM	36	199	65	300	26	112	10	148	22	127	29	178	93	307	20	420	1046
04:30 PM	41	162	85	288	19	133	15	167	22	91	17	130	78	382	25	485	1070
04:45 PM	36	152	66	254	24	90	17	131	20	139	21	180	105	343	33	481	1046
Total	161	671	297	1129	84	465	56	605	82	486	87	655	353	1393	102	1848	4237
05:00 PM	42	156	102	300	20	108	15	143	19	112	12	143	88	381	28	497	1083
05:15 PM	39	175	82	296	12	102	24	138	26	145	16	187	108	351	30	489	1110
05:30 PM	43	156	70	269	20	108	8	136	24	116	9	149	91	336	30	457	1011
05:45 PM	35	157	68	260	14	128	15	157	23	114	21	158	105	341	24	470	1045
Total	159	644	322	1125	66	446	62	574	92	487	58	637	392	1409	112	1913	4249
Grand Total	320	1315	619	2254	150	911	118	1179	174	973	145	1292	745	2802	214	3761	8486
Apprch %	14.2	58.3	27.5		12.7	77.3	10		13.5	75.3	11.2		19.8	74.5	5.7		
Total %	3.8	15.5	7.3	26.6	1.8	10.7	1.4	13.9	2.1	11.5	1.7	15.2	8.8	33	2.5	44.3	

	Irwindale Avenue Southbound				Arrow Highway Westbound				Irwindale Avenue Northbound				Arrow Highway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. 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	41	162	85	288	19	**133**	15	**167**	22	91	17	130	78	**382**	25	485	1070
04:45 PM	36	152	66	254	**24**	90	17	131	20	139	**21**	180	105	343	**33**	481	1046
05:00 PM	**42**	156	**102**	**300**	20	108	15	143	19	112	12	143	88	381	28	**497**	1083
05:15 PM	39	**175**	82	296	12	102	**24**	138	**26**	**145**	16	**187**	**108**	351	30	489	**1110**
Total Volume	158	645	335	1138	75	433	71	579	87	487	66	640	379	1457	116	1952	4309
% App. Total	13.9	56.7	29.4		13	74.8	12.3		13.6	76.1	10.3		19.4	74.6	5.9		
PHF	.940	.921	.821	.948	.781	.814	.740	.867	.837	.840	.786	.856	.877	.954	.879	.982	.970

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City of Azusa
N/S: Irwindale Avenue
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File Name : 15_AZU_Irwdl_Arrow PM
Site Code : 05724506
Start Date : 5/22/2024
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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				04:00 PM				04:45 PM				04:30 PM			
+0 mins.	36	**199**	65	**300**	15	130	14	159	20	139	**21**	180	78	**382**	25	485
+15 mins.	41	162	85	288	**26**	112	10	148	19	112	12	143	105	343	**33**	481
+30 mins.	36	152	66	254	19	**133**	15	**167**	**26**	**145**	16	**187**	88	381	28	**497**
+45 mins.	**42**	156	**102**	300	24	90	**17**	131	24	116	9	149	**108**	351	30	489
Total Volume	155	669	318	1142	84	465	56	605	89	512	58	659	379	1457	116	1952
% App. Total	13.6	58.6	27.8		13.9	76.9	9.3		13.5	77.7	8.8		19.4	74.6	5.9	
PHF	.923	.840	.779	.952	.808	.874	.824	.906	.856	.883	.690	.881	.877	.954	.879	.982

Location: Irwindale
N/S: Irwindale Avenue
E/W: Arrow Highway

Date: 5/22/2024
Day: Wednesday

PEDESTRIANS

	North Leg Irwindale Avenue	East Leg Arrow Highway	South Leg Irwindale Avenue	West Leg Arrow Highway	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	4	1	1	1	7
7:15 AM	2	0	1	0	3
7:30 AM	0	1	2	0	3
7:45 AM	4	2	1	0	7
8:00 AM	1	3	1	0	5
8:15 AM	1	4	0	3	8
8:30 AM	1	2	0	1	4
8:45 AM	0	1	0	1	2
TOTAL VOLUMES:	13	14	6	6	39

	North Leg Irwindale Avenue	East Leg Arrow Highway	South Leg Irwindale Avenue	West Leg Arrow Highway	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	2	1	4	1	8
4:15 PM	3	2	4	2	11
4:30 PM	4	5	5	0	14
4:45 PM	4	3	3	1	11
5:00 PM	0	2	4	0	6
5:15 PM	1	0	5	0	6
5:30 PM	5	0	0	2	7
5:45 PM	0	0	1	2	3
TOTAL VOLUMES:	19	13	26	8	66

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Location: Irwindale
N/S: Irwindale Avenue
E/W: Arrow Highway

Date: 5/22/2024
Day: Wednesday

BICYCLES

	Southbound Irwindale Avenue			Westbound Arrow Highway			Northbound Irwindale Avenue			Eastbound Arrow Highway			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	1	0	0	0	0	0	1	0	2
8:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	3	0	0	0	0	0	1	0	4

	Southbound Irwindale Avenue			Westbound Arrow Highway			Northbound Irwindale Avenue			Eastbound Arrow Highway			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	1	0	0	2	0	1	0	0	0	1	0	5

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City of Irwindale
N/S: Irwindale Avenue
E/W: Cypress Street
Weather: Clear

File Name : 16_IRW_Irwdl_Cyp AM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

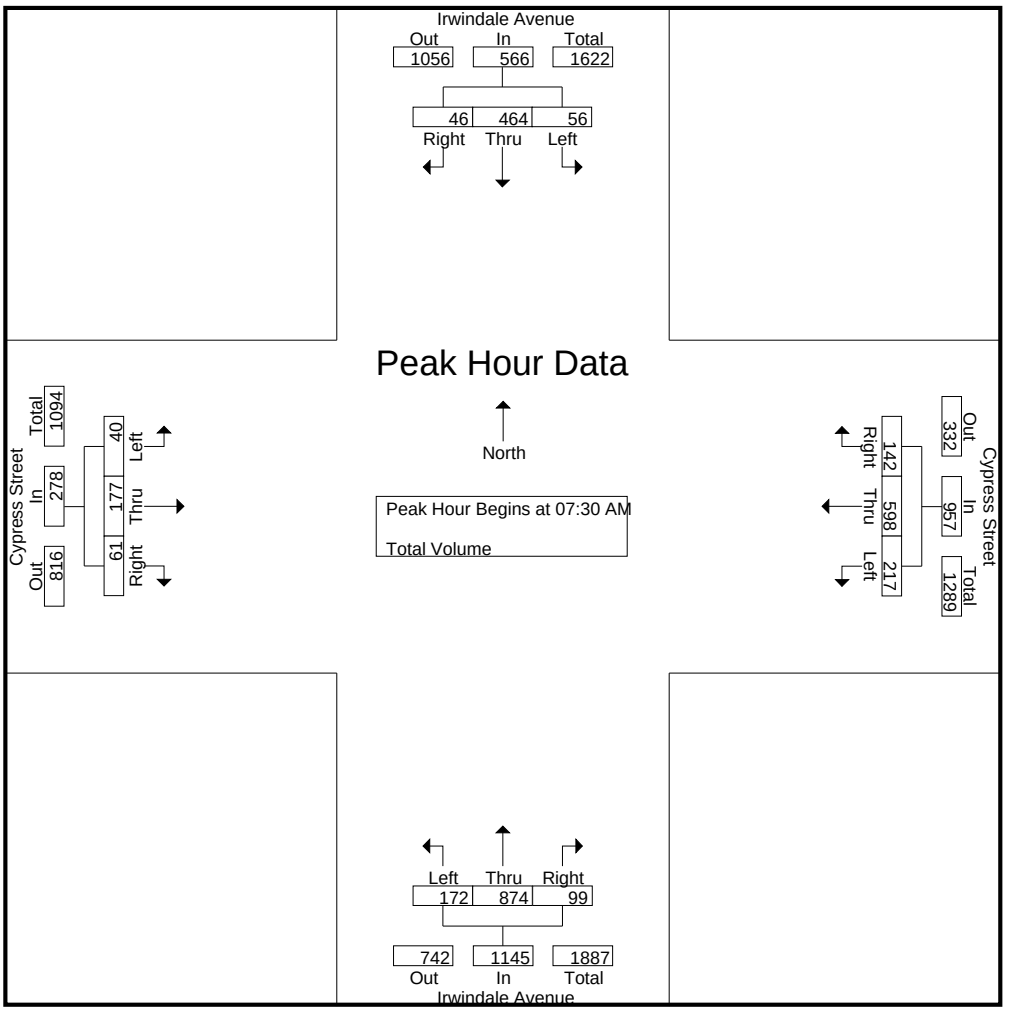
	Irwindale Avenue Southbound				Cypress Street Westbound				Irwindale Avenue Northbound				Cypress Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	2	61	3	66	37	218	38	293	34	161	5	200	14	32	8	54	613
07:15 AM	6	56	9	71	47	239	23	309	42	146	13	201	10	37	13	60	641
07:30 AM	9	104	17	130	54	205	31	290	42	212	19	273	10	45	19	74	767
07:45 AM	14	145	11	170	54	186	41	281	53	243	29	325	17	41	13	71	847
Total	31	366	40	437	192	848	133	1173	171	762	66	999	51	155	53	259	2868
08:00 AM	17	93	10	120	64	109	37	210	46	207	23	276	8	43	15	66	672
08:15 AM	16	122	8	146	45	98	33	176	31	212	28	271	5	48	14	67	660
08:30 AM	9	99	11	119	32	99	35	166	30	195	20	245	4	41	11	56	586
08:45 AM	8	119	8	135	30	89	28	147	16	181	30	227	15	40	5	60	569
Total	50	433	37	520	171	395	133	699	123	795	101	1019	32	172	45	249	2487
Grand Total	81	799	77	957	363	1243	266	1872	294	1557	167	2018	83	327	98	508	5355
Apprch %	8.5	83.5	8		19.4	66.4	14.2		14.6	77.2	8.3		16.3	64.4	19.3		
Total %	1.5	14.9	1.4	17.9	6.8	23.2	5	35	5.5	29.1	3.1	37.7	1.5	6.1	1.8	9.5	

	Irwindale Avenue Southbound				Cypress Street Westbound				Irwindale Avenue Northbound				Cypress Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. 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	9	104	**17**	130	54	**205**	31	**290**	42	212	19	273	10	45	**19**	**74**	767
07:45 AM	14	**145**	11	**170**	54	186	**41**	281	**53**	**243**	**29**	**325**	**17**	41	13	71	**847**
08:00 AM	**17**	93	10	120	**64**	109	37	210	46	207	23	276	8	43	15	66	672
08:15 AM	16	122	8	146	45	98	33	176	31	212	28	271	5	**48**	14	67	660
Total Volume	56	464	46	566	217	598	142	957	172	874	99	1145	40	177	61	278	2946
% App. Total	9.9	82	8.1		22.7	62.5	14.8		15	76.3	8.6		14.4	63.7	21.9		
PHF	.824	.800	.676	.832	.848	.729	.866	.825	.811	.899	.853	.881	.588	.922	.803	.939	.870

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City of Irwindale
N/S: Irwindale Avenue
E/W: Cypress Street
Weather: Clear

File Name : 16_IRW_Irwdl_Cyp AM
Site Code : 05724506
Start Date : 5/22/2024
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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				07:00 AM				07:30 AM				07:30 AM			
+0 mins.	9	104	**17**	130	37	218	38	293	42	212	19	273	10	45	**19**	**74**
+15 mins.	14	**145**	11	**170**	47	**239**	23	**309**	**53**	**243**	**29**	**325**	**17**	41	13	71
+30 mins.	**17**	93	10	120	**54**	205	31	290	46	207	23	276	8	43	15	66
+45 mins.	16	122	8	146	54	186	**41**	281	31	212	28	271	5	**48**	14	67
Total Volume	56	464	46	566	192	848	133	1173	172	874	99	1145	40	177	61	278
% App. Total	9.9	82	8.1		16.4	72.3	11.3		15	76.3	8.6		14.4	63.7	21.9	
PHF	.824	.800	.676	.832	.889	.887	.811	.949	.811	.899	.853	.881	.588	.922	.803	.939

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City of Irwindale
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Weather: Clear

File Name : 16_IRW_Irwdl_Cyp PM
Site Code : 05724506
Start Date : 5/22/2024
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Groups Printed- Total Volume

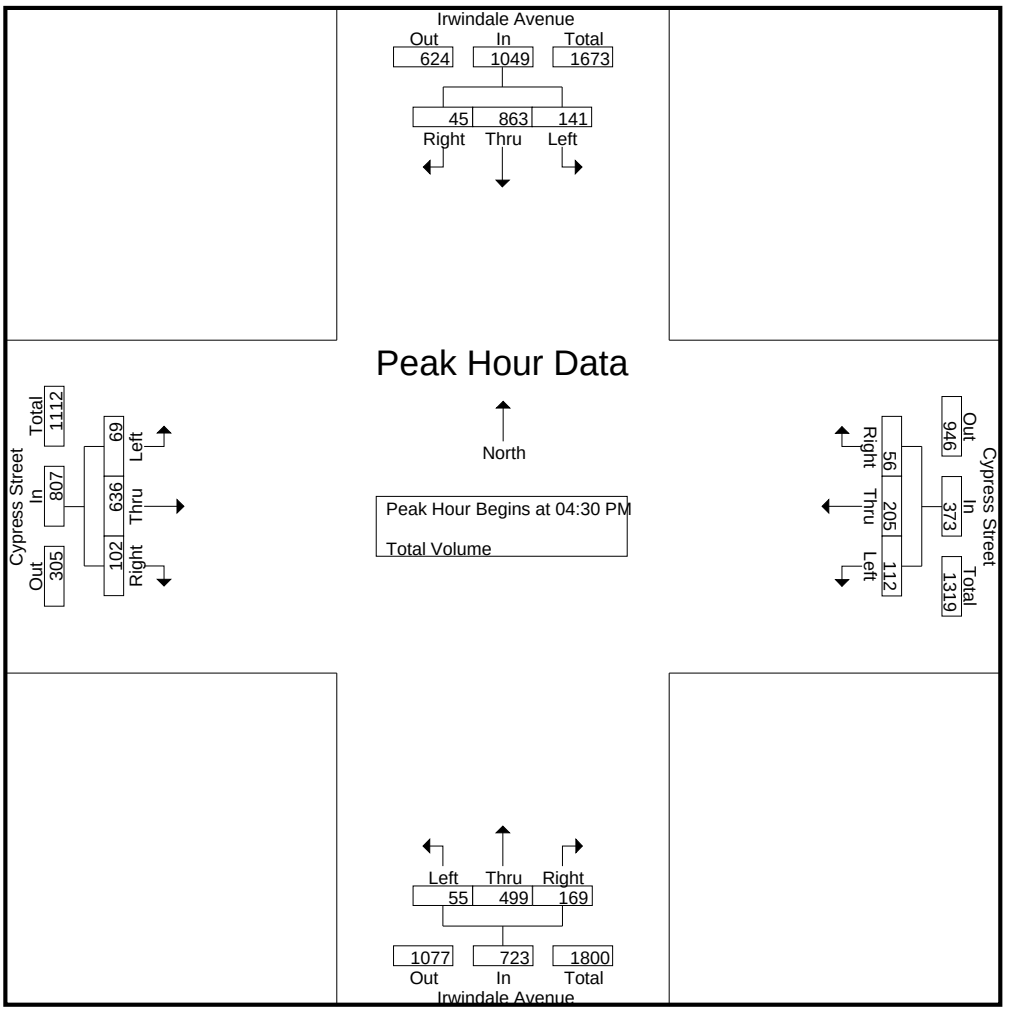
	Irwindale Avenue Southbound				Cypress Street Westbound				Irwindale Avenue Northbound				Cypress Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	35	246	16	297	22	51	14	87	12	121	43	176	18	136	24	178	738
04:15 PM	34	185	7	226	19	49	18	86	24	116	47	187	17	147	18	182	681
04:30 PM	40	227	6	273	28	56	14	98	11	112	42	165	18	153	22	193	729
04:45 PM	35	210	12	257	24	51	15	90	14	122	30	166	17	140	28	185	698
Total	144	868	41	1053	93	207	61	361	61	471	162	694	70	576	92	738	2846
05:00 PM	34	228	12	274	26	58	15	99	17	119	50	186	16	187	31	234	793
05:15 PM	32	198	15	245	34	40	12	86	13	146	47	206	18	156	21	195	732
05:30 PM	32	234	13	279	31	32	15	78	15	126	40	181	9	135	35	179	717
05:45 PM	22	168	12	202	22	49	14	85	18	113	40	171	12	126	19	157	615
Total	120	828	52	1000	113	179	56	348	63	504	177	744	55	604	106	765	2857
Grand Total	264	1696	93	2053	206	386	117	709	124	975	339	1438	125	1180	198	1503	5703
Apprch %	12.9	82.6	4.5		29.1	54.4	16.5		8.6	67.8	23.6		8.3	78.5	13.2		
Total %	4.6	29.7	1.6	36	3.6	6.8	2.1	12.4	2.2	17.1	5.9	25.2	2.2	20.7	3.5	26.4	

	Irwindale Avenue Southbound				Cypress Street Westbound				Irwindale Avenue Northbound				Cypress Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. 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	**40**	227	6	273	28	56	14	98	11	112	42	165	**18**	153	22	193	729
04:45 PM	35	210	12	257	24	51	**15**	90	14	122	30	166	17	140	28	185	698
05:00 PM	34	**228**	12	**274**	26	**58**	15	**99**	**17**	119	**50**	186	16	**187**	**31**	**234**	**793**
05:15 PM	32	198	**15**	245	**34**	40	12	86	13	**146**	47	**206**	18	156	21	195	732
Total Volume	141	863	45	1049	112	205	56	373	55	499	169	723	69	636	102	807	2952
% App. Total	13.4	82.3	4.3		30	55	15		7.6	69	23.4		8.6	78.8	12.6		
PHF	.881	.946	.750	.957	.824	.884	.933	.942	.809	.854	.845	.877	.958	.850	.823	.862	.931

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File Name : 16_IRW_Irwdl_Cyp PM
Site Code : 05724506
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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				04:15 PM				05:00 PM				04:30 PM			
+0 mins.	**35**	210	12	257	19	49	**18**	86	17	119	**50**	186	**18**	153	22	193
+15 mins.	34	228	12	274	**28**	56	14	98	13	**146**	47	**206**	17	140	28	185
+30 mins.	32	198	**15**	245	24	51	15	90	15	126	40	181	16	**187**	**31**	**234**
+45 mins.	32	**234**	13	**279**	26	**58**	15	**99**	**18**	113	40	171	18	156	21	195
Total Volume	133	870	52	1055	97	214	62	373	63	504	177	744	69	636	102	807
% App. Total	12.6	82.5	4.9		26	57.4	16.6		8.5	67.7	23.8		8.6	78.8	12.6	
PHF	.950	.929	.867	.945	.866	.922	.861	.942	.875	.863	.885	.903	.958	.850	.823	.862

Location: Irwindale
N/S: Irwindale Avenue
E/W: Cypress Street

Date: 5/22/2024
Day: Wednesday

PEDESTRIANS

	North Leg Irwindale Avenue	East Leg Cypress Street	South Leg Irwindale Avenue	West Leg Cypress Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	3	3
7:15 AM	1	0	0	0	1
7:30 AM	2	3	1	0	6
7:45 AM	0	0	1	0	1
8:00 AM	0	8	2	0	10
8:15 AM	0	1	0	0	1
8:30 AM	1	0	0	0	1
8:45 AM	1	0	0	0	1
TOTAL VOLUMES:	5	12	4	3	24

	North Leg Irwindale Avenue	East Leg Cypress Street	South Leg Irwindale Avenue	West Leg Cypress Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	1	1	2	1	5
4:15 PM	1	0	0	0	1
4:30 PM	1	1	1	0	3
4:45 PM	0	4	3	1	8
5:00 PM	4	0	0	1	5
5:15 PM	2	0	0	0	2
5:30 PM	3	2	0	0	5
5:45 PM	2	0	0	1	3
TOTAL VOLUMES:	14	8	6	4	32

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Location: Irwindale
N/S: Irwindale Avenue
E/W: Cypress Street

Date: 5/22/2024
Day: Wednesday

BICYCLES

	Southbound Irwindale Avenue			Westbound Cypress Street			Northbound Irwindale Avenue			Eastbound Cypress Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	1	0	9	0	10
8:00 AM	0	0	0	0	1	0	0	1	0	0	0	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	1	1	0	2	1	0	9	0	14

	Southbound Irwindale Avenue			Westbound Cypress Street			Northbound Irwindale Avenue			Eastbound Cypress Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	1	0	0	0	0	0	0	1	0	0	0	0	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
TOTAL VOLUMES:	3	0	0	0	1	0	0	2	0	0	0	0	6

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City of Irwindale
N/S: Vincent Avenue
E/W: Arrow Highway
Weather: Clear

File Name : 17_IRW_Vin_Arrow AM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

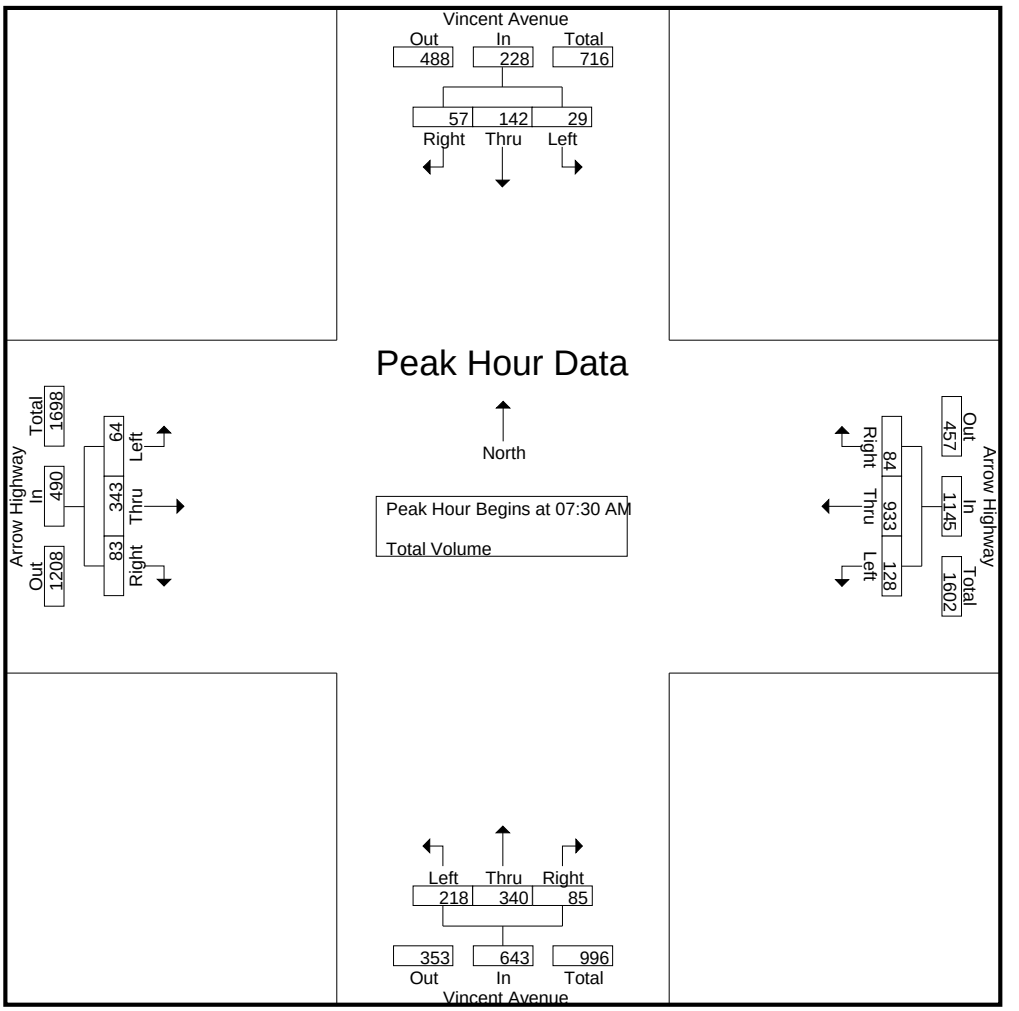
	Vincent Avenue Southbound				Arrow Highway Westbound				Vincent Avenue Northbound				Arrow Highway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	3	18	12	33	22	252	14	288	31	58	11	100	7	56	13	76	497
07:15 AM	3	31	10	44	33	281	21	335	35	64	12	111	9	74	16	99	589
07:30 AM	5	42	8	55	40	239	33	312	40	88	18	146	23	71	12	106	619
07:45 AM	9	36	21	66	29	252	19	300	49	98	28	175	22	89	29	140	681
Total	20	127	51	198	124	1024	87	1235	155	308	69	532	61	290	70	421	2386
08:00 AM	8	34	14	56	29	194	16	239	62	92	22	176	11	85	25	121	592
08:15 AM	7	30	14	51	30	248	16	294	67	62	17	146	8	98	17	123	614
08:30 AM	5	36	10	51	28	192	9	229	46	57	18	121	12	65	18	95	496
08:45 AM	5	15	15	35	19	152	6	177	60	59	19	138	17	104	28	149	499
Total	25	115	53	193	106	786	47	939	235	270	76	581	48	352	88	488	2201
Grand Total	45	242	104	391	230	1810	134	2174	390	578	145	1113	109	642	158	909	4587
Apprch %	11.5	61.9	26.6		10.6	83.3	6.2		35	51.9	13		12	70.6	17.4		
Total %	1	5.3	2.3	8.5	5	39.5	2.9	47.4	8.5	12.6	3.2	24.3	2.4	14	3.4	19.8	

	Vincent Avenue Southbound				Arrow Highway Westbound				Vincent Avenue Northbound				Arrow Highway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. 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	5	**42**	8	55	**40**	239	**33**	**312**	40	88	18	146	**23**	71	12	106	619
07:45 AM	**9**	36	**21**	**66**	29	**252**	19	300	49	**98**	**28**	175	22	89	**29**	**140**	**681**
08:00 AM	8	34	14	56	29	194	16	239	62	92	22	**176**	11	85	25	121	592
08:15 AM	7	30	14	51	30	248	16	294	**67**	62	17	146	8	**98**	17	123	614
Total Volume	29	142	57	228	128	933	84	1145	218	340	85	643	64	343	83	490	2506
% App. Total	12.7	62.3	25		11.2	81.5	7.3		33.9	52.9	13.2		13.1	70	16.9		
PHF	.806	.845	.679	.864	.800	.926	.636	.917	.813	.867	.759	.913	.696	.875	.716	.875	.920

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City of Irwindale
N/S: Vincent Avenue
E/W: Arrow Highway
Weather: Clear

File Name : 17_IRW_Vin_Arrow AM
Site Code : 05724506
Start Date : 5/22/2024
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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				07:00 AM				07:30 AM				07:30 AM			
+0 mins.	5	**42**	8	55	22	252	14	288	40	88	18	146	**23**	71	12	106
+15 mins.	**9**	36	**21**	**66**	33	**281**	21	**335**	49	**98**	**28**	175	22	89	**29**	**140**
+30 mins.	8	34	14	56	**40**	239	**33**	312	62	92	22	**176**	11	85	25	121
+45 mins.	7	30	14	51	29	252	19	300	**67**	62	17	146	8	**98**	17	123
Total Volume	29	142	57	228	124	1024	87	1235	218	340	85	643	64	343	83	490
% App. Total	12.7	62.3	25		10	82.9	7		33.9	52.9	13.2		13.1	70	16.9	
PHF	.806	.845	.679	.864	.775	.911	.659	.922	.813	.867	.759	.913	.696	.875	.716	.875

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City of Irwindale
N/S: Vincent Avenue
E/W: Arrow Highway
Weather: Clear

File Name : 17_IRW_Vin_Arrow PM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

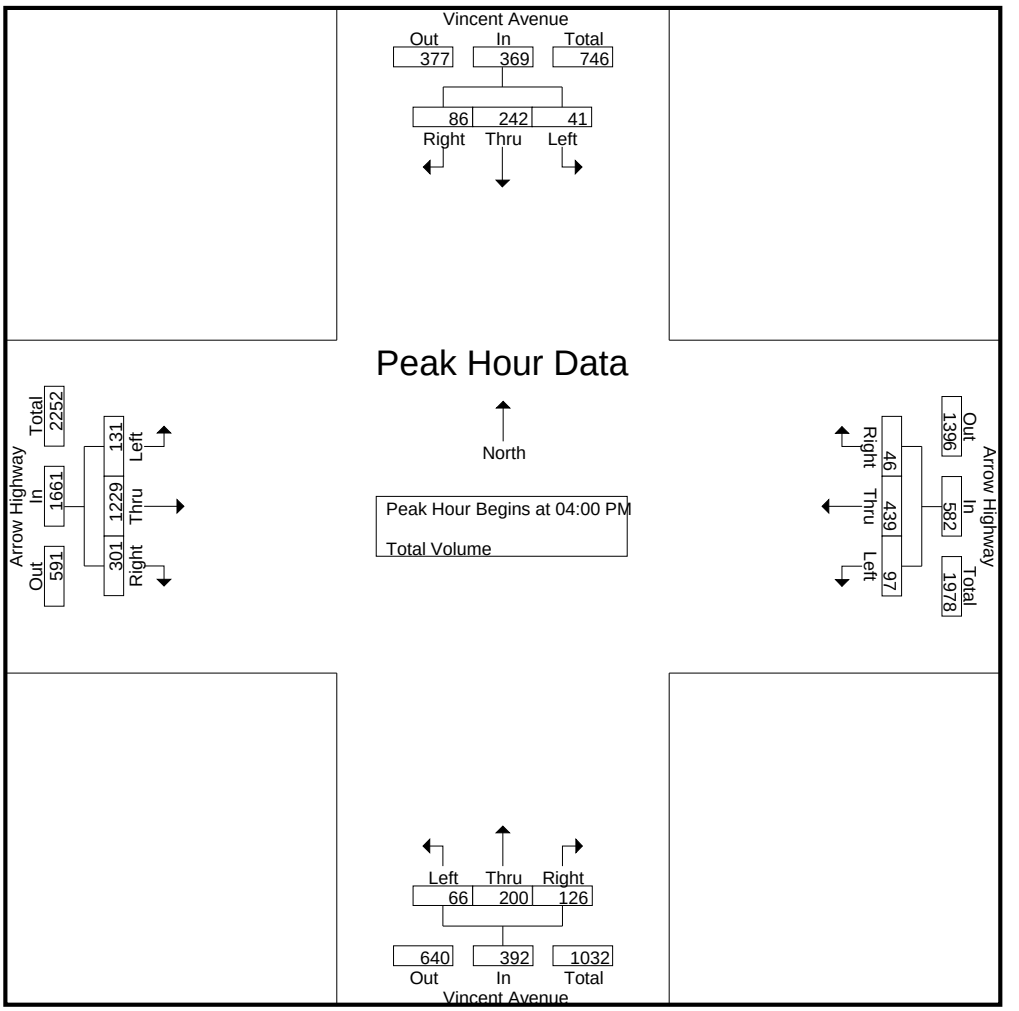
	Vincent Avenue Southbound				Arrow Highway Westbound				Vincent Avenue Northbound				Arrow Highway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	13	71	24	108	22	136	15	173	13	38	28	79	32	317	81	430	790
04:15 PM	9	60	19	88	25	114	9	148	16	60	29	105	36	279	91	406	747
04:30 PM	12	57	26	95	25	98	11	134	15	35	36	86	30	317	74	421	736
04:45 PM	7	54	17	78	25	91	11	127	22	67	33	122	33	316	55	404	731
Total	41	242	86	369	97	439	46	582	66	200	126	392	131	1229	301	1661	3004
05:00 PM	10	58	26	94	24	97	8	129	15	42	20	77	43	358	64	465	765
05:15 PM	11	59	22	92	29	103	13	145	19	67	29	115	44	305	50	399	751
05:30 PM	12	43	24	79	25	117	7	149	8	55	25	88	33	339	65	437	753
05:45 PM	9	45	17	71	29	110	6	145	16	51	37	104	25	304	65	394	714
Total	42	205	89	336	107	427	34	568	58	215	111	384	145	1306	244	1695	2983
Grand Total	83	447	175	705	204	866	80	1150	124	415	237	776	276	2535	545	3356	5987
Apprch %	11.8	63.4	24.8		17.7	75.3	7		16	53.5	30.5		8.2	75.5	16.2		
Total %	1.4	7.5	2.9	11.8	3.4	14.5	1.3	19.2	2.1	6.9	4	13	4.6	42.3	9.1	56.1	

	Vincent Avenue Southbound				Arrow Highway Westbound				Vincent Avenue Northbound				Arrow Highway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	**13**	**71**	24	**108**	22	**136**	**15**	**173**	13	38	28	79	32	**317**	81	**430**	**790**
04:15 PM	9	60	19	88	**25**	114	9	148	16	60	29	105	**36**	279	**91**	406	747
04:30 PM	12	57	**26**	95	25	98	11	134	15	35	**36**	86	30	317	74	421	736
04:45 PM	7	54	17	78	25	91	11	127	**22**	**67**	33	**122**	33	316	55	404	731
Total Volume	41	242	86	369	97	439	46	582	66	200	126	392	131	1229	301	1661	3004
% App. Total	11.1	65.6	23.3		16.7	75.4	7.9		16.8	51	32.1		7.9	74	18.1		
PHF	.788	.852	.827	.854	.970	.807	.767	.841	.750	.746	.875	.803	.910	.969	.827	.966	.951

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City of Irwindale
N/S: Vincent Avenue
E/W: Arrow Highway
Weather: Clear

File Name : 17_IRW_Vin_Arrow PM
Site Code : 05724506
Start Date : 5/22/2024
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				04:00 PM				04:45 PM				04:45 PM			
+0 mins.	**13**	**71**	24	**108**	22	**136**	**15**	**173**	**22**	**67**	**33**	**122**	33	316	55	404
+15 mins.	9	60	19	88	**25**	114	9	148	15	42	20	77	43	**358**	64	**465**
+30 mins.	12	57	**26**	95	25	98	11	134	19	67	29	115	**44**	305	50	399
+45 mins.	7	54	17	78	25	91	11	127	8	55	25	88	33	339	**65**	437
Total Volume	41	242	86	369	97	439	46	582	64	231	107	402	153	1318	234	1705
% App. Total	11.1	65.6	23.3		16.7	75.4	7.9		15.9	57.5	26.6		9	77.3	13.7	
PHF	.788	.852	.827	.854	.970	.807	.767	.841	.727	.862	.811	.824	.869	.920	.900	.917

Location: Irwindale
N/S: Vincent Avenue
E/W: Arrow Highway

Date: 5/22/2024
Day: Wednesday

PEDESTRIANS

	North Leg Vincent Avenue	East Leg Arrow Highway	South Leg Vincent Avenue	West Leg Arrow Highway	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	4	1	0	4	9
7:15 AM	3	0	2	5	10
7:30 AM	1	3	1	1	6
7:45 AM	1	0	1	1	3
8:00 AM	1	0	0	0	1
8:15 AM	0	1	0	0	1
8:30 AM	2	0	0	1	3
8:45 AM	0	1	0	0	1
TOTAL VOLUMES:	12	6	4	12	34

	North Leg Vincent Avenue	East Leg Arrow Highway	South Leg Vincent Avenue	West Leg Arrow Highway	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	4	1	0	2	7
4:15 PM	2	2	1	0	5
4:30 PM	2	0	1	0	3
4:45 PM	1	0	0	0	1
5:00 PM	2	0	2	3	7
5:15 PM	0	0	5	0	5
5:30 PM	2	1	1	1	5
5:45 PM	2	1	2	0	5
TOTAL VOLUMES:	15	5	12	6	38

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Location: Irwindale
N/S: Vincent Avenue
E/W: Arrow Highway

Date: 5/22/2024
Day: Wednesday

BICYCLES

	Southbound Vincent Avenue			Westbound Arrow Highway			Northbound Vincent Avenue			Eastbound Arrow Highway			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	2	0	0	1	0	0	0	0	3

	Southbound Vincent Avenue			Westbound Arrow Highway			Northbound Vincent Avenue			Eastbound Arrow Highway			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:00 PM	0	0	0	0	1	0	0	0	0	0	1	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	2	1	3
5:30 PM	0	0	0	0	0	0	0	0	0	1	1	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	1	0	0	0	0	1	6	1	9

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City of Azusa
N/S: Vernon Avenue
E/W: I-210 Westbound Ramps
Weather: Clear

File Name : 18_AZU_Ver_210W AM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

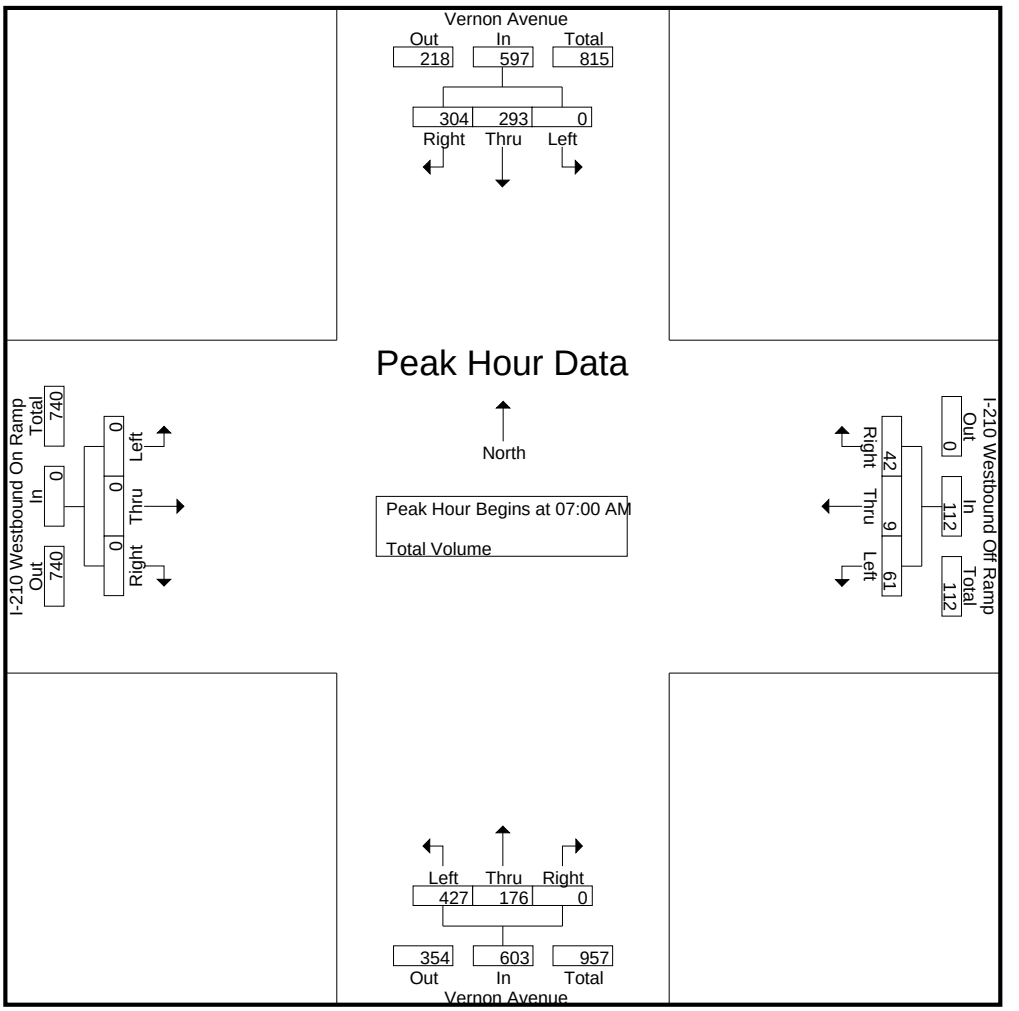
	Vernon Avenue Southbound				I-210 Westbound Off Ramp Westbound				Vernon Avenue Northbound				I-210 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	52	93	145	8	3	11	22	130	40	0	170	0	0	0	0	337
07:15 AM	0	68	87	155	18	5	6	29	106	40	0	146	0	0	0	0	330
07:30 AM	0	89	74	163	6	0	13	19	102	43	0	145	0	0	0	0	327
07:45 AM	0	84	50	134	29	1	12	42	89	53	0	142	0	0	0	0	318
Total	0	293	304	597	61	9	42	112	427	176	0	603	0	0	0	0	1312
08:00 AM	0	68	32	100	32	0	31	63	78	62	0	140	0	0	0	0	303
08:15 AM	0	65	47	112	26	0	26	52	74	59	0	133	0	0	0	0	297
08:30 AM	0	42	42	84	32	3	24	59	67	33	0	100	0	0	0	0	243
08:45 AM	0	42	38	80	37	1	25	63	62	40	0	102	0	0	0	0	245
Total	0	217	159	376	127	4	106	237	281	194	0	475	0	0	0	0	1088
Grand Total	0	510	463	973	188	13	148	349	708	370	0	1078	0	0	0	0	2400
Apprch %	0	52.4	47.6		53.9	3.7	42.4		65.7	34.3	0		0	0	0		
Total %	0	21.2	19.3	40.5	7.8	0.5	6.2	14.5	29.5	15.4	0	44.9	0	0	0	0	

	Vernon Avenue Southbound				I-210 Westbound Off Ramp Westbound				Vernon Avenue Northbound				I-210 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. 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	0	52	**93**	145	8	3	11	22	**130**	40	0	**170**	0	0	0	0	**337**
07:15 AM	0	68	87	155	18	**5**	6	29	106	40	0	146	0	0	0	0	330
07:30 AM	0	**89**	74	**163**	6	0	**13**	19	102	43	0	145	0	0	0	0	327
07:45 AM	0	84	50	134	**29**	1	12	**42**	89	**53**	0	142	0	0	0	0	318
Total Volume	0	293	304	597	61	9	42	112	427	176	0	603	0	0	0	0	1312
% App. Total	0	49.1	50.9		54.5	8	37.5		70.8	29.2	0		0	0	0		
PHF	.000	.823	.817	.916	.526	.450	.808	.667	.821	.830	.000	.887	.000	.000	.000	.000	.973

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City of Azusa
N/S: Vernon Avenue
E/W: I-210 Westbound Ramps
Weather: Clear

File Name : 18_AZU_Ver_210W AM
Site Code : 05724506
Start Date : 5/22/2024
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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				08:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	52	**93**	145	32	0	**31**	**63**	**130**	40	0	**170**	0	0	0	0
+15 mins.	0	68	87	155	26	0	26	52	106	40	0	146	0	0	0	0
+30 mins.	0	**89**	74	**163**	32	**3**	24	59	102	43	0	145	0	0	0	0
+45 mins.	0	84	50	134	**37**	1	25	63	89	**53**	0	142	0	0	0	0
Total Volume	0	293	304	597	127	4	106	237	427	176	0	603	0	0	0	0
% App. Total	0	49.1	50.9		53.6	1.7	44.7		70.8	29.2	0		0	0	0	
PHF	.000	.823	.817	.916	.858	.333	.855	.940	.821	.830	.000	.887	.000	.000	.000	.000

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City of Azusa
N/S: Vernon Avenue
E/W: I-210 Westbound Ramps
Weather: Clear

File Name : 18_AZU_Ver_210W PM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

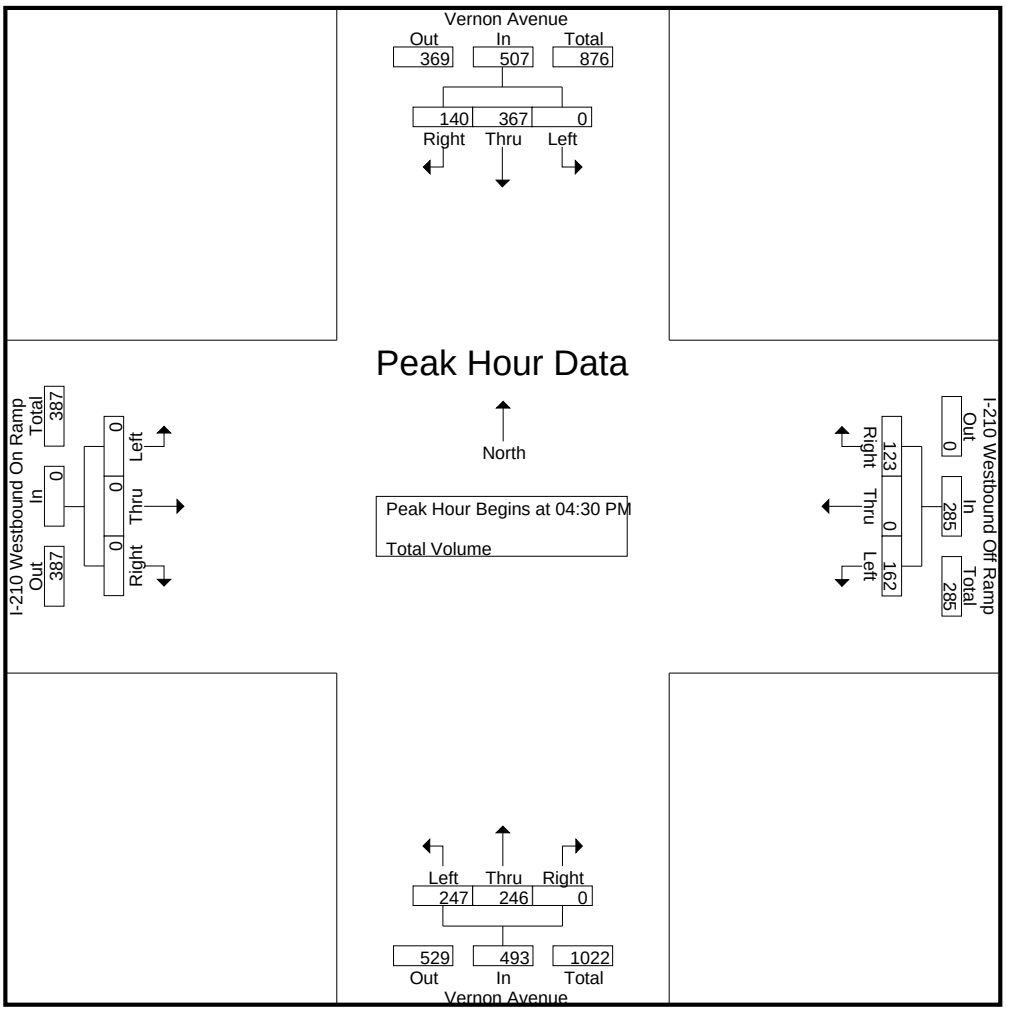
	Vernon Avenue Southbound				I-210 Westbound Off Ramp Westbound				Vernon Avenue Northbound				I-210 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	85	25	110	48	1	29	78	58	75	0	133	0	0	0	0	321
04:15 PM	0	74	30	104	49	0	33	82	35	62	0	97	0	0	0	0	283
04:30 PM	0	93	44	137	36	0	21	57	57	54	0	111	0	0	0	0	305
04:45 PM	0	88	35	123	42	0	28	70	62	60	0	122	0	0	0	0	315
Total	0	340	134	474	175	1	111	287	212	251	0	463	0	0	0	0	1224
05:00 PM	0	95	34	129	44	0	42	86	54	52	0	106	0	0	0	0	321
05:15 PM	0	91	27	118	40	0	32	72	74	80	0	154	0	0	0	0	344
05:30 PM	0	78	37	115	54	0	22	76	54	58	0	112	0	0	0	0	303
05:45 PM	0	69	29	98	33	0	30	63	58	59	0	117	0	0	0	0	278
Total	0	333	127	460	171	0	126	297	240	249	0	489	0	0	0	0	1246
Grand Total	0	673	261	934	346	1	237	584	452	500	0	952	0	0	0	0	2470
Apprch %	0	72.1	27.9		59.2	0.2	40.6		47.5	52.5	0		0	0	0		
Total %	0	27.2	10.6	37.8	14	0	9.6	23.6	18.3	20.2	0	38.5	0	0	0	0	

	Vernon Avenue Southbound				I-210 Westbound Off Ramp Westbound				Vernon Avenue Northbound				I-210 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. 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	93	**44**	**137**	36	0	21	57	57	54	0	111	0	0	0	0	305
04:45 PM	0	88	35	123	42	0	28	70	62	60	0	122	0	0	0	0	315
05:00 PM	0	**95**	34	129	**44**	0	**42**	**86**	54	52	0	106	0	0	0	0	321
05:15 PM	0	91	27	118	40	0	32	72	**74**	**80**	0	**154**	0	0	0	0	**344**
Total Volume	0	367	140	507	162	0	123	285	247	246	0	493	0	0	0	0	1285
% App. Total	0	72.4	27.6		56.8	0	43.2		50.1	49.9	0		0	0	0		
PHF	.000	.966	.795	.925	.920	.000	.732	.828	.834	.769	.000	.800	.000	.000	.000	.000	.934

Counts Unlimited, Inc.
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(951) 268-6268

City of Azusa
N/S: Vernon Avenue
E/W: I-210 Westbound Ramps
Weather: Clear

File Name : 18_AZU_Ver_210W PM
Site Code : 05724506
Start Date : 5/22/2024
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				04:45 PM				04:45 PM				04:00 PM			
+0 mins.	0	93	**44**	**137**	42	0	28	70	62	60	0	122	0	0	0	0
+15 mins.	0	88	35	123	44	0	**42**	**86**	54	52	0	106	0	0	0	0
+30 mins.	0	**95**	34	129	40	0	32	72	**74**	**80**	0	**154**	0	0	0	0
+45 mins.	0	91	27	118	**54**	0	22	76	54	58	0	112	0	0	0	0
Total Volume	0	367	140	507	180	0	124	304	244	250	0	494	0	0	0	0
% App. Total	0	72.4	27.6		59.2	0	40.8		49.4	50.6	0		0	0	0	
PHF	.000	.966	.795	.925	.833	.000	.738	.884	.824	.781	.000	.802	.000	.000	.000	.000

Location: Irwindale
N/S: Vernon Avenue
E/W: I-210 WB Ramps

Date: 5/22/2024
Day: Wednesday

PEDESTRIANS

	North Leg Vernon Avenue	East Leg I-210 WB Ramps	South Leg Vernon Avenue	West Leg I-210 WB Ramps	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	1	1
7:15 AM	0	0	0	1	1
7:30 AM	0	1	0	0	1
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	1	1
8:30 AM	0	2	0	0	2
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	3	0	3	6

	North Leg Vernon Avenue	East Leg I-210 WB Ramps	South Leg Vernon Avenue	West Leg I-210 WB Ramps	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	1	0	0	1
4:15 PM	0	0	0	0	0
4:30 PM	0	3	0	0	3
4:45 PM	0	0	0	0	0
5:00 PM	0	1	0	0	1
5:15 PM	0	0	0	1	1
5:30 PM	0	2	0	0	2
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	7	0	1	8

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Location: Irwindale
N/S: Vernon Avenue
E/W: I-210 WB Ramps

Date: 5/22/2024
Day: Wednesday

BICYCLES

	Southbound Vernon Avenue			Westbound I-210 WB Ramps			Northbound Vernon Avenue			Eastbound I-210 WB Ramps			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	2	0	0	0	0	0	0	0	0	0	0	2

	Southbound Vernon Avenue			Westbound I-210 WB Ramps			Northbound Vernon Avenue			Eastbound I-210 WB Ramps			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:15 PM	0	1	0	0	0	0	0	1	0	0	0	0	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	3	0	0	0	0	0	3	0	0	0	0	6

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(951) 268-6268

City of Azusa
N/S: I-210 EB Off Ramp/Barbara Avenue
E/W: W 3rd Street
Weather: Clear

File Name : 19_AZU_210E Off_3rd AM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

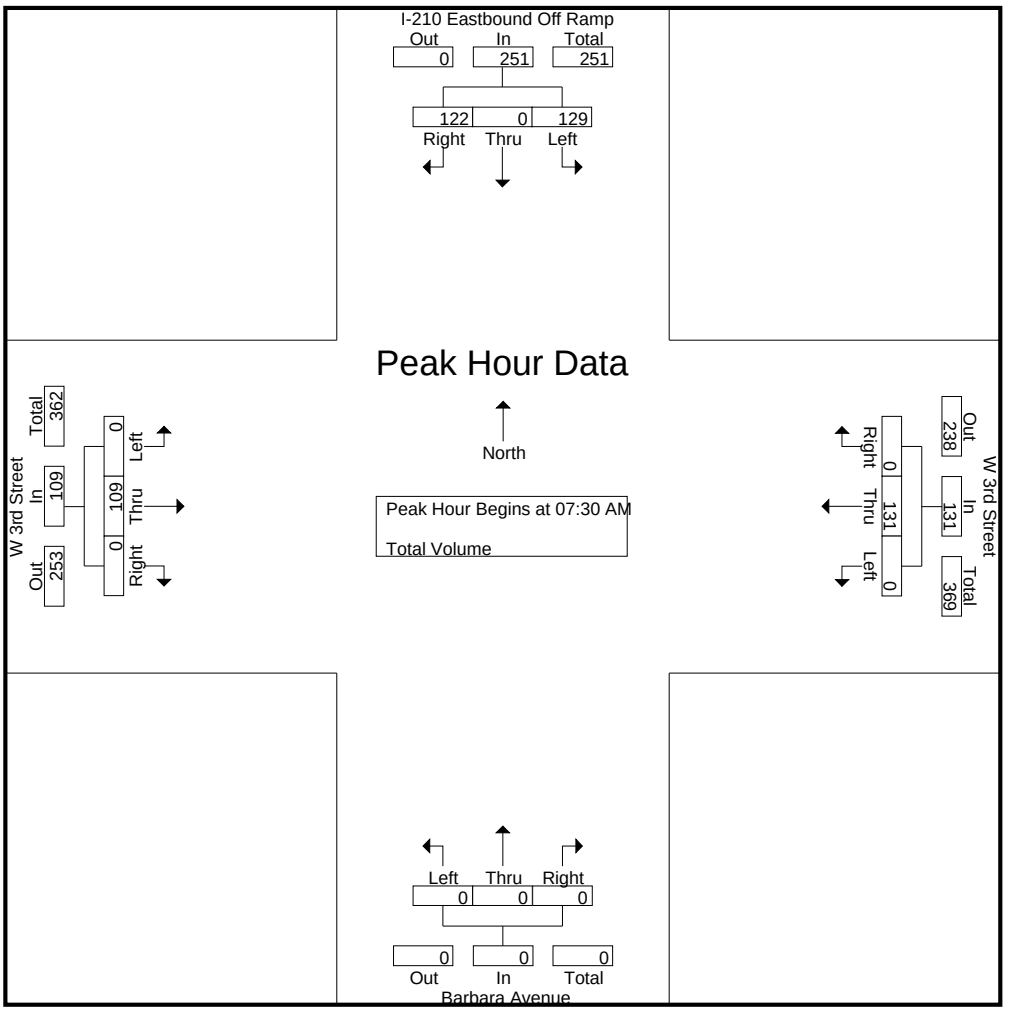
	I-210 Eastbound Off Ramp Southbound				W 3rd Street Westbound				Barbara Avenue Northbound				W 3rd Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	26	0	30	56	0	30	0	30	0	0	0	0	0	23	0	23	109
07:15 AM	35	0	33	68	0	28	0	28	0	0	0	0	0	21	0	21	117
07:30 AM	34	0	27	61	0	29	0	29	0	0	0	0	0	29	0	29	119
07:45 AM	38	0	35	73	0	33	0	33	0	0	0	0	0	32	0	32	138
Total	133	0	125	258	0	120	0	120	0	0	0	0	0	105	0	105	483
08:00 AM	31	0	29	60	0	31	0	31	0	0	0	0	0	21	0	21	112
08:15 AM	26	0	31	57	0	38	0	38	0	0	0	0	0	27	0	27	122
08:30 AM	33	0	25	58	0	29	0	29	0	0	0	0	0	21	0	21	108
08:45 AM	39	0	24	63	0	48	0	48	0	0	0	0	0	22	0	22	133
Total	129	0	109	238	0	146	0	146	0	0	0	0	0	91	0	91	475
Grand Total	262	0	234	496	0	266	0	266	0	0	0	0	0	196	0	196	958
Apprch %	52.8	0	47.2		0	100	0		0	0	0		0	100	0		
Total %	27.3	0	24.4	51.8	0	27.8	0	27.8	0	0	0	0	0	20.5	0	20.5	

	I-210 Eastbound Off Ramp Southbound				W 3rd Street Westbound				Barbara Avenue Northbound				W 3rd Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. 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	34	0	27	61	0	29	0	29	0	0	0	0	0	29	0	29	119
07:45 AM	**38**	0	**35**	**73**	0	33	0	33	0	0	0	0	0	**32**	0	**32**	**138**
08:00 AM	31	0	29	60	0	31	0	31	0	0	0	0	0	21	0	21	112
08:15 AM	26	0	31	57	0	**38**	0	**38**	0	0	0	0	0	27	0	27	122
Total Volume	129	0	122	251	0	131	0	131	0	0	0	0	0	109	0	109	491
% App. Total	51.4	0	48.6		0	100	0		0	0	0		0	100	0		
PHF	.849	.000	.871	.860	.000	.862	.000	.862	.000	.000	.000	.000	.000	.852	.000	.852	.889

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City of Azusa
N/S: I-210 EB Off Ramp/Barbara Avenue
E/W: W 3rd Street
Weather: Clear

File Name : 19_AZU_210E Off_3rd AM
Site Code : 05724506
Start Date : 5/22/2024
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				08:00 AM				07:00 AM				07:30 AM			
+0 mins.	35	0	33	68	0	31	0	31	0	0	0	0	0	29	0	29
+15 mins.	34	0	27	61	0	38	0	38	0	0	0	0	0	**32**	0	**32**
+30 mins.	**38**	0	**35**	**73**	0	29	0	29	0	0	0	0	0	21	0	21
+45 mins.	31	0	29	60	0	**48**	0	**48**	0	0	0	0	0	27	0	27
Total Volume	138	0	124	262	0	146	0	146	0	0	0	0	0	109	0	109
% App. Total	52.7	0	47.3		0	100	0		0	0	0		0	100	0	
PHF	.908	.000	.886	.897	.000	.760	.000	.760	.000	.000	.000	.000	.000	.852	.000	.852

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City of Azusa
N/S: I-210 EB Off Ramp/Barbara Avenue
E/W: W 3rd Street
Weather: Clear

File Name : 19_AZU_210E Off_3rd PM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

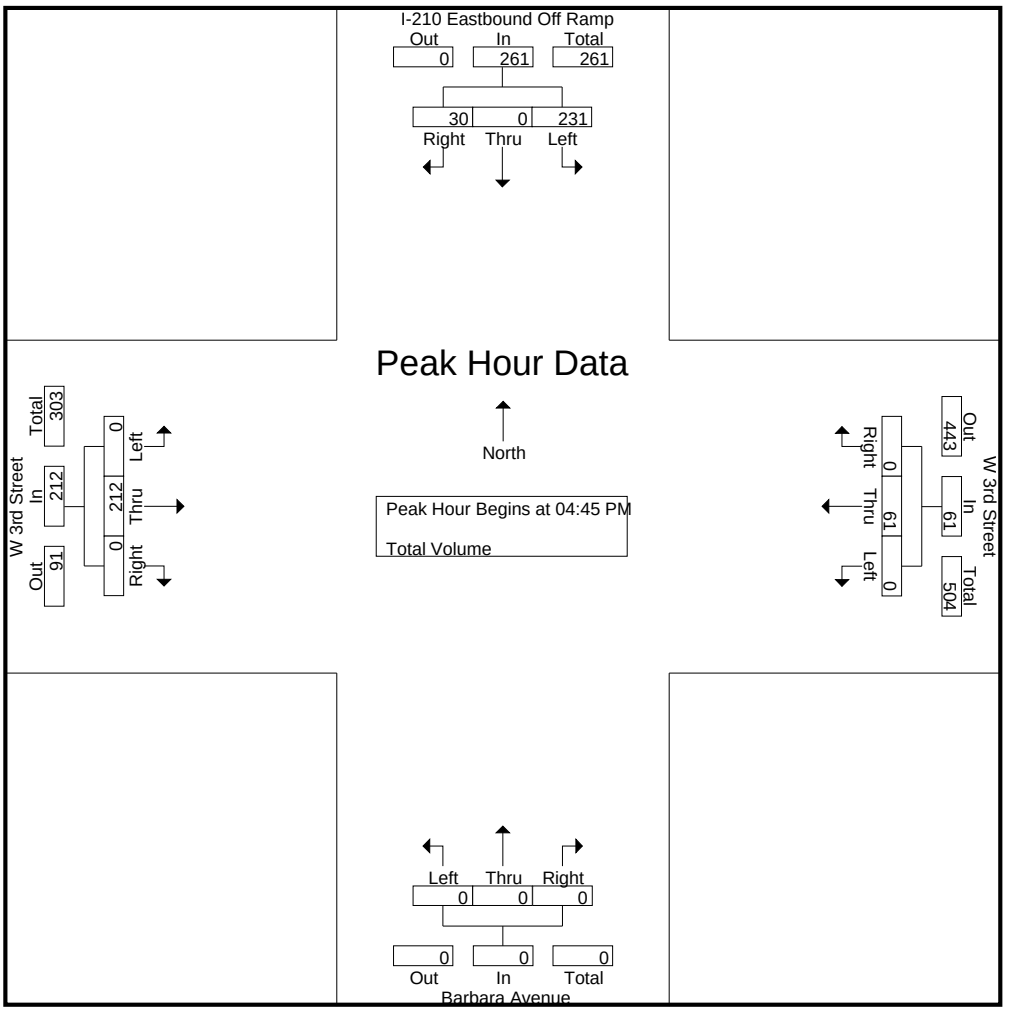
	I-210 Eastbound Off Ramp Southbound				W 3rd Street Westbound				Barbara Avenue Northbound				W 3rd Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	71	0	10	81	0	12	0	12	0	0	0	0	0	43	0	43	136
04:15 PM	62	0	3	65	0	15	0	15	0	0	0	0	0	46	0	46	126
04:30 PM	46	0	10	56	0	11	0	11	0	0	0	0	0	50	0	50	117
04:45 PM	53	0	9	62	0	15	0	15	0	0	0	0	0	58	0	58	135
Total	232	0	32	264	0	53	0	53	0	0	0	0	0	197	0	197	514
05:00 PM	53	0	6	59	0	18	0	18	0	0	0	0	0	52	0	52	129
05:15 PM	60	0	13	73	0	15	0	15	0	0	0	0	0	58	0	58	146
05:30 PM	65	0	2	67	0	13	0	13	0	0	0	0	0	44	0	44	124
05:45 PM	55	0	7	62	0	16	0	16	0	0	0	0	0	55	0	55	133
Total	233	0	28	261	0	62	0	62	0	0	0	0	0	209	0	209	532
Grand Total	465	0	60	525	0	115	0	115	0	0	0	0	0	406	0	406	1046
Apprch %	88.6	0	11.4		0	100	0		0	0	0		0	100	0		
Total %	44.5	0	5.7	50.2	0	11	0	11	0	0	0	0	0	38.8	0	38.8	

	I-210 Eastbound Off Ramp Southbound				W 3rd Street Westbound				Barbara Avenue Northbound				W 3rd Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. 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	53	0	9	62	0	15	0	15	0	0	0	0	0	**58**	0	**58**	135
05:00 PM	53	0	6	59	0	**18**	0	**18**	0	0	0	0	0	52	0	52	129
05:15 PM	60	0	**13**	**73**	0	15	0	15	0	0	0	0	0	58	0	58	**146**
05:30 PM	**65**	0	2	67	0	13	0	13	0	0	0	0	0	44	0	44	124
Total Volume	231	0	30	261	0	61	0	61	0	0	0	0	0	212	0	212	534
% App. Total	88.5	0	11.5		0	100	0		0	0	0		0	100	0		
PHF	.888	.000	.577	.894	.000	.847	.000	.847	.000	.000	.000	.000	.000	.914	.000	.914	.914

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City of Azusa
N/S: I-210 EB Off Ramp/Barbara Avenue
E/W: W 3rd Street
Weather: Clear

File Name : 19_AZU_210E Off_3rd PM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 2



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

	04:00 PM				05:00 PM				04:00 PM				04:30 PM			
+0 mins.	**71**	0	**10**	**81**	0	**18**	0	**18**	0	0	0	0	0	50	0	50
+15 mins.	62	0	3	65	0	15	0	15	0	0	0	0	0	**58**	0	**58**
+30 mins.	46	0	10	56	0	13	0	13	0	0	0	0	0	52	0	52
+45 mins.	53	0	9	62	0	16	0	16	0	0	0	0	0	58	0	58
Total Volume	232	0	32	264	0	62	0	62	0	0	0	0	0	218	0	218
% App. Total	87.9	0	12.1		0	100	0		0	0	0		0	100	0	
PHF	.817	.000	.800	.815	.000	.861	.000	.861	.000	.000	.000	.000	.000	.940	.000	.940

Location: Irwindale
N/S: I-210 EB Off Ramp/Barbara Ave
E/W: W 3rd Street

Date: 5/22/2024
Day: Wednesday

PEDESTRIANS

	North Leg I-210 EB Off Ramp	East Leg W 3rd Street	South Leg Barbara Avenue	West Leg W 3rd Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	1	0	0	1
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	1	0	0	2	3
8:30 AM	0	1	1	0	2
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	1	2	1	2	6

	North Leg I-210 EB Off Ramp	East Leg W 3rd Street	South Leg Barbara Avenue	West Leg W 3rd Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	1	0	0	1
4:15 PM	0	1	0	0	1
4:30 PM	3	0	0	3	6
4:45 PM	0	0	0	0	0
5:00 PM	0	1	1	0	2
5:15 PM	0	0	0	1	1
5:30 PM	0	1	1	0	2
5:45 PM	1	0	0	0	1
TOTAL VOLUMES:	4	4	2	4	14

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Location: Irwindale
N/S: I-210 EB Off Ramp/Barbara Ave
E/W: W 3rd Street

Date: 5/22/2024
Day: Wednesday

BICYCLES

	Southbound I-210 EB Off Ramp			Westbound W 3rd Street			Northbound Barbara Avenue			Eastbound W 3rd Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	2	0	0	0	0	0	0	0	0	0	0	2

	Southbound I-210 EB Off Ramp			Westbound W 3rd Street			Northbound Barbara Avenue			Eastbound W 3rd Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
5:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	3	0	0	0	0	0	3	0	0	0	0	6

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City of Azusa
N/S: Vernon Avenue/Lark Ellen Avenue
E/W: W Gladstone Street
Weather: Clear

File Name : 20_AZU_Ver_Glad AM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

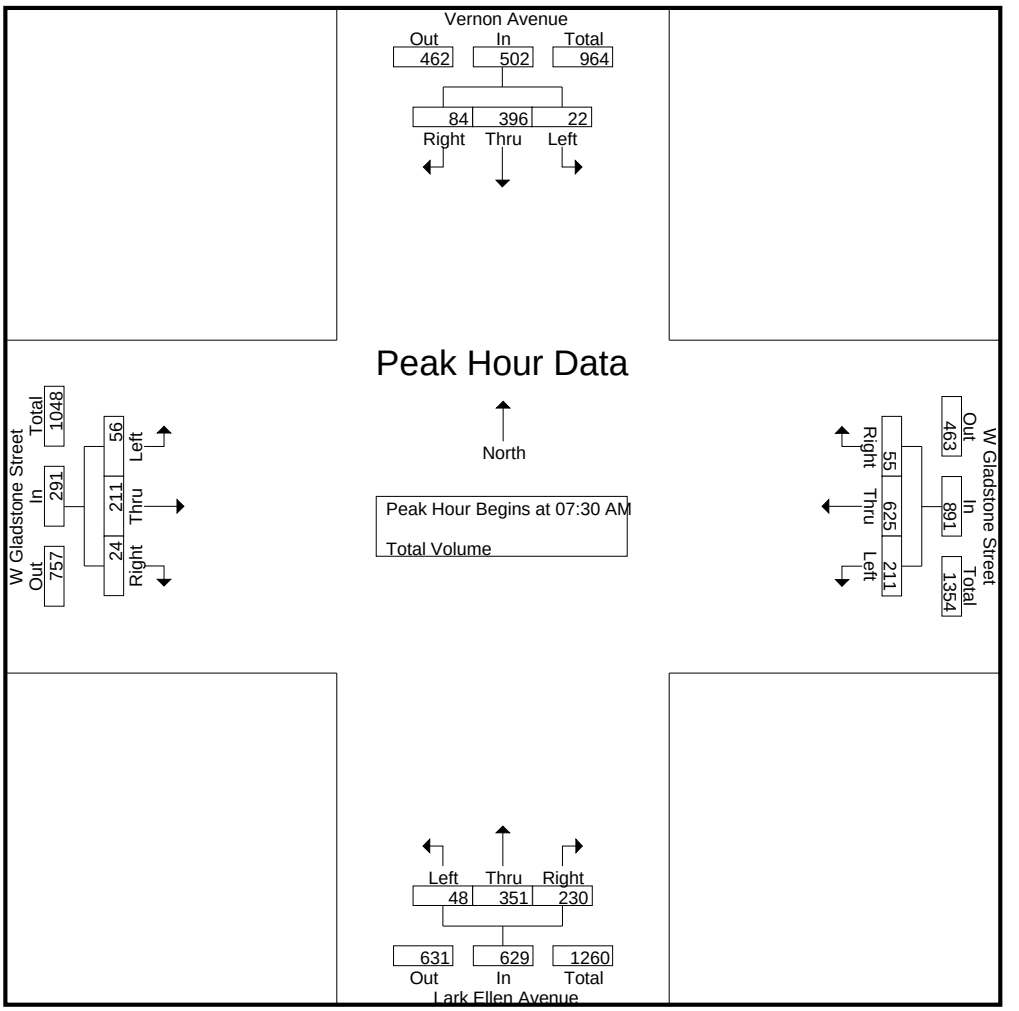
	Vernon Avenue Southbound				W Gladstone Street Westbound				Lark Ellen Avenue Northbound				W Gladstone Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	6	49	27	82	24	203	15	242	23	96	12	131	10	30	7	47	502
07:15 AM	5	66	16	87	31	226	21	278	12	67	19	98	14	28	4	46	509
07:30 AM	5	119	25	149	51	168	16	235	12	70	29	111	15	47	7	69	564
07:45 AM	4	120	14	138	63	203	12	278	15	103	73	191	15	51	10	76	683
Total	20	354	82	456	169	800	64	1033	62	336	133	531	54	156	28	238	2258
08:00 AM	5	71	17	93	48	108	13	169	17	89	84	190	15	62	3	80	532
08:15 AM	8	86	28	122	49	146	14	209	4	89	44	137	11	51	4	66	534
08:30 AM	6	66	22	94	18	111	13	142	8	73	27	108	21	48	2	71	415
08:45 AM	10	48	12	70	18	78	9	105	11	63	23	97	13	36	2	51	323
Total	29	271	79	379	133	443	49	625	40	314	178	532	60	197	11	268	1804
Grand Total	49	625	161	835	302	1243	113	1658	102	650	311	1063	114	353	39	506	4062
Apprch %	5.9	74.9	19.3		18.2	75	6.8		9.6	61.1	29.3		22.5	69.8	7.7		
Total %	1.2	15.4	4	20.6	7.4	30.6	2.8	40.8	2.5	16	7.7	26.2	2.8	8.7	1	12.5	

	Vernon Avenue Southbound				W Gladstone Street Westbound				Lark Ellen Avenue Northbound				W Gladstone Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. 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	5	119	25	**149**	51	168	**16**	235	12	70	29	111	**15**	47	7	69	564
07:45 AM	4	**120**	14	138	**63**	**203**	12	**278**	15	**103**	73	**191**	15	51	**10**	76	**683**
08:00 AM	5	71	17	93	48	108	13	169	**17**	89	**84**	190	15	**62**	3	**80**	532
08:15 AM	**8**	86	**28**	122	49	146	14	209	4	89	44	137	11	51	4	66	534
Total Volume	22	396	84	502	211	625	55	891	48	351	230	629	56	211	24	291	2313
% App. Total	4.4	78.9	16.7		23.7	70.1	6.2		7.6	55.8	36.6		19.2	72.5	8.2		
PHF	.688	.825	.750	.842	.837	.770	.859	.801	.706	.852	.685	.823	.933	.851	.600	.909	.847

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City of Azusa
N/S: Vernon Avenue/Lark Ellen Avenue
E/W: W Gladstone Street
Weather: Clear

File Name : 20_AZU_Ver_Glad AM
Site Code : 05724506
Start Date : 5/22/2024
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				07:45 AM			
+0 mins.	5	119	25	**149**	24	203	15	242	12	70	29	111	15	51	**10**	76
+15 mins.	4	**120**	14	138	31	**226**	**21**	**278**	15	**103**	73	**191**	15	**62**	3	**80**
+30 mins.	5	71	17	93	51	168	16	235	**17**	89	**84**	190	11	51	4	66
+45 mins.	**8**	86	**28**	122	**63**	203	12	278	4	89	44	137	**21**	48	2	71
Total Volume	22	396	84	502	169	800	64	1033	48	351	230	629	62	212	19	293
% App. Total	4.4	78.9	16.7		16.4	77.4	6.2		7.6	55.8	36.6		21.2	72.4	6.5	
PHF	.688	.825	.750	.842	.671	.885	.762	.929	.706	.852	.685	.823	.738	.855	.475	.916

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City of Azusa
N/S: Vernon Avenue/Lark Ellen Avenue
E/W: W Gladstone Street
Weather: Clear

File Name : 20_AZU_Ver_Glad PM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

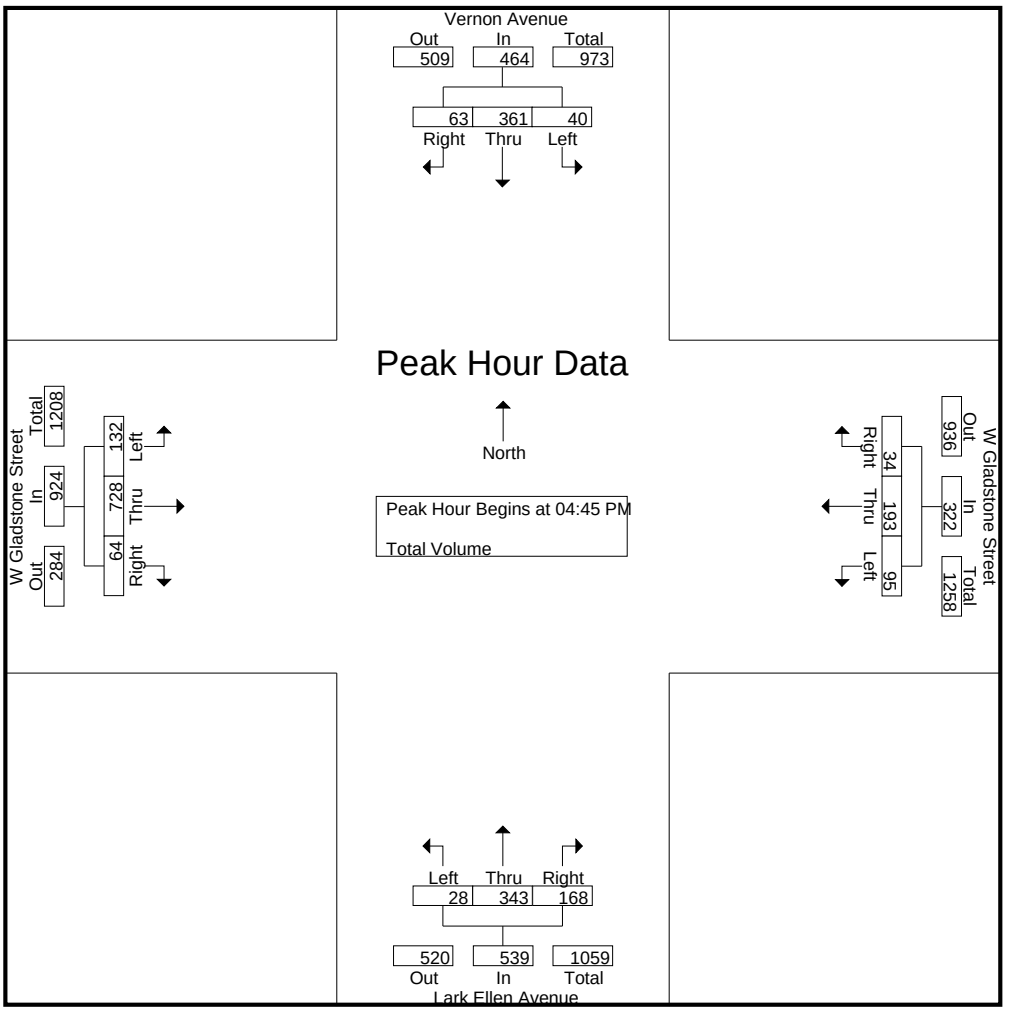
	Vernon Avenue Southbound				W Gladstone Street Westbound				Lark Ellen Avenue Northbound				W Gladstone Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	5	86	14	105	25	47	6	78	5	75	37	117	28	177	11	216	516
04:15 PM	14	84	13	111	19	60	8	87	5	63	36	104	36	160	15	211	513
04:30 PM	8	73	7	88	18	48	7	73	6	59	29	94	29	171	21	221	476
04:45 PM	6	92	22	120	20	45	7	72	10	88	44	142	27	178	14	219	553
Total	33	335	56	424	82	200	28	310	26	285	146	457	120	686	61	867	2058
05:00 PM	12	87	13	112	28	51	8	87	11	89	41	141	33	221	24	278	618
05:15 PM	15	83	11	109	25	44	8	77	4	76	37	117	39	167	14	220	523
05:30 PM	7	99	17	123	22	53	11	86	3	90	46	139	33	162	12	207	555
05:45 PM	6	91	15	112	18	44	12	74	11	90	44	145	20	138	11	169	500
Total	40	360	56	456	93	192	39	324	29	345	168	542	125	688	61	874	2196
Grand Total	73	695	112	880	175	392	67	634	55	630	314	999	245	1374	122	1741	4254
Apprch %	8.3	79	12.7		27.6	61.8	10.6		5.5	63.1	31.4		14.1	78.9	7		
Total %	1.7	16.3	2.6	20.7	4.1	9.2	1.6	14.9	1.3	14.8	7.4	23.5	5.8	32.3	2.9	40.9	

	Vernon Avenue Southbound				W Gladstone Street Westbound				Lark Ellen Avenue Northbound				W Gladstone Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. 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	92	**22**	120	20	45	7	72	10	88	44	**142**	27	178	14	219	553
05:00 PM	12	87	13	112	**28**	51	8	**87**	**11**	89	41	141	33	**221**	**24**	**278**	**618**
05:15 PM	**15**	83	11	109	25	44	8	77	4	76	37	117	**39**	167	14	220	523
05:30 PM	7	**99**	17	**123**	22	**53**	**11**	86	3	**90**	**46**	139	33	162	12	207	555
Total Volume	40	361	63	464	95	193	34	322	28	343	168	539	132	728	64	924	2249
% App. Total	8.6	77.8	13.6		29.5	59.9	10.6		5.2	63.6	31.2		14.3	78.8	6.9		
PHF	.667	.912	.716	.943	.848	.910	.773	.925	.636	.953	.913	.949	.846	.824	.667	.831	.910

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City of Azusa
N/S: Vernon Avenue/Lark Ellen Avenue
E/W: W Gladstone Street
Weather: Clear

File Name : 20_AZU_Ver_Glad PM
Site Code : 05724506
Start Date : 5/22/2024
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:

	04:45 PM				05:00 PM				05:00 PM				04:30 PM			
+0 mins.	6	92	**22**	120	**28**	51	8	**87**	**11**	89	41	141	29	171	21	221
+15 mins.	12	87	13	112	25	44	8	77	4	76	37	117	27	178	14	219
+30 mins.	**15**	83	11	109	22	**53**	11	86	3	**90**	**46**	139	33	**221**	**24**	**278**
+45 mins.	7	**99**	17	**123**	18	44	**12**	74	11	90	44	**145**	**39**	167	14	220
Total Volume	40	361	63	464	93	192	39	324	29	345	168	542	128	737	73	938
% App. Total	8.6	77.8	13.6		28.7	59.3	12		5.4	63.7	31		13.6	78.6	7.8	
PHF	.667	.912	.716	.943	.830	.906	.813	.931	.659	.958	.913	.934	.821	.834	.760	.844

Location: Irwindale
N/S: Vernon Ave/Lark Ellen Ave
E/W: W Gladstone Street

Date: 5/22/2024
Day: Wednesday

PEDESTRIANS

	North Leg Vernon Avenue	East Leg W Gladstone Street	South Leg Lark Ellen Avenue	West Leg W Gladstone Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	1	1	1	1	4
7:15 AM	0	1	0	0	1
7:30 AM	0	1	4	0	5
7:45 AM	1	1	3	3	8
8:00 AM	1	0	0	1	2
8:15 AM	2	0	0	0	2
8:30 AM	1	0	0	3	4
8:45 AM	2	0	0	0	2
TOTAL VOLUMES:	8	4	8	8	28

	North Leg Vernon Avenue	East Leg W Gladstone Street	South Leg Lark Ellen Avenue	West Leg W Gladstone Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	1	0	0	1	2
4:15 PM	1	1	1	1	4
4:30 PM	0	1	3	2	6
4:45 PM	2	2	1	0	5
5:00 PM	5	4	2	3	14
5:15 PM	0	0	2	3	5
5:30 PM	4	1	1	2	8
5:45 PM	8	5	2	1	16
TOTAL VOLUMES:	21	14	12	13	60

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Location: Irwindale
N/S: Vernon Ave/Lark Ellen Ave
E/W: W Gladstone Street

Date: 5/22/2024
Day: Wednesday

BICYCLES

	Southbound Vernon Avenue			Westbound W Gladstone Street			Northbound Lark Ellen Avenue			Eastbound W Gladstone Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	2	0	0	0	0	1	0	0	0	0	0	3

	Southbound Vernon Avenue			Westbound W Gladstone Street			Northbound Lark Ellen Avenue			Eastbound W Gladstone Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	2	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	1	0	1	1	0	0	2	1	0	0	0	6

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City of Azusa
N/S: Alameda Ave/I-210 Westbound Ramps
E/W: E 1st Street
Weather: Clear

File Name : 21_AZU_210W_1st AM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

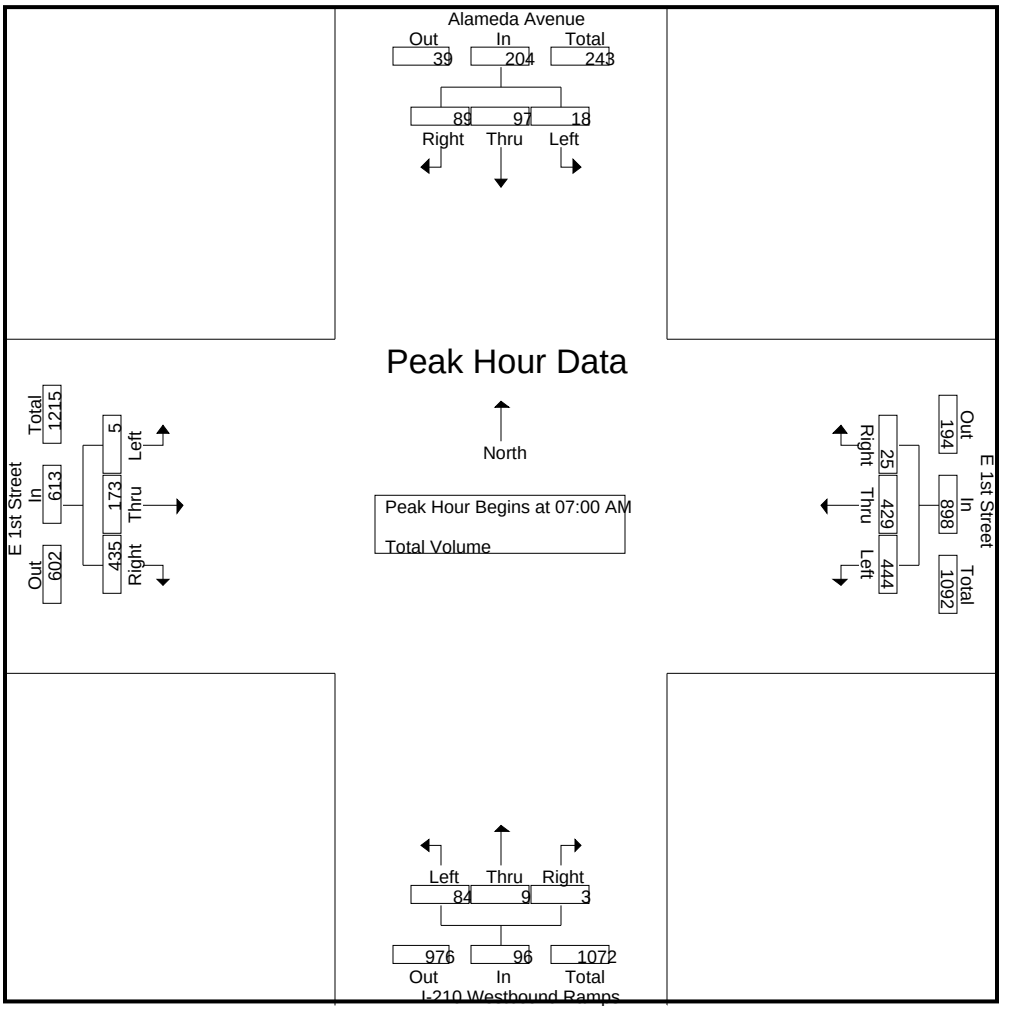
	Alameda Avenue Southbound				E 1st Street Westbound				I-210 Westbound Ramps Northbound				E 1st Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	4	24	17	45	124	89	8	221	24	0	2	26	1	22	112	135	427
07:15 AM	5	30	18	53	127	110	5	242	14	0	0	14	0	44	95	139	448
07:30 AM	5	30	30	65	106	119	9	234	26	6	1	33	0	38	120	158	490
07:45 AM	4	13	24	41	87	111	3	201	20	3	0	23	4	69	108	181	446
Total	18	97	89	204	444	429	25	898	84	9	3	96	5	173	435	613	1811
08:00 AM	7	18	17	42	66	109	3	178	30	3	8	41	6	85	53	144	405
08:15 AM	8	7	23	38	58	107	8	173	43	5	2	50	5	114	67	186	447
08:30 AM	5	10	14	29	77	95	13	185	27	11	3	41	2	51	49	102	357
08:45 AM	7	9	5	21	62	54	5	121	43	11	3	57	2	42	63	107	306
Total	27	44	59	130	263	365	29	657	143	30	16	189	15	292	232	539	1515
Grand Total	45	141	148	334	707	794	54	1555	227	39	19	285	20	465	667	1152	3326
Apprch %	13.5	42.2	44.3		45.5	51.1	3.5		79.6	13.7	6.7		1.7	40.4	57.9		
Total %	1.4	4.2	4.4	10	21.3	23.9	1.6	46.8	6.8	1.2	0.6	8.6	0.6	14	20.1	34.6	

	Alameda Avenue Southbound				E 1st Street Westbound				I-210 Westbound Ramps Northbound				E 1st Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. 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	4	24	17	45	124	89	8	221	24	0	**2**	26	1	22	112	135	427
07:15 AM	**5**	**30**	18	53	**127**	110	5	**242**	14	0	0	14	0	44	95	139	448
07:30 AM	5	30	**30**	**65**	106	**119**	**9**	234	**26**	**6**	1	**33**	0	38	**120**	158	**490**
07:45 AM	4	13	24	41	87	111	3	201	20	3	0	23	**4**	**69**	108	**181**	446
Total Volume	18	97	89	204	444	429	25	898	84	9	3	96	5	173	435	613	1811
% App. Total	8.8	47.5	43.6		49.4	47.8	2.8		87.5	9.4	3.1		0.8	28.2	71		
PHF	.900	.808	.742	.785	.874	.901	.694	.928	.808	.375	.375	.727	.313	.627	.906	.847	.924

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City of Azusa
N/S: Alameda Ave/I-210 Westbound Ramps
E/W: E 1st Street
Weather: Clear

File Name : 21_AZU_210W_1st AM
Site Code : 05724506
Start Date : 5/22/2024
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				08:00 AM				07:30 AM			
+0 mins.	4	24	17	45	124	89	8	221	30	3	**8**	41	0	38	**120**	158
+15 mins.	**5**	**30**	18	53	**127**	110	5	**242**	**43**	5	2	50	4	69	108	181
+30 mins.	5	30	**30**	**65**	106	**119**	**9**	234	27	**11**	3	41	**6**	85	53	144
+45 mins.	4	13	24	41	87	111	3	201	43	11	3	**57**	5	**114**	67	**186**
Total Volume	18	97	89	204	444	429	25	898	143	30	16	189	15	306	348	669
% App. Total	8.8	47.5	43.6		49.4	47.8	2.8		75.7	15.9	8.5		2.2	45.7	52	
PHF	.900	.808	.742	.785	.874	.901	.694	.928	.831	.682	.500	.829	.625	.671	.725	.899

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City of Azusa
N/S: Alameda Ave/I-210 Westbound Ramps
E/W: E 1st Street
Weather: Clear

File Name : 21_AZU_210W_1st PM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

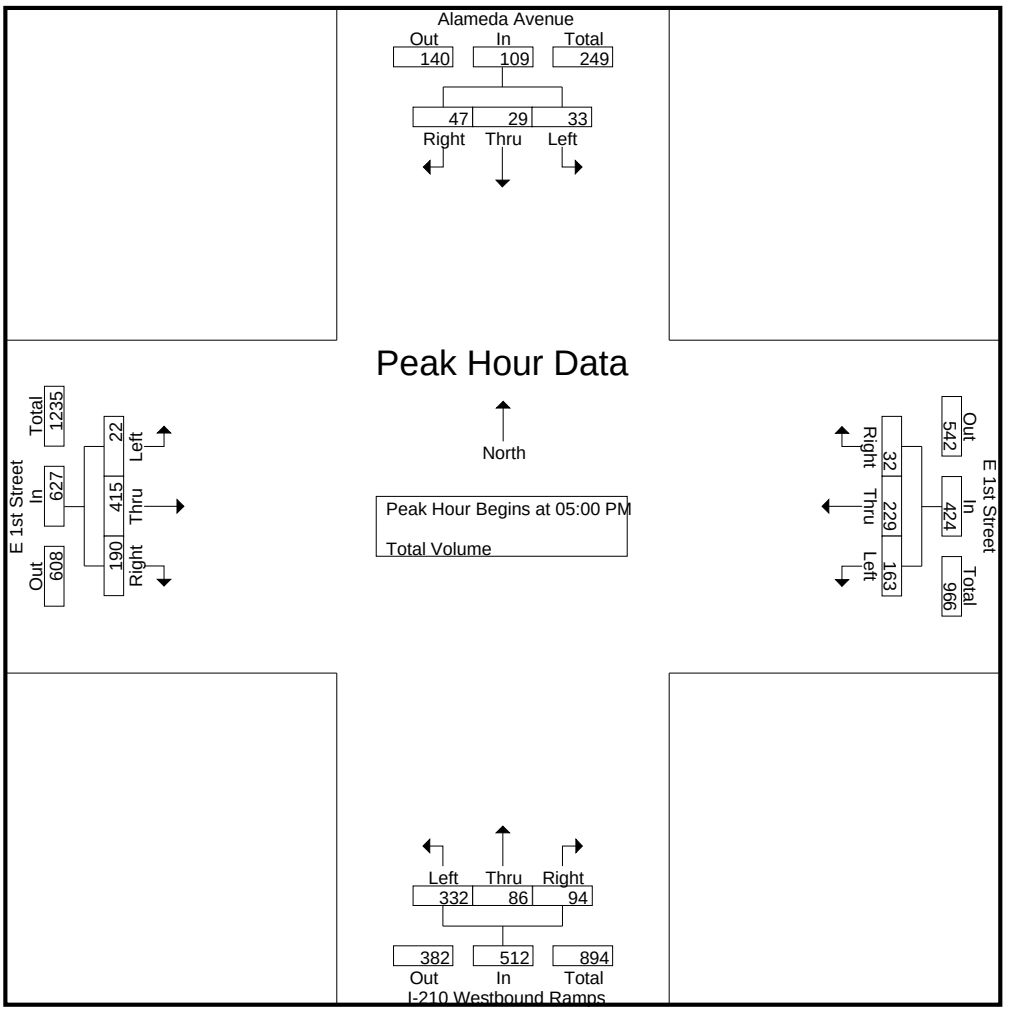
	Alameda Avenue Southbound				E 1st Street Westbound				I-210 Westbound Ramps Northbound				E 1st Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	6	6	10	22	39	56	5	100	85	12	18	115	10	84	40	134	371
04:15 PM	6	3	11	20	32	52	4	88	78	16	23	117	9	67	47	123	348
04:30 PM	13	3	11	27	45	54	10	109	83	11	16	110	5	67	51	123	369
04:45 PM	4	13	7	24	45	51	5	101	81	22	28	131	1	92	49	142	398
Total	29	25	39	93	161	213	24	398	327	61	85	473	25	310	187	522	1486
05:00 PM	4	9	17	30	43	64	8	115	76	20	24	120	9	99	49	157	422
05:15 PM	10	11	13	34	36	55	11	102	90	20	23	133	2	96	48	146	415
05:30 PM	8	5	10	23	40	51	4	95	88	23	24	135	4	119	41	164	417
05:45 PM	11	4	7	22	44	59	9	112	78	23	23	124	7	101	52	160	418
Total	33	29	47	109	163	229	32	424	332	86	94	512	22	415	190	627	1672
Grand Total	62	54	86	202	324	442	56	822	659	147	179	985	47	725	377	1149	3158
Apprch %	30.7	26.7	42.6		39.4	53.8	6.8		66.9	14.9	18.2		4.1	63.1	32.8		
Total %	2	1.7	2.7	6.4	10.3	14	1.8	26	20.9	4.7	5.7	31.2	1.5	23	11.9	36.4	

	Alameda Avenue Southbound				E 1st Street Westbound				I-210 Westbound Ramps Northbound				E 1st Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. 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	4	9	**17**	30	43	**64**	8	**115**	76	20	**24**	120	**9**	99	49	157	**422**
05:15 PM	10	**11**	13	**34**	36	55	**11**	102	**90**	20	23	133	2	96	48	146	415
05:30 PM	8	5	10	23	40	51	4	95	88	**23**	24	**135**	4	**119**	41	**164**	417
05:45 PM	**11**	4	7	22	**44**	59	9	112	78	23	23	124	7	101	**52**	160	418
Total Volume	33	29	47	109	163	229	32	424	332	86	94	512	22	415	190	627	1672
% App. Total	30.3	26.6	43.1		38.4	54	7.5		64.8	16.8	18.4		3.5	66.2	30.3		
PHF	.750	.659	.691	.801	.926	.895	.727	.922	.922	.935	.979	.948	.611	.872	.913	.956	.991

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City of Azusa
N/S: Alameda Ave/I-210 Westbound Ramps
E/W: E 1st Street
Weather: Clear

File Name : 21_AZU_210W_1st PM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 2



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

	04:30 PM				04:30 PM				04:45 PM				05:00 PM			
+0 mins.	**13**	3	11	27	**45**	54	10	109	81	22	**28**	131	**9**	99	49	157
+15 mins.	4	**13**	7	24	45	51	5	101	76	20	24	120	2	96	48	146
+30 mins.	4	9	**17**	30	43	**64**	8	**115**	**90**	20	23	133	4	**119**	41	**164**
+45 mins.	10	11	13	**34**	36	55	**11**	102	88	**23**	24	**135**	7	101	**52**	160
Total Volume	31	36	48	115	169	224	34	427	335	85	99	519	22	415	190	627
% App. Total	27	31.3	41.7		39.6	52.5	8		64.5	16.4	19.1		3.5	66.2	30.3	
PHF	.596	.692	.706	.846	.939	.875	.773	.928	.931	.924	.884	.961	.611	.872	.913	.956

Location: Irwindale
N/S: Alameda Ave/I-210 WB Ramps
E/W: E 1st Street

Date: 5/22/2024
Day: Wednesday

PEDESTRIANS

	North Leg Alameda Avenue	East Leg E 1st Street	South Leg I-210 WB Ramps	West Leg E 1st Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	1	0	0	0	1
7:15 AM	5	0	0	0	5
7:30 AM	2	0	0	0	2
7:45 AM	7	0	0	0	7
8:00 AM	4	0	0	0	4
8:15 AM	1	0	0	0	1
8:30 AM	3	1	1	0	5
8:45 AM	3	0	0	0	3
TOTAL VOLUMES:	26	1	1	0	28

	North Leg Alameda Avenue	East Leg E 1st Street	South Leg I-210 WB Ramps	West Leg E 1st Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	4	0	2	0	6
4:15 PM	2	0	3	0	5
4:30 PM	0	0	3	0	3
4:45 PM	9	3	3	0	15
5:00 PM	3	0	0	0	3
5:15 PM	5	0	3	0	8
5:30 PM	2	0	2	0	4
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	25	3	16	0	44

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Location: Irwindale
N/S: Alameda Ave/I-210 WB Ramps
E/W: E 1st Street

Date: 5/22/2024
Day: Wednesday

BICYCLES

	Southbound Alameda Avenue			Westbound E 1st Street			Northbound I-210 WB Ramps			Eastbound E 1st Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	1	0	1

	Southbound Alameda Avenue			Westbound E 1st Street			Northbound I-210 WB Ramps			Eastbound E 1st Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

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City of Azusa
N/S: S Azusa Avenue
E/W: I-210 Eastbound Ramps
Weather: Clear

File Name : 22_AZU_AzAv_210E AM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

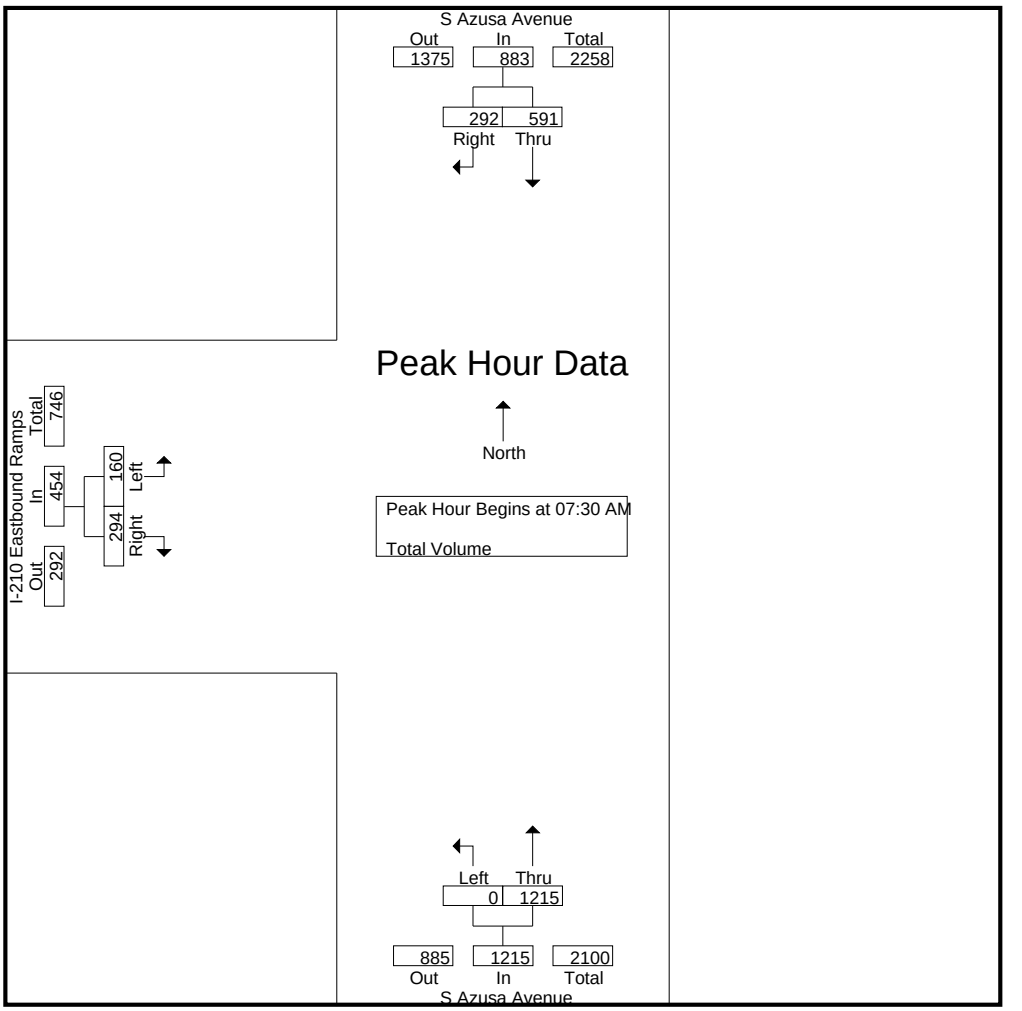
	S Azusa Avenue Southbound			S Azusa Avenue Northbound			I-210 Eastbound Ramps Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	75	65	140	0	258	258	32	49	81	479
07:15 AM	113	66	179	0	265	265	41	62	103	547
07:30 AM	136	86	222	0	330	330	36	69	105	657
07:45 AM	151	70	221	0	302	302	36	71	107	630
Total	475	287	762	0	1155	1155	145	251	396	2313
08:00 AM	163	71	234	0	303	303	48	69	117	654
08:15 AM	141	65	206	0	280	280	40	85	125	611
08:30 AM	110	48	158	0	171	171	41	66	107	436
08:45 AM	95	38	133	0	186	186	41	70	111	430
Total	509	222	731	0	940	940	170	290	460	2131
Grand Total	984	509	1493	0	2095	2095	315	541	856	4444
Apprch %	65.9	34.1		0	100		36.8	63.2		
Total %	22.1	11.5	33.6	0	47.1	47.1	7.1	12.2	19.3	

	S Azusa Avenue Southbound			S Azusa Avenue Northbound			I-210 Eastbound Ramps Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. 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	136	**86**	222	0	**330**	**330**	36	69	105	**657**
07:45 AM	151	70	221	0	302	302	36	71	107	630
08:00 AM	**163**	71	**234**	0	303	303	**48**	69	117	654
08:15 AM	141	65	206	0	280	280	40	**85**	**125**	611
Total Volume	591	292	883	0	1215	1215	160	294	454	2552
% App. Total	66.9	33.1		0	100		35.2	64.8		
PHF	.906	.849	.943	.000	.920	.920	.833	.865	.908	.971

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City of Azusa
N/S: S Azusa Avenue
E/W: I-210 Eastbound Ramps
Weather: Clear

File Name : 22_AZU_AzAv_210E AM
Site Code : 05724506
Start Date : 5/22/2024
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			07:30 AM			08:00 AM		
+0 mins.	136	**86**	222	0	**330**	**330**	**48**	69	117
+15 mins.	151	70	221	0	302	302	40	**85**	**125**
+30 mins.	**163**	71	**234**	0	303	303	41	66	107
+45 mins.	141	65	206	0	280	280	41	70	111
Total Volume	591	292	883	0	1215	1215	170	290	460
% App. Total	66.9	33.1		0	100		37	63	
PHF	.906	.849	.943	.000	.920	.920	.885	.853	.920

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City of Azusa
N/S: S Azusa Avenue
E/W: I-210 Eastbound Ramps
Weather: Clear

File Name : 22_AZU_AzAv_210E PM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

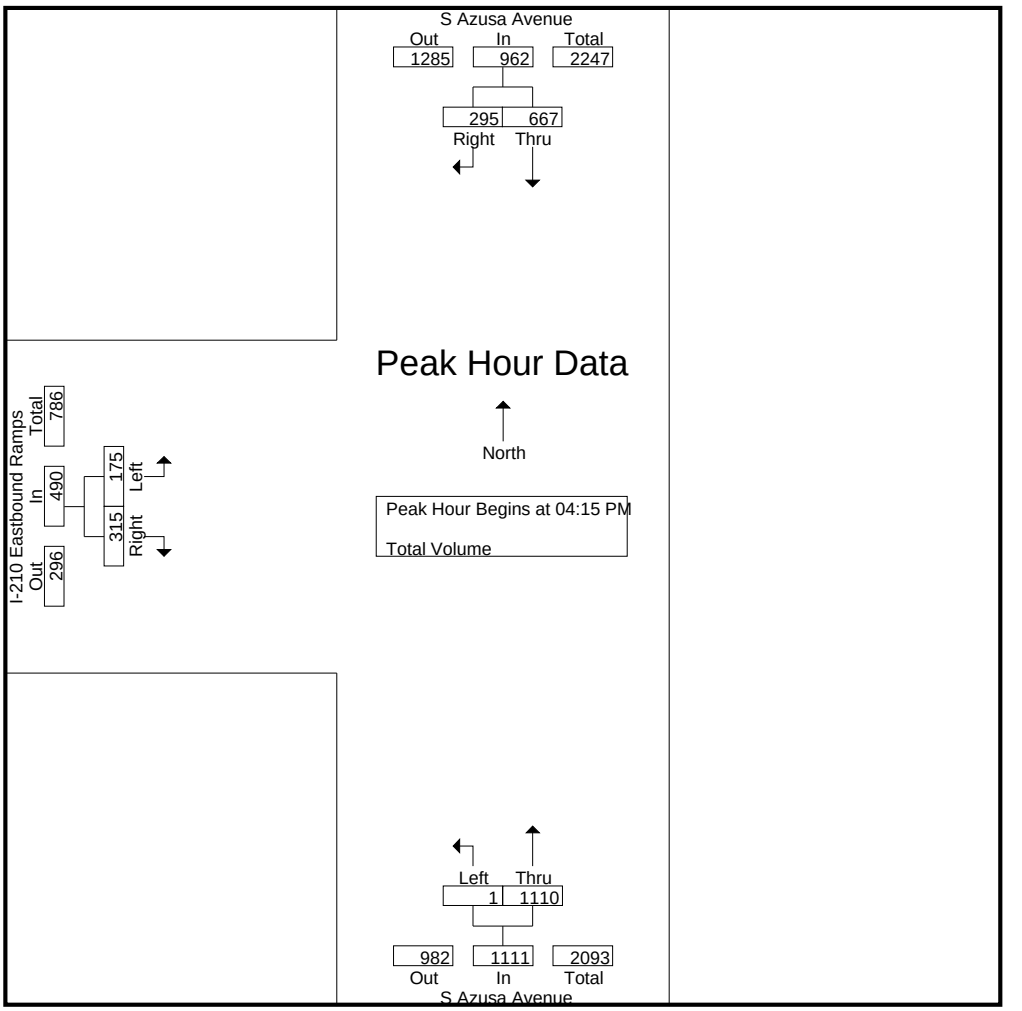
	S Azusa Avenue Southbound			S Azusa Avenue Northbound			I-210 Eastbound Ramps Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	179	56	235	0	258	258	53	86	139	632
04:15 PM	160	53	213	1	282	283	35	86	121	617
04:30 PM	178	69	247	0	281	281	40	72	112	640
04:45 PM	161	74	235	0	264	264	54	73	127	626
Total	678	252	930	1	1085	1086	182	317	499	2515
05:00 PM	168	99	267	0	283	283	46	84	130	680
05:15 PM	166	67	233	0	249	249	49	84	133	615
05:30 PM	152	63	215	0	250	250	71	75	146	611
05:45 PM	154	49	203	0	273	273	60	96	156	632
Total	640	278	918	0	1055	1055	226	339	565	2538
Grand Total	1318	530	1848	1	2140	2141	408	656	1064	5053
Apprch %	71.3	28.7		0	100		38.3	61.7		
Total %	26.1	10.5	36.6	0	42.4	42.4	8.1	13	21.1	

	S Azusa Avenue Southbound			S Azusa Avenue Northbound			I-210 Eastbound Ramps Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	160	53	213	**1**	282	**283**	35	**86**	121	617
04:30 PM	**178**	69	247	0	281	281	40	72	112	640
04:45 PM	161	74	235	0	264	264	**54**	73	127	626
05:00 PM	168	**99**	**267**	0	**283**	283	46	84	**130**	**680**
Total Volume	667	295	962	1	1110	1111	175	315	490	2563
% App. Total	69.3	30.7		0.1	99.9		35.7	64.3		
PHF	.937	.745	.901	.250	.981	.981	.810	.916	.942	.942

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City of Azusa
N/S: S Azusa Avenue
E/W: I-210 Eastbound Ramps
Weather: Clear

File Name : 22_AZU_AzAv_210E PM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 2



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

	04:30 PM			04:15 PM			05:00 PM		
+0 mins.	**178**	69	247	**1**	282	**283**	46	84	130
+15 mins.	161	74	235	0	281	281	49	84	133
+30 mins.	168	**99**	**267**	0	264	264	**71**	75	146
+45 mins.	166	67	233	0	**283**	283	60	**96**	**156**
Total Volume	673	309	982	1	1110	1111	226	339	565
% App. Total	68.5	31.5		0.1	99.9		40	60	
PHF	.945	.780	.919	.250	.981	.981	.796	.883	.905

Location: Irwindale
N/S: S Azusa Avenue
E/W: I-210 EB Ramps

Date: 5/22/2024
Day: Wednesday

PEDESTRIANS

	North Leg S Azusa Avenue	East Leg Dead End	South Leg S Azusa Avenue	West Leg I-210 EB Ramps	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	4	0	0	4
7:15 AM	0	3	0	1	4
7:30 AM	0	3	0	0	3
7:45 AM	0	4	0	1	5
8:00 AM	0	5	0	1	6
8:15 AM	0	5	0	0	5
8:30 AM	0	3	0	0	3
8:45 AM	0	2	0	0	2
TOTAL VOLUMES:	0	29	0	3	32

	North Leg S Azusa Avenue	East Leg Dead End	South Leg S Azusa Avenue	West Leg I-210 EB Ramps	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	9	0	1	10
4:15 PM	0	4	0	0	4
4:30 PM	0	3	0	1	4
4:45 PM	0	5	0	1	6
5:00 PM	0	3	0	0	3
5:15 PM	0	5	0	1	6
5:30 PM	0	6	0	0	6
5:45 PM	0	11	0	0	11
TOTAL VOLUMES:	0	46	0	4	50

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Location: Irwindale
N/S: S Azusa Avenue
E/W: I-210 EB Ramps

Date: 5/22/2024
Day: Wednesday

BICYCLES

	Southbound S Azusa Avenue			Westbound Dead End			Northbound S Azusa Avenue			Eastbound I-210 EB Ramps			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	2	0	0	0	0	0	0	0	0	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	2	0	0	0	0	0	1	0	0	0	0	3

	Southbound S Azusa Avenue			Westbound Dead End			Northbound S Azusa Avenue			Eastbound I-210 EB Ramps			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:45 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
5:15 PM	0	1	0	0	0	0	0	1	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	6	0	0	0	0	0	3	0	0	0	0	9

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City of Azusa
N/S: S Azusa Avenue
E/W: Gladstone Street
Weather: Clear

File Name : 23_AZU_AzAv_Glad AM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

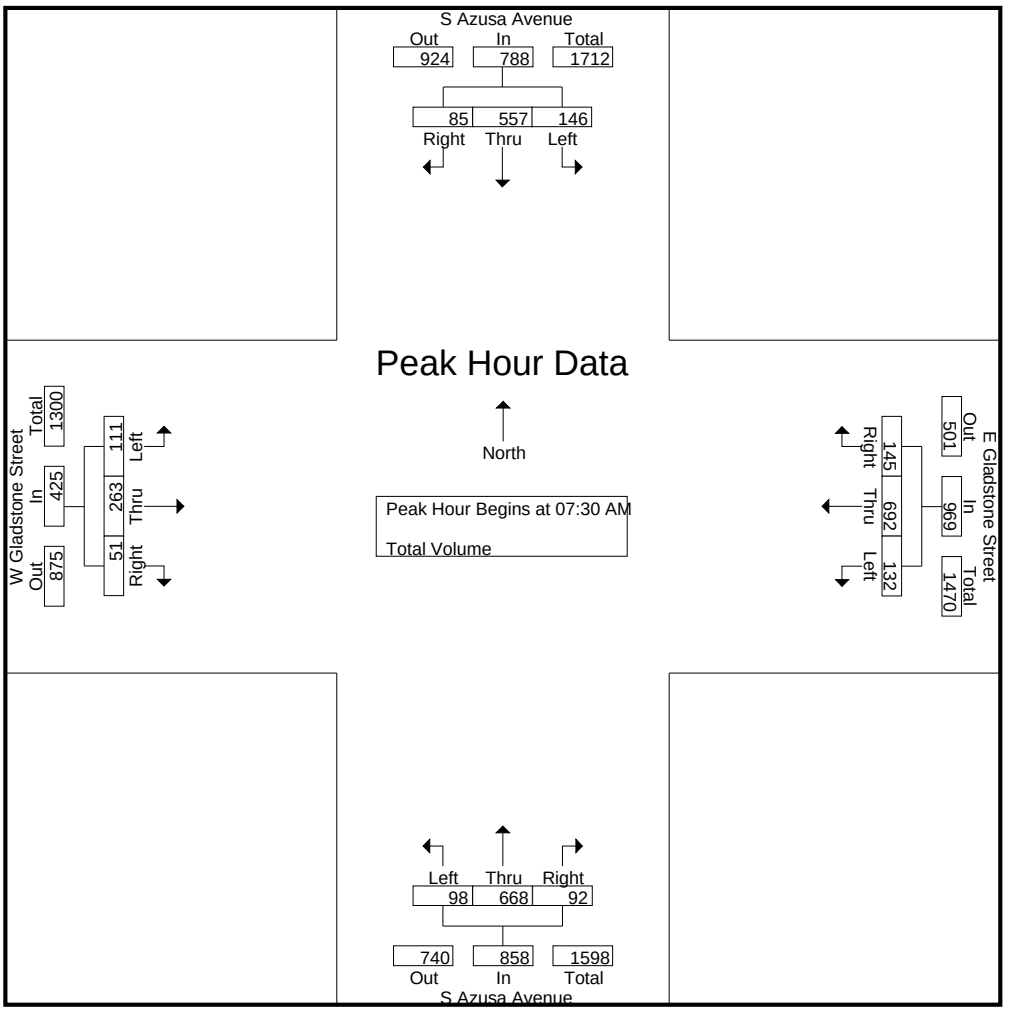
	S Azusa Avenue Southbound				E Gladstone Street Westbound				S Azusa Avenue Northbound				W Gladstone Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	11	87	12	110	14	212	31	257	25	144	8	177	19	30	8	57	601
07:15 AM	18	115	27	160	21	216	30	267	22	167	10	199	20	34	6	60	686
07:30 AM	21	115	19	155	42	200	52	294	22	184	14	220	27	47	3	77	746
07:45 AM	33	162	21	216	38	214	35	287	32	187	19	238	23	66	18	107	848
Total	83	479	79	641	115	842	148	1105	101	682	51	834	89	177	35	301	2881
08:00 AM	40	131	23	194	25	142	37	204	14	137	34	185	36	95	17	148	731
08:15 AM	52	149	22	223	27	136	21	184	30	160	25	215	25	55	13	93	715
08:30 AM	26	121	21	168	29	124	12	165	24	106	14	144	21	59	14	94	571
08:45 AM	30	120	9	159	21	84	16	121	12	118	21	151	14	54	11	79	510
Total	148	521	75	744	102	486	86	674	80	521	94	695	96	263	55	414	2527
Grand Total	231	1000	154	1385	217	1328	234	1779	181	1203	145	1529	185	440	90	715	5408
Apprch %	16.7	72.2	11.1		12.2	74.6	13.2		11.8	78.7	9.5		25.9	61.5	12.6		
Total %	4.3	18.5	2.8	25.6	4	24.6	4.3	32.9	3.3	22.2	2.7	28.3	3.4	8.1	1.7	13.2	

	S Azusa Avenue Southbound				E Gladstone Street Westbound				S Azusa Avenue Northbound				W Gladstone Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. 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	21	115	19	155	**42**	200	**52**	**294**	22	184	14	220	27	47	3	77	746
07:45 AM	33	**162**	21	216	38	**214**	35	287	**32**	**187**	19	**238**	23	66	**18**	107	**848**
08:00 AM	40	131	**23**	194	25	142	37	204	14	137	**34**	185	**36**	**95**	17	**148**	731
08:15 AM	**52**	149	22	**223**	27	136	21	184	30	160	25	215	25	55	13	93	715
Total Volume	146	557	85	788	132	692	145	969	98	668	92	858	111	263	51	425	3040
% App. Total	18.5	70.7	10.8		13.6	71.4	15		11.4	77.9	10.7		26.1	61.9	12		
PHF	.702	.860	.924	.883	.786	.808	.697	.824	.766	.893	.676	.901	.771	.692	.708	.718	.896

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City of Azusa
N/S: S Azusa Avenue
E/W: Gladstone Street
Weather: Clear

File Name : 23_AZU_AzAv_Glad AM
Site Code : 05724506
Start Date : 5/22/2024
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:

	07:45 AM				07:00 AM				07:30 AM				07:45 AM			
+0 mins.	33	**162**	21	216	14	212	31	257	22	184	14	220	23	66	**18**	107
+15 mins.	40	131	**23**	194	21	**216**	30	267	**32**	**187**	19	**238**	**36**	**95**	17	**148**
+30 mins.	**52**	149	22	**223**	**42**	200	**52**	**294**	14	137	**34**	185	25	55	13	93
+45 mins.	26	121	21	168	38	214	35	287	30	160	25	215	21	59	14	94
Total Volume	151	563	87	801	115	842	148	1105	98	668	92	858	105	275	62	442
% App. Total	18.9	70.3	10.9		10.4	76.2	13.4		11.4	77.9	10.7		23.8	62.2	14	
PHF	.726	.869	.946	.898	.685	.975	.712	.940	.766	.893	.676	.901	.729	.724	.861	.747

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City of Azusa
N/S: S Azusa Avenue
E/W: Gladstone Street
Weather: Clear

File Name : 23_AZU_AzAv_Glad PM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

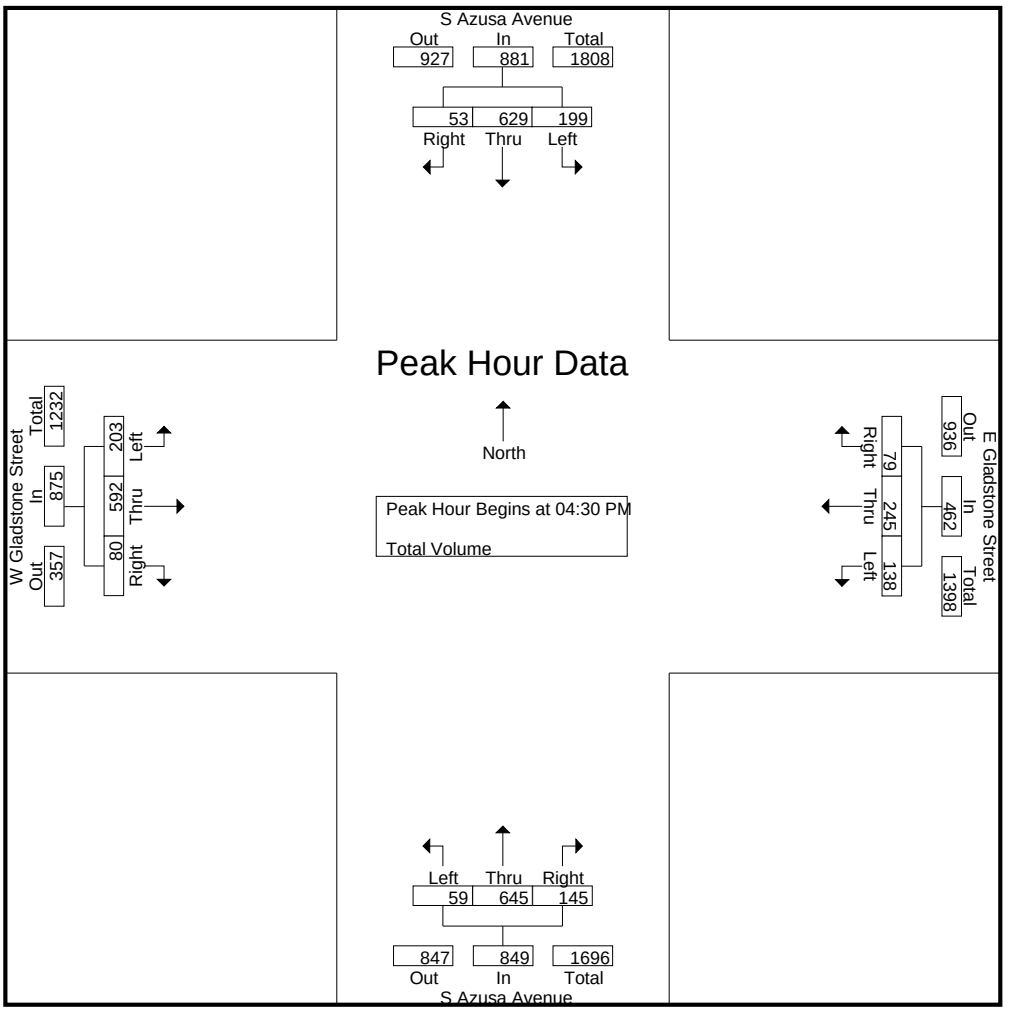
	S Azusa Avenue Southbound				E Gladstone Street Westbound				S Azusa Avenue Northbound				W Gladstone Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	50	157	11	218	42	73	16	131	16	155	17	188	54	135	24	213	750
04:15 PM	59	177	13	249	23	59	23	105	18	188	37	243	42	128	18	188	785
04:30 PM	53	142	14	209	30	65	21	116	16	145	30	191	43	150	25	218	734
04:45 PM	46	162	14	222	41	57	19	117	11	177	40	228	56	126	19	201	768
Total	208	638	52	898	136	254	79	469	61	665	124	850	195	539	86	820	3037
05:00 PM	55	136	13	204	42	63	16	121	17	147	35	199	60	167	21	248	772
05:15 PM	45	189	12	246	25	60	23	108	15	176	40	231	44	149	15	208	793
05:30 PM	59	137	10	206	28	79	23	130	18	143	32	193	41	137	24	202	731
05:45 PM	51	165	11	227	38	46	21	105	21	182	41	244	46	125	16	187	763
Total	210	627	46	883	133	248	83	464	71	648	148	867	191	578	76	845	3059
Grand Total	418	1265	98	1781	269	502	162	933	132	1313	272	1717	386	1117	162	1665	6096
Apprch %	23.5	71	5.5		28.8	53.8	17.4		7.7	76.5	15.8		23.2	67.1	9.7		
Total %	6.9	20.8	1.6	29.2	4.4	8.2	2.7	15.3	2.2	21.5	4.5	28.2	6.3	18.3	2.7	27.3	

	S Azusa Avenue Southbound				E Gladstone Street Westbound				S Azusa Avenue Northbound				W Gladstone Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. 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	53	142	**14**	209	30	**65**	21	116	16	145	30	191	43	150	**25**	218	734
04:45 PM	46	162	14	222	41	57	19	117	11	**177**	**40**	228	56	126	19	201	768
05:00 PM	**55**	136	13	204	**42**	63	16	**121**	**17**	147	35	199	**60**	**167**	21	**248**	772
05:15 PM	45	**189**	12	**246**	25	60	**23**	108	15	176	40	**231**	44	149	15	208	**793**
Total Volume	199	629	53	881	138	245	79	462	59	645	145	849	203	592	80	875	3067
% App. Total	22.6	71.4	6		29.9	53	17.1		6.9	76	17.1		23.2	67.7	9.1		
PHF	.905	.832	.946	.895	.821	.942	.859	.955	.868	.911	.906	.919	.846	.886	.800	.882	.967

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City of Azusa
N/S: S Azusa Avenue
E/W: Gladstone Street
Weather: Clear

File Name : 23_AZU_AzAv_Glad PM
Site Code : 05724506
Start Date : 5/22/2024
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				04:45 PM				05:00 PM				04:30 PM			
+0 mins.	50	157	11	218	41	57	19	117	17	147	35	199	43	150	**25**	218
+15 mins.	**59**	**177**	13	**249**	**42**	63	16	121	15	176	40	231	56	126	19	201
+30 mins.	53	142	**14**	209	25	60	**23**	108	18	143	32	193	**60**	**167**	21	**248**
+45 mins.	46	162	14	222	28	**79**	23	**130**	**21**	**182**	**41**	**244**	44	149	15	208
Total Volume	208	638	52	898	136	259	81	476	71	648	148	867	203	592	80	875
% App. Total	23.2	71	5.8		28.6	54.4	17		8.2	74.7	17.1		23.2	67.7	9.1	
PHF	.881	.901	.929	.902	.810	.820	.880	.915	.845	.890	.902	.888	.846	.886	.800	.882

Location: Irwindale
N/S: S Azusa Avenue
E/W: Gladstone Street

Date: 5/22/2024
Day: Wednesday

PEDESTRIANS

	North Leg S Azusa Avenue	East Leg Gladstone Street	South Leg S Azusa Avenue	West Leg Gladstone Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	5	3	0	8
7:15 AM	5	2	2	2	11
7:30 AM	1	1	2	0	4
7:45 AM	0	1	4	3	8
8:00 AM	1	0	2	3	6
8:15 AM	0	3	2	2	7
8:30 AM	0	1	1	2	4
8:45 AM	2	1	3	5	11
TOTAL VOLUMES:	9	14	19	17	59

	North Leg S Azusa Avenue	East Leg Gladstone Street	South Leg S Azusa Avenue	West Leg Gladstone Street	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	6	4	2	3	15
4:15 PM	4	1	1	10	16
4:30 PM	3	7	0	2	12
4:45 PM	4	2	7	1	14
5:00 PM	1	6	2	1	10
5:15 PM	8	3	1	7	19
5:30 PM	4	1	2	2	9
5:45 PM	4	2	2	6	14
TOTAL VOLUMES:	34	26	17	32	109

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Location: Irwindale
N/S: S Azusa Avenue
E/W: Gladstone Street

Date: 5/22/2024
Day: Wednesday

BICYCLES

	Southbound S Azusa Avenue			Westbound Gladstone Street			Northbound S Azusa Avenue			Eastbound Gladstone Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	1	1	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	1	1	0	2

	Southbound S Azusa Avenue			Westbound Gladstone Street			Northbound S Azusa Avenue			Eastbound Gladstone Street			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	1	1	0	2
4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	2	0	0	2
5:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	3	0	0	0	0	0	0	0	3	1	0	7

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City of Covina
N/S: S Azusa Avenue
E/W: Arrow Highway
Weather: Clear

File Name : 24_CVA_AzAv_Arrow AM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

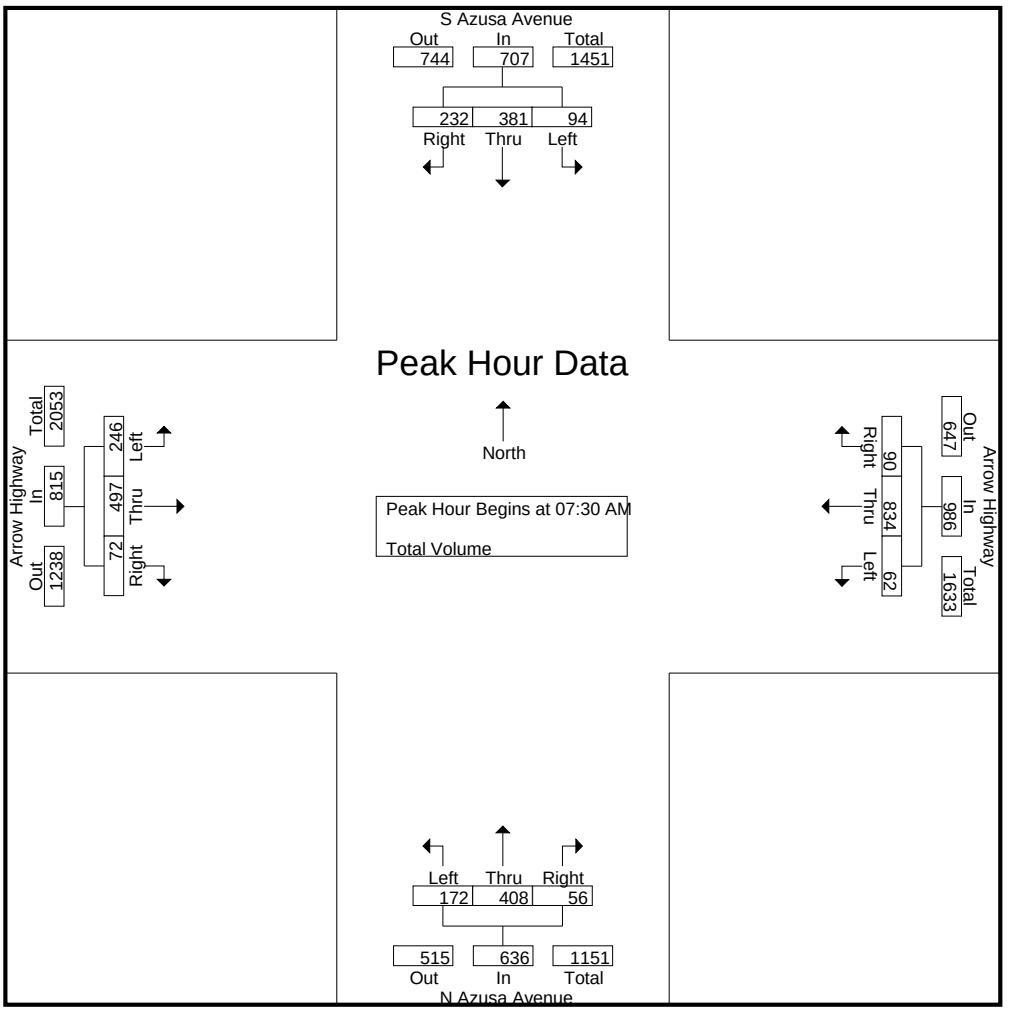
	S Azusa Avenue Southbound				Arrow Highway Westbound				N Azusa Avenue Northbound				Arrow Highway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	29	61	34	124	11	200	39	250	51	71	10	132	30	65	12	107	613
07:15 AM	15	78	38	131	13	241	28	282	42	91	14	147	37	74	19	130	690
07:30 AM	18	84	73	175	10	268	30	308	43	104	12	159	58	102	14	174	816
07:45 AM	26	85	79	190	20	201	25	246	43	97	15	155	86	155	18	259	850
Total	88	308	224	620	54	910	122	1086	179	363	51	593	211	396	63	670	2969
08:00 AM	32	98	37	167	12	181	15	208	54	95	18	167	64	139	24	227	769
08:15 AM	18	114	43	175	20	184	20	224	32	112	11	155	38	101	16	155	709
08:30 AM	34	97	25	156	24	182	15	221	41	89	20	150	29	89	13	131	658
08:45 AM	36	96	38	170	27	120	14	161	33	80	18	131	32	97	21	150	612
Total	120	405	143	668	83	667	64	814	160	376	67	603	163	426	74	663	2748
Grand Total	208	713	367	1288	137	1577	186	1900	339	739	118	1196	374	822	137	1333	5717
Apprch %	16.1	55.4	28.5		7.2	83	9.8		28.3	61.8	9.9		28.1	61.7	10.3		
Total %	3.6	12.5	6.4	22.5	2.4	27.6	3.3	33.2	5.9	12.9	2.1	20.9	6.5	14.4	2.4	23.3	

	S Azusa Avenue Southbound				Arrow Highway Westbound				N Azusa Avenue Northbound				Arrow Highway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. 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	18	84	73	175	10	**268**	**30**	**308**	43	104	12	159	58	102	14	174	816
07:45 AM	26	85	**79**	**190**	**20**	201	25	246	43	97	15	155	**86**	**155**	18	**259**	**850**
08:00 AM	**32**	98	37	167	12	181	15	208	**54**	95	**18**	**167**	64	139	**24**	227	769
08:15 AM	18	**114**	43	175	20	184	20	224	32	**112**	11	155	38	101	16	155	709
Total Volume	94	381	232	707	62	834	90	986	172	408	56	636	246	497	72	815	3144
% App. Total	13.3	53.9	32.8		6.3	84.6	9.1		27	64.2	8.8		30.2	61	8.8		
PHF	.734	.836	.734	.930	.775	.778	.750	.800	.796	.911	.778	.952	.715	.802	.750	.787	.925

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City of Covina
N/S: S Azusa Avenue
E/W: Arrow Highway
Weather: Clear

File Name : 24_CVA_AzAv_Arrow AM
Site Code : 05724506
Start Date : 5/22/2024
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				07:30 AM			
+0 mins.	18	84	73	175	11	200	**39**	250	43	104	12	159	58	102	14	174
+15 mins.	26	85	**79**	**190**	13	241	28	282	43	97	15	155	**86**	**155**	18	**259**
+30 mins.	**32**	98	37	167	10	**268**	30	**308**	**54**	95	**18**	**167**	64	139	**24**	227
+45 mins.	18	**114**	43	175	**20**	201	25	246	32	**112**	11	155	38	101	16	155
Total Volume	94	381	232	707	54	910	122	1086	172	408	56	636	246	497	72	815
% App. Total	13.3	53.9	32.8		5	83.8	11.2		27	64.2	8.8		30.2	61	8.8	
PHF	.734	.836	.734	.930	.675	.849	.782	.881	.796	.911	.778	.952	.715	.802	.750	.787

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City of Covina
N/S: S Azusa Avenue
E/W: Arrow Highway
Weather: Clear

File Name : 24_CVA_AzAv_Arrow PM
Site Code : 05724506
Start Date : 5/22/2024
Page No : 1

Groups Printed- Total Volume

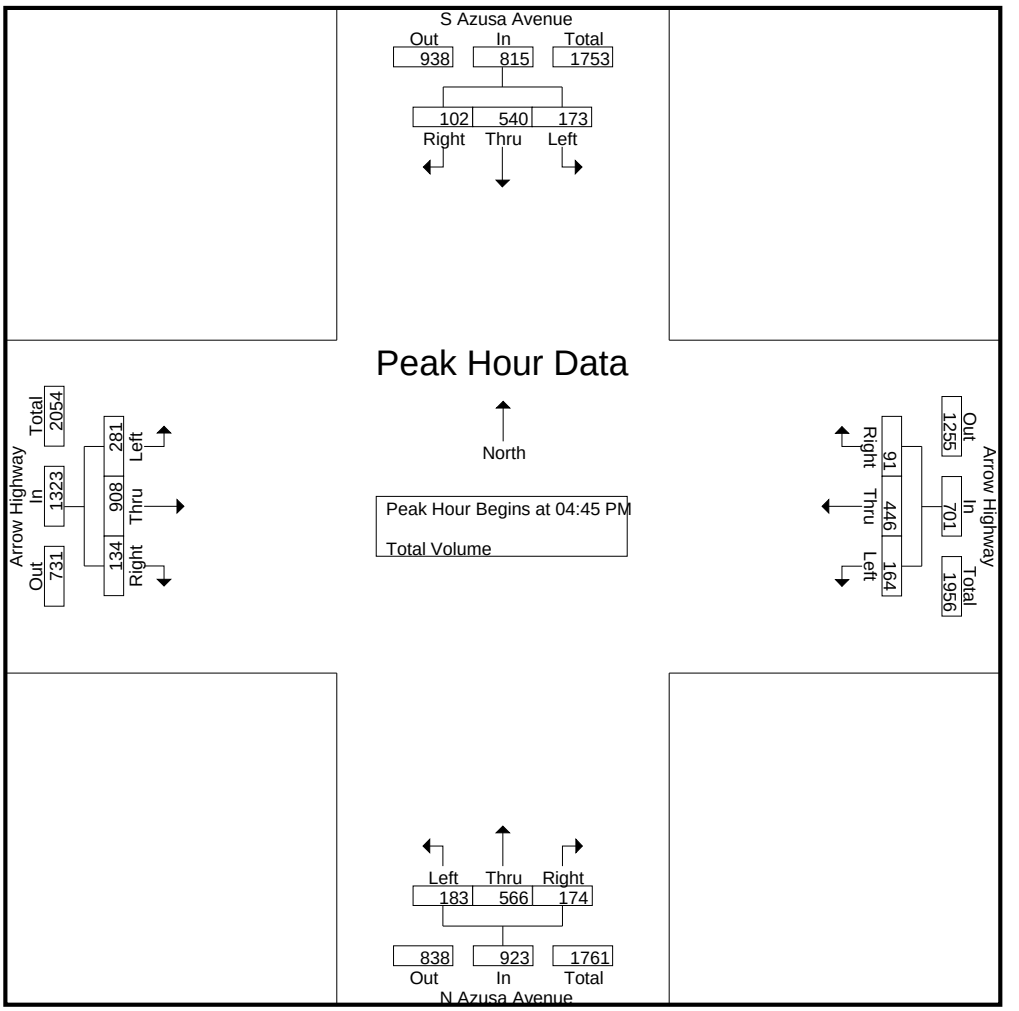
	S Azusa Avenue Southbound				Arrow Highway Westbound				N Azusa Avenue Northbound				Arrow Highway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	47	137	21	205	43	111	25	179	49	152	28	229	69	204	38	311	924
04:15 PM	60	127	29	216	42	127	23	192	48	132	24	204	61	244	33	338	950
04:30 PM	33	116	20	169	38	80	25	143	44	127	37	208	65	194	23	282	802
04:45 PM	49	133	25	207	42	112	23	177	44	123	41	208	72	227	29	328	920
Total	189	513	95	797	165	430	96	691	185	534	130	849	267	869	123	1259	3596
05:00 PM	36	121	18	175	42	95	22	159	40	140	58	238	77	221	36	334	906
05:15 PM	51	154	34	239	41	131	25	197	43	132	37	212	64	242	35	341	989
05:30 PM	37	132	25	194	39	108	21	168	56	171	38	265	68	218	34	320	947
05:45 PM	48	116	23	187	46	101	19	166	53	126	40	219	64	250	29	343	915
Total	172	523	100	795	168	435	87	690	192	569	173	934	273	931	134	1338	3757
Grand Total	361	1036	195	1592	333	865	183	1381	377	1103	303	1783	540	1800	257	2597	7353
Apprch %	22.7	65.1	12.2		24.1	62.6	13.3		21.1	61.9	17		20.8	69.3	9.9		
Total %	4.9	14.1	2.7	21.7	4.5	11.8	2.5	18.8	5.1	15	4.1	24.2	7.3	24.5	3.5	35.3	

	S Azusa Avenue Southbound				Arrow Highway Westbound				N Azusa Avenue Northbound				Arrow Highway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. 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	49	133	25	207	**42**	112	23	177	44	123	41	208	72	227	29	328	920
05:00 PM	36	121	18	175	42	95	22	159	40	140	**58**	238	**77**	221	**36**	334	906
05:15 PM	**51**	**154**	**34**	**239**	41	**131**	**25**	**197**	43	132	37	212	64	**242**	35	**341**	**989**
05:30 PM	37	132	25	194	39	108	21	168	**56**	**171**	38	**265**	68	218	34	320	947
Total Volume	173	540	102	815	164	446	91	701	183	566	174	923	281	908	134	1323	3762
% App. Total	21.2	66.3	12.5		23.4	63.6	13		19.8	61.3	18.9		21.2	68.6	10.1		
PHF	.848	.877	.750	.853	.976	.851	.910	.890	.817	.827	.750	.871	.912	.938	.931	.970	.951

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City of Covina
N/S: S Azusa Avenue
E/W: Arrow Highway
Weather: Clear

File Name : 24_CVA_AzAv_Arrow PM
Site Code : 05724506
Start Date : 5/22/2024
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:

	04:45 PM				04:45 PM				05:00 PM				05:00 PM			
+0 mins.	49	133	25	207	**42**	112	23	177	40	140	**58**	238	**77**	221	**36**	334
+15 mins.	36	121	18	175	42	95	22	159	43	132	37	212	64	242	35	341
+30 mins.	**51**	**154**	**34**	**239**	41	**131**	**25**	**197**	**56**	**171**	38	**265**	68	218	34	320
+45 mins.	37	132	25	194	39	108	21	168	53	126	40	219	64	**250**	29	**343**
Total Volume	173	540	102	815	164	446	91	701	192	569	173	934	273	931	134	1338
% App. Total	21.2	66.3	12.5		23.4	63.6	13		20.6	60.9	18.5		20.4	69.6	10	
PHF	.848	.877	.750	.853	.976	.851	.910	.890	.857	.832	.746	.881	.886	.931	.931	.975

Location: Irwindale
N/S: Azusa Avenue
E/W: Arrow Highway

Date: 5/22/2024
Day: Wednesday

PEDESTRIANS

	North Leg Azusa Avenue	East Leg Arrow Highway	South Leg Azusa Avenue	West Leg Arrow Highway	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	2	5	1	1	9
7:15 AM	6	10	11	11	38
7:30 AM	6	6	2	12	26
7:45 AM	9	4	5	8	26
8:00 AM	1	3	5	3	12
8:15 AM	3	6	3	5	17
8:30 AM	3	1	4	6	14
8:45 AM	3	3	3	3	12
TOTAL VOLUMES:	33	38	34	49	154

	North Leg Azusa Avenue	East Leg Arrow Highway	South Leg Azusa Avenue	West Leg Arrow Highway	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	4	6	9	8	27
4:15 PM	1	7	8	3	19
4:30 PM	4	11	7	7	29
4:45 PM	1	4	1	3	9
5:00 PM	1	2	3	8	14
5:15 PM	1	7	5	4	17
5:30 PM	5	9	7	6	27
5:45 PM	2	2	3	4	11
TOTAL VOLUMES:	19	48	43	43	153

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Location: Irwindale
N/S: Azusa Avenue
E/W: Arrow Highway

Date: 5/22/2024
Day: Wednesday

BICYCLES

	Southbound Azusa Avenue			Westbound Arrow Highway			Northbound Azusa Avenue			Eastbound Arrow Highway			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	1	0	0	0	0	0	0	0	1

	Southbound Azusa Avenue			Westbound Arrow Highway			Northbound Azusa Avenue			Eastbound Arrow Highway			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	1	0	1	0	0	2
4:45 PM	0	1	0	0	0	1	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	1	1	0	0	0	1	1	1	0	2	0	0	7

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APPENDIX C

VMT CALCULATION DATA
VMT REDUCTION CALCULATION WORKSHEETS

Appendix Table C-1
CITY OF IRWINDALE HOME-BASED WORK VMT PER EMPLOYEE
AND SIGNIFICANCE THRESHOLDS BY YEAR

	YEAR [1]		
	2016	**2024**	**2045**
Baseline Citywide HBW VMT	336,841.02	--	276,385.87
Baseline Citywide Employees (Emp)	11,471	--	9,864
Baseline HBW VMT/Emp	29.36	28.99	28.02
Threshold (15% Below Baseline)	24.96	24.64	23.82

[1] Years 2016 and 2045 values obtained from the SCAG ABM baseline (unmodified model) conditions. Year 2024 HBW VMT/Emp values are interpolated between years 2016 and 2045 HBW VMT/Emp.

Appendix Table C-2
PROJECT GENERATED HOME-BASED WORK VMT PER EMPLOYEE BY YEAR

	YEAR [1]		
	2016	**2024**	**2045**
TAZ 22281100 Without Project (Unmodified Model)			
Home-Based Work (HBW) VMT	106,933	--	85,022
Employees (Emp)	3,638	--	3,052
TAZ 22281100 With Project (Modified Model)			
HBW VMT	163,344	--	124,354
Emp	5,455	--	4,410
Project Generated Net Change (With Project - Without Project)			
HBW VMT	56,411	--	39,332
Emp	1,817	--	1,358
Project Generated HBW VMT/Emp	31.05	30.47	28.96

[1] Years 2016 and 2045 values obtained from the SCAG ABM. Year 2024 HBW VMT/Emp is interpolated between years 2016 and 2045 HBW VMT/Emp.

Appendix Table C-3
TAZ 22281100 HOME-BASED WORK VMT PER EMPLOYEE BY YEAR
FOR LOW-VMT AREA SCREENING

	YEAR [1]		
	2016	**2024**	**2045**
Home-Based Work (HBW) VMT	106,933	--	85,022
Employees (Emp)	3,638	--	3,052
HBW VMT/Emp	29.39	28.97	27.86

[1] Years 2016 and 2045 values obtained from the SCAG ABM baseline (unmodified model) conditions. Year 2024 HBW VMT/Emp values are interpolated between years 2016 and 2045 HBW VMT/Emp.

CAPCOA 2021 Handbook
VMT Reduction Summary

Project Design Features

Measure No.	Name	% VMT Reduction
Land Use		
	Land Use Subtotal	**0.00%**
Trip Reduction Programs		
T-7	Implement Commute Trip Reduction Marketing	4.00% *
T-10	Provide End-of-Trip Bicycle Facilities	0.15% *
	Trip Reduction Programs Subtotal	**4.14%**
Parking or Road Pricing/Management		
	Parking or Road Pricing/Management Subtotal	**0.00%**
Neighborhood Design		
	Neighborhood Design Subtotal	**0.00%**
Transit		
	Transit Subtotal	**0.00%**
Clean Vehicles and Fuels		
	Clean Vehicles and Fuels Subtotal	No VMT Reduction
	Total VMT Reduction	**4.14%**

* Applies to commute VMT only.

- $Reduction_{Subsector} = 1 - [(1 - A) \times (1 - B) \times (1 - C) \times \dots]$

  $where\ A, B, C, \dots\ are\ the\ individual\ measure\ reduction\ percentages\ in\ each\ subsector$

- $Reduction_{Total} = 1 - [(1 - Land) \times (1 - Trip\ Reduction) \times (1 - Parking) \times (1 - Design) \times (1 - Transit)]$

CAPCOA 2021 Handbook
VMT Reduction Calculation Worksheets
Measure T-7

Measure T-7. Implement Commute Trip Reduction Marketing	
Subsector	Trip Reduction Programs
Measure Scale	Project/Site
Maximum Reduction	4.0%

	Project VMT Reduction Due to Commute Trip Reduction Marketing	
B	Percent of employees eligible for program	100%
C	Percent reduction in employee commute vehicle trips	-4.0%
D	Adjustment from vehicle trips to VMT	1
A	VMT Reduction = B * C * D	4.0%
	Commute VMT Reduction	***4.00%***

B This refers to the percent of employees that would be able to participate in the program. This will usually be 100 percent. Employees who might not be able to participate could include those who work nighttime hours when transit and rideshare services are not available or employees who are required to drive to work as part of their job duties. This input does not refer to the percent of employees who participate in the program.

C A multi-year study of mode share on Genentech's South San Francisco campuses tracked the long-run change in employee commute mode share with implementation of a mandatory CTR. Between 2006 and 2014, employee vehicle mode share (includes single-occupied vehicles and carpools) decreased from approximately 90 percent to 64 percent, which is a 26 percent reduction (Nelson\Nygaard Consulting Associates 2015).

D The adjustment factor from vehicle mode share to commute VMT is 1. This assumes that all vehicle trips will average out to typical trip length. Thus, it can be assumed that a percentage reduction in vehicle trips will equal the same percentage reduction in VMT.

Measure T-10. Provide End-of-Trip Bicycle Facilities	
Subsector	Trip Reduction Programs
Measure Scale	Project/Site
Maximum Reduction	4.4%

	Project VMT Reduction Due to End-of-Trip Bicycle Facilities	
B	Bike mode adjustment factor	1.78
C	Existing bicycle trip length for all trips in region (miles)	1.7
D	Existing vehicle trip length for all trips in region (miles)	9.7
E	Existing bicycle mode share for work trips in region	1.0%
F	Existing vehicle mode share for work trips in region	90.7%
A	VMT Reduction = (C * [E - (B * E)]) / (D * F)	0.2%
	Commute VMT Reduction	***0.15%***

B The bike mode adjustment factor should be provided by the user based on type of bike facility. A study found that commuters with showers, lockers, and bike parking at work are associated with 4.86 times greater likelihood to commute by bicycle when compared to individuals without any bicycle facilities at work. Individuals with bike parking, but no showers and lockers at the workplace, are associated with 1.78 times greater likelihood to cycle to work than those without trip-end facilities (Buehler 2012).

C/D Users have the option to input the trip lengths for bicycles and vehicles for one of the six most populated CBSAs in California, as presented in Table T-10.1 (FHWA 2017).

Table T-10.1. Average One-Way Bicycle and Vehicle Trip Length of All Trips by California Core-Based Statistical Area

Core-Based Statistical Area	Trip Length (miles)	
	Bicycle	Vehicle
Los Angeles-Long Beach-Anaheim	1.7	9.7
Riverside-San Bernardino-Ontario	2.2	11.7
Sacramento-Roseville-Arden-Arcade	2.9	10.9
San Diego-Carlsbad	2.0	19.1
San Francisco-Oakland-Hayward	2.1	12.4
San Jose-Sunnyvale-Santa Clara	2.8	11.5

E/F Users have the option to input the regional average mode shares for bicycle and vehicle work trips for one of the six most populated CBSAs in California, as presented in Table T-10.2 (FHWA 2017).

(continued on following page)

Table T-10.2. Average Bicycle and Vehicle Mode Share of Work Trips by California Core-Based Statistical Area

Core-Based Statistical Area	Mode Share	
	Bicycle	Vehicle
Los Angeles-Long Beach-Anaheim	1.0%	90.7%
Riverside-San Bernardino-Ontario	0.4%	95.3%
Sacramento-Roseville-Arden-Arcade	2.2%	89.5%
San Diego-Carlsbad	1.3%	91.8%
San Francisco-Oakland-Hayward	2.8%	67.1%
San Jose-Sunnyvale-Santa Clara	4.1%	86.6%

CAPCOA 2021 Handbook
VMT Reduction Summary

Mitigation Measures

Measure No.	Name	% VMT Reduction
Land Use		
	Land Use Subtotal	**0.00%**
Trip Reduction Programs		
T-8	Provide Ridesharing Program	8.00% *
T-9	Implement Subsidized or Discounted Transit Program	1.16% *
T-12	Price Workplace Parking	20.00% *
	Trip Reduction Programs Subtotal	**27.25%**
Parking or Road Pricing/Management		
	Parking or Road Pricing/Management Subtotal	**0.00%**
Neighborhood Design		
	Neighborhood Design Subtotal	**0.00%**
Transit		
	Transit Subtotal	**0.00%**
Clean Vehicles and Fuels		
	Clean Vehicles and Fuels Subtotal	No VMT Reduction
	Total VMT Reduction	**27.25%**

* Applies to commute VMT only.

- $Reduction_{Subsector} = 1 - [(1 - A) \times (1 - B) \times (1 - C) \times \dots]$

  $where\ A, B, C, \dots\ are\ the\ individual\ measure\ reduction\ percentages\ in\ each\ subsector$

- $Reduction_{Total} = 1 - [(1 - Land) \times (1 - Trip\ Reduction) \times (1 - Parking) \_$
  $\times (1 - Design) \times (1 - Transit)]$

Measure T-8. Provide Ridesharing Program	
Subsector	Trip Reduction Programs
Measure Scale	Project/Site
Maximum Reduction	8.0%

	Project VMT Reduction Due to Ridesharing Program	
B	Percent of employees eligible for program	100%
C	Percent reduction in employee commute VMT	8%
A	VMT Reduction = B * C	8.0%
	Commute VMT Reduction	***8.0%***

B This refers to the percent of employees that would be able to participate in the program. This will usually be 100 percent. Employees who might not be able to participate could include those who work nighttime hours when transit and rideshare services are not available or employees who are required to drive to work as part of their job duties. This input does not refer to the percent of employees who actually participate in the program.

C The percent reduction in employee commute VMT by place type is provided in Table T-8.1. The reduction differs by place type because the willingness and ability to participate in carpooling is higher in urban areas tha in suburban ones.

Table T-8.1. Reduction in Employee Commute Vehicle Miles Traveled by Place Type

Place Type	Reduction in Employee Commute VMT
Urban	-8%
Suburban	-4%
Rural	---

Measure T-9. Implement Subsidized or Discounted Transit Program	
Subsector	Trip Reduction Programs
Measure Scale	Project/Site
Maximum Reduction	5.5%

Project VMT Reduction Due to Subsidized or Discounted Transit Program		
B	Average transit fare without subsidy ($)	$60.00
C	Subsidy amount ($)	$60.00
D	Percent of employees/residents eligible for subsidy	100.0%
E	Percent of project-generated VMT from employees/residents	100.0%
F	Transit mode share of all trips or work trips [1]	5.39%
G	Elasticity of transit boardings with respect to transit fare price	-0.43
H	Percent of transit trips that would otherwise be made in a vehicle	50.0%
I	Conversion factor of vehicle trips to VMT	1
A	VMT Reduction = (C/B) * G * D * E * F * H * I	1.2%
	VMT Reduction	***1.16%***

B/C The average transit fare and subsidy amount can either be presented as a fare per ride, or the cost of a monthly pass for typical transit service near thse site. Pricing should be based on the expected means of subsidy implementation; for instance, if a monthy pass is provided to all employees, prices should be input on a monthly basis.

It is assumed that future employers at the Specific Plan site would provide fully subsidized transit passes (i.e., C/B = 100%). The cost of a monthly pass for the Foothill Transit system is shown for illustrative purposes.

D The percentage of employees associated with the site who have access to the subsidy. If subsidy is provided as an employee benefit, care should be taken to account for any contract or temporary workers who do not receive such benefits.

E The percentage of project-generated VMT from employees is used to adjust the percent reduction in GHG emissions from the scale of employee-generated VMT to project-generated VMT. If subsidies or discounts target employees at an office development, this value would simply be 100 percent. If the project site is a multifamily development with no onsite workers, this value would also be100 percent. If the project site is a retail development, this value would be less than 100 percent, as it does not account for retail shopper trips to the site.

F If the subsidies or discounts target employees and their commute trips, then the mode share should use the home-to-work trip purpose. Users have the option to input the transit mode share for one of the six most populated CBSAs in California. The transit mode share for work trips by CBSA is presented in Table T-9.1 (FHWA 2017).

(continued on following page)

Table T-9.1. Average Transit Mode Share of Work Trips by California Core-Based Statistical Area

Core-Based Statistical Area	Transit Mode Share of Work Trips
Los Angeles-Long Beach-Anaheim	5.39%
Riverside-San Bernardino-Ontario	1.12%
Sacramento-Roseville-Arden-Arcade	5.44%
San Diego-Carlsbad	4.74%
San Francisco-Oakland-Hayward	25.60%
San Jose-Sunnyvale-Santa Clara	6.11%

G A cross-sectional analysis of transit use in 265 urbanized areas in the U.S. found that a 0.43 percent decrease in transit boardings occurs for every 1 percent increase in transit fare price (Taylor et al. 2008). A policy brief summarizing the results of transit service strategies found this analysis to fall in the mid-point of observed, short-term values (Handy & Boarnet 2013). Price elasticities of transit demand vary based on both long-term and short-term demand, service type, and service location (Litman 2020 and Handy & Boarnet 2013).

H Not all new transit trips replace a vehicle trip. The share of transit trips that would otherwise be made by private vehicle ranges from less than 5 percent to 50 percent across studies. This assumption is based on observed values for high quality BRT service under the assumption that this measure is implemented alongside marketing measures and is targeted primarily at reducing vehicle commute trips. (Handy & Boarnet 2013). Note that this study looked at service improvements rather than fare changes and is used as a proxy variable. If project-specific or location-specific information is available, it should be substituted for this assumptive variable.

I The adjustment factor from vehicle trips to VMT is 1. This assumes that all vehicle trips will average out to typical trip length ("assumes all trip lengths are equal"). Thus, it can be assumed that a percentage reduction in vehicle trips will equal the same percentage reduction in VMT. Subsidies or discounts targeting commute trips may have a higher factor as they are generally longer than the trip lengths for other purposes.

CAPCOA 2021 Handbook
VMT Reduction Calculation Worksheets
Measure T-12

Measure T-12. Price Workplace Parking	
Subsector	Trip Reduction Programs
Measure Scale	Project/Site
Maximum Reduction	20.0%

	Project VMT Reduction Due to Pricing Workplace Parking	
B	Proposed parking price	$3.50
C	Baseline parking price	$2.33
D	Share of employees paying for parking	100.0%
E	Elasticity of parking demand with respecting to parking price	-0.4
F	Ratio of vehicle trip reduction to VMT	1
A	VMT Reduction = ([B - C]/C) * E * D * F	20.0%
	Commute VMT Reduction	***20.0%***

B Parking price can be provided on an hourly, daily, or monthly basis. Monthly pricing is less effective than requiring daily or hourly payment since the price signal is diluted to only once a month.

The cost of parking is assumed to be equal to the cost of the daily transit fare to and from the Specific Plan site. One-way trip fares for both LA Metro and Foothill Transit ar $1.75 per ride, resulting in a daily fare of $3.50.

C If baseline parking price is $0 (that is, if parking is typically free), set C = ¼ B, allowing for the maximum 50 percent increase in price. Alternatively, for locations that are located within 0.5 mile of transit service, set C = average transit fare to/from the location.

Since the cost of parking is assumed to have been free absent this migitation measure, the baseline parking price has been selected such that the proposed parking price of $3.50 reflects the maximum of 50% increase for the cost of parking, pursuant to the guidance above.

D Many organizations allow some employees free parking benefits. VMT reductions should be adjusted based on the share of employees that would be paying for parking.

E A meta-analysis of parking price studies found that a 0.40 percent decrease in parking demand occurs for every 1 percent increase in parking price (Lehner & Peer 2019). Price elasticity of parking demand varies by location, day of the week, and time of day.

F The adjustment factor from vehicle trips to VMT is 1. This assumes that all vehicle trips will average out to typical trip length ("assumes all trip lengths are equal"). Thus, it can be assumed that a percentage reduction in vehicle trips will equal the same percentage reduction in VMT. Subsidies or discounts targeting commute trips may have a higher factor as they are generally longer than the trip lengths for other purposes.

APPENDIX D

ICU AND HCM LEVELS OF SERVICE EXPLANATION
LOS CALCULATION WORKSHEETS – WEEKDAY AM AND PM PEAK HOURS

INTERSECTION CAPACITY UTILIZATION (ICU) DESCRIPTION

Level of Service is a term used to describe prevailing conditions and their effect on traffic. Broadly interpreted, the Levels of Service concept denotes any one of a number of differing combinations of operating conditions which may occur as a roadway is accommodating various traffic volumes. Level of Service is a qualitative measure of the effect of such factors as travel speed, travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience.

Six Levels of Service, A through F, have been defined in the 1965 *Highway Capacity Manual*, published by the Transportation Research Board. Level of Service A describes a condition of free flow, with low traffic volumes and relatively high speeds, while Level of Service F describes forced traffic flow at low speeds with jammed conditions and queues which cannot clear during the green phases.

The Intersection Capacity Utilization (ICU) method of intersection capacity analysis has been used in our studies. It directly relates traffic demand and available capacity for key intersection movements, regardless of present signal timing, The capacity per hour of green time for each approach is calculated based on the methods of the *Highway Capacity Manual*. The proportion of total signal time needed by each key movement is determined and compared to the total time available (100 percent of the hour). The result of summing the requirements of the conflicting key movements plus an allowance for clearance times is expressed as a decimal fraction. Conflicting key traffic movements are those opposing movements whose combined green time requirements are greatest.

The resulting ICU represents the proportion of the total hour required to accommodate intersection demand volumes if the key conflicting traffic movements are operating at capacity. Other movements may be operating near capacity, or may be operating at significantly better levels. The ICU may be translated to a Level of Service as tabulated below.

The Levels of Service (abbreviated from the *Highway Capacity Manual*) are listed here with their corresponding ICU and Load Factor equivalents. Load Factor is that proportion of the signal cycles during the peak hour which are fully loaded; i.e. when all of the vehicles waiting at the beginning of green are not able to clear on that green phase.

Intersection Capacity Utilization Characteristics

Level of Service	Load Factor	Equivalent ICU
A	0.0	0.00 - 0.60
B	0.0 - 0.1	0.61 - 0.70
C	0.1 - 0.3	0.71 - 0.80
D	0.3 - 0.7	0.81 - 0.90
E	0.7 - 1.0	0.91 - 1.00
F	Not Applicable	Not Applicable

SERVICE LEVEL A
There are no loaded cycles and few are even close to loaded at this service level. No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication.

SERVICE LEVEL B
This level represents stable operation where an occasional approach phase is fully utilized and a substantial number are approaching full use. Many drivers begin to feel restricted within platoons of vehicles.

SERVICE LEVEL C
At this level stable operation continues. Loading is still intermittent but more frequent than at Level B. Occasionally drivers may have to wait through more than one red signal indication and backups may develop behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so.

SERVICE LEVEL D
This level encompasses a zone of increasing restriction approaching instability at the intersection. Delays to approaching vehicles may be substantial during short peaks within the peak hour, but enough cycles with lower demand occur to permit periodic clearance of queues, thus preventing excessive backups. Drivers frequently have to wait through more than one red signal. This level is the lower limit of acceptable operation to most drivers.

SERVICE LEVEL E
This represents near capacity and capacity operation. At capacity (ICU = 1.0) it represents the most vehicles that the particular intersection can accommodate. However, full utilization of every signal cycle is seldom attained no matter how great the demand. At this level all drivers wait through more than one red signal, and frequently through several.

SERVICE LEVEL F
Jammed conditions. Traffic backed up from a downstream location on one of the street restricts or prevents movement of traffic through the intersection under consideration.

LEVEL OF SERVICE FOR SIGNALIZED INTERSECTIONS

In the *Highway Capacity Manual (HCM)7th Edition*, published by the Transportation Research Board, 2022, level of service for signalized intersections is defined in terms of delay, which is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometrics, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions: in the absence of traffic control, in the absence of geometric delay, in the absence of incidents, and when there are no other vehicles on the road. Only the portion of total delay attributed to the control facility is quantified. This delay is called *control delay*. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.

Level of Service criteria for traffic signals are stated in terms of the average control delay per vehicle. Delay is a complex measure and is dependent on a number of variables, including the quality of progression, the cycle length, the green ratio, and the *v/c* ratio for the lane group in question.

Level of Service Criteria for Signalized Intersections

Level of Service	Control Delay (Sec/Veh)
A	≤ 10
B	> 10 and ≤ 20
C	> 20 and ≤ 35
D	> 35 and ≤ 55
E	> 55 and ≤ 80
F	> 80

Level of Service (LOS) values are used to describe intersection operations with service levels varying from LOS A (free flow) to LOS F (jammed condition). The following descriptions summarize *HCM* criteria for each level of service:

LOS A describes operations with very low control delay, up to 10 seconds per vehicle. This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay values.

LOS B describes operations with control delay greater than 10 and up to 20 seconds per vehicle. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of delay.

LOS C describes operations with control delay greater than 20 and up to 35 seconds per vehicle. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.

LOS D describes operations with control delay greater than 35 and up to 55 seconds per vehicle. At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high *v/c* ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

LOS E describes operations with control delay greater than 55 and up to 80 seconds per vehicle. This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high *v/c* ratios. Individual cycle failures are frequent occurrences.

LOS F describes operations with control delay in excess of 80 seconds per vehicle. This level, considered to be unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the lane groups. It may also occur at high *v/c* ratios with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors to such delay levels.

LEVEL OF SERVICE FOR UNSIGNALIZED INTERSECTIONS

In the *Highway Capacity Manual (HCM)*, published by the Transportation Research Board, level of service for unsignalized intersections is defined in terms of delay, which is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometrics, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions, in the absence of incidents, control, traffic, or geometric delay. Only the portion of total delay attributed to the traffic control measures, either traffic signals or stop signs, is quantified. This delay is called *control delay*. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.

Level of Service criteria for unsignalized intersections are stated in terms of the average control delay per vehicle. The level of service is determined by the computed or measured control delay and is defined for each minor movement. Average control delay for any particular minor movement is a function of the service time for the approach and the degree of utilization. (Level of service is not defined for the intersection as a whole for two-way stop controlled intersections.)

Level of Service Criteria for TWSC/AWSC Intersections

Level of Service	Average Control Delay (Sec/Veh)
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

Level of Service (LOS) values are used to describe intersection operations with service levels varying from LOS A (free flow) to LOS F (jammed condition). The following descriptions summarize *HCM* criteria for each level of service:

LOS A describes operations with very low control delay, up to 10 seconds per vehicle.

LOS B describes operations with control delay greater than 10 and up to 15 seconds per vehicle.

LOS C describes operations with control delay greater than 15 and up to 25 seconds per vehicle.

LOS D describes operations with control delay greater than 25 and up to 35 seconds per vehicle.

LOS E describes operations with control delay greater than 35 and up to 50 seconds per vehicle.

LOS F describes operations with control delay in excess of 50 seconds per vehicle. For two-way stop controlled intersections, LOS F exists when there are insufficient gaps of suitable size to allow side-street demand to safely cross through a major-street traffic stream. This level of service is generally evident from extremely long control delays experienced by side-street traffic and by queuing on the minor-street approaches.

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INTERSECTION CAPACITY UTILIZATION

Arrow Highway @ Live Oak Avenue (West)
Peak hr: AM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: Arrow Highway
E-W St: Live Oak Avenue (West)
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU1

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left	1062	2880	0.369	16	1078	2880	0.374	32	111	1205	2880	0.418	16	1221	2880	0.424	0	1221	2880	0.424
NB Thru	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
NB Right [3]	103	1600	0.000	0	103	1600	0.000	3	2	108	1600	0.000	0	108	1600	0.000	0	108	1600	0.000
SB Left	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
SB Thru	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
SB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
EB Left	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
EB Thru	440	3200	0.138	63	503	3200	0.157	13	108	561	3200	0.175	63	624	3200	0.195	0	624	3200	0.195
EB Right [3]	606	2880	0.000	63	669	2880	0.000	18	182	806	2880	0.000	63	869	2880	0.000	0	869	2880	0.000
WB Left	77	2880	0.027	0	77	2880	0.027	2	0	79	2880	0.027	0	79	2880	0.027	0	79	2880	0.027
WB Thru	982	3200	0.307 *	17	999	3200	0.312 *	30	25	1037	3200	0.324 *	17	1054	3200	0.329 *	0	1054	3200	0.329 *
WB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.776				0.786					0.842				0.853				0.853
LOS			C				C					D				D				D

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green
3 Free Flow movement

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INTERSECTION CAPACITY UTILIZATION

Arrow Highway @ Live Oak Avenue (West)
Peak hr: PM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: Arrow Highway
E-W St: Live Oak Avenue (West)
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU1

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left	711	2880	0.247	66	777	2880	0.270	22	451	1184	2880	0.411	66	1250	2880	0.434	0	1250	2880	0.434
NB Thru	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
NB Right [3]	31	1600	0.000	0	31	1600	0.000	1	11	43	1600	0.000	0	43	1600	0.000	0	43	1600	0.000
SB Left	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
SB Thru	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
SB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
EB Left	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
EB Thru	696	3200	0.218 *	42	738	3200	0.231 *	21	76	793	3200	0.248 *	42	835	3200	0.261 *	0	835	3200	0.261 *
EB Right [3]	1502	2880	0.000	42	1544	2880	0.000	46	72	1620	2880	0.000	42	1662	2880	0.000	0	1662	2880	0.000
WB Left	87	2880	0.030 *	0	87	2880	0.030 *	3	0	90	2880	0.031 *	0	90	2880	0.031 *	0	90	2880	0.031 *
WB Thru	568	3200	0.178	67	635	3200	0.198	17	71	656	3200	0.205	67	723	3200	0.226	0	723	3200	0.226
WB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.595				0.631					0.790				0.826				0.826
LOS			A				B					C				D				D

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green
3 Free Flow movement

LINSCOTT, LAW & GREENSPAN, ENGINEERS
600 S. Lake Avenue, Ste 500, Pasadena 91106
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INTERSECTION CAPACITY UTILIZATION

I-605 Freeway Southbound Off-Ramp @ Arrow Highway
Peak hr: AM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: I-605 Freeway Southbound Off-Ramp
E-W St: Arrow Highway
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU2

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
NB Thru	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
NB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
SB Left	293	1600	0.183	0	293	1600	0.183	9	183	485	1600	0.303	0	485	1600	0.303	0	485	1600	0.303
SB Thru	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
SB Right [3]	480	1600	0.000	0	480	1600	0.000	15	473	968	1600	0.000	0	968	1600	0.000	0	968	1600	0.000
EB Left	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
EB Thru	634	4800	0.132	63	697	4800	0.145	19	325	978	4800	0.204	63	1041	4800	0.217	0	1041	4800	0.217
EB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
WB Left	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
WB Thru	882	3200	0.276 *	17	899	3200	0.281 *	27	81	990	3200	0.309 *	17	1007	3200	0.315 *	0	1007	3200	0.315 *
WB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.559				0.564					0.713				0.718				0.718
LOS			A				A					C				C				C

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green
3 Free Flow movement

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INTERSECTION CAPACITY UTILIZATION

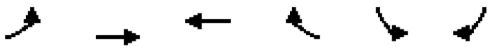
I-605 Freeway Southbound Off-Ramp @ Arrow Highway
Peak hr: PM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: I-605 Freeway Southbound Off-Ramp
E-W St: Arrow Highway
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU2

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
NB Thru	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
NB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
SB Left	256	1600	0.160	0	256	1600	0.160	8	150	414	1600	0.259	0	414	1600	0.259	0	414	1600	0.259
SB Thru	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
SB Right [3]	362	1600	0.000	0	362	1600	0.000	11	294	667	1600	0.000	0	667	1600	0.000	0	667	1600	0.000
EB Left	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
EB Thru	1012	4800	0.211 *	42	1054	4800	0.220 *	31	760	1803	4800	0.376 *	42	1845	4800	0.384 *	0	1845	4800	0.384 *
EB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
WB Left	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
WB Thru	337	3200	0.105	67	404	3200	0.126	10	82	429	3200	0.134	67	496	3200	0.155	0	496	3200	0.155
WB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.471				0.480					0.734				0.743				0.743
LOS			A				A					C				C				C

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green
3 Free Flow movement



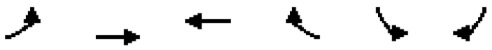
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	634	882	0	293	480
Future Volume (veh/h)	0	634	882	0	293	480
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	667	928	0	308	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	3476	2419	0	353	
Arrive On Green	0.00	0.68	0.68	0.00	0.20	0.00
Sat Flow, veh/h	0	5443	3741	0	1781	1585
Grp Volume(v), veh/h	0	667	928	0	308	0
Grp Sat Flow(s),veh/h/ln	0	1702	1777	0	1781	1585
Q Serve(g_s), s	0.0	4.3	10.2	0.0	15.1	0.0
Cycle Q Clear(g_c), s	0.0	4.3	10.2	0.0	15.1	0.0
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	3476	2419	0	353	
V/C Ratio(X)	0.00	0.19	0.38	0.00	0.87	
Avail Cap(c_a), veh/h	0	3476	2419	0	612	
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	5.3	6.2	0.0	35.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.1	0.0	6.9	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	2.1	5.1	0.0	11.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	0.0	5.4	6.3	0.0	41.9	0.0
LnGrp LOS		A	A		D	
Approach Vol, veh/h		667	928		308	
Approach Delay, s/veh		5.4	6.3		41.9	
Approach LOS		A	A		D	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	67.1	22.9	67.1
Change Period (Y+Rc), s	5.8	5.1	5.8
Max Green Setting (Gmax), s	48.2	30.9	48.2
Max Q Clear Time (g_c+I1), s	6.3	17.1	12.2
Green Ext Time (p_c), s	4.7	0.8	7.0

Intersection Summary	
HCM 7th Control Delay, s/veh	11.7
HCM 7th LOS	B

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



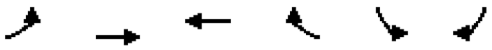
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1012	337	0	256	362
Future Volume (veh/h)	0	1012	337	0	256	362
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	1065	355	0	269	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	3587	2496	0	314	
Arrive On Green	0.00	0.70	0.70	0.00	0.18	0.00
Sat Flow, veh/h	0	5443	3741	0	1781	1585
Grp Volume(v), veh/h	0	1065	355	0	269	0
Grp Sat Flow(s),veh/h/ln	0	1702	1777	0	1781	1585
Q Serve(g_s), s	0.0	7.1	3.0	0.0	13.2	0.0
Cycle Q Clear(g_c), s	0.0	7.1	3.0	0.0	13.2	0.0
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	3587	2496	0	314	
V/C Ratio(X)	0.00	0.30	0.14	0.00	0.86	
Avail Cap(c_a), veh/h	0	3587	2496	0	671	
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	5.0	4.4	0.0	35.9	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	6.7	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	3.2	1.4	0.0	10.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	0.0	5.2	4.5	0.0	42.6	0.0
LnGrp LOS		A	A		D	
Approach Vol, veh/h		1065	355		269	
Approach Delay, s/veh		5.2	4.5		42.6	
Approach LOS		A	A		D	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	69.0	21.0	69.0
Change Period (Y+Rc), s	5.8	5.1	5.8
Max Green Setting (Gmax), s	45.2	33.9	45.2
Max Q Clear Time (g_c+I1), s	9.1	15.2	5.0
Green Ext Time (p_c), s	8.3	0.7	2.2

Intersection Summary	
HCM 7th Control Delay, s/veh	11.0
HCM 7th LOS	B

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



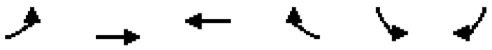
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	697	899	0	293	480
Future Volume (veh/h)	0	697	899	0	293	480
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	734	946	0	308	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	3476	2419	0	353	
Arrive On Green	0.00	0.68	0.68	0.00	0.20	0.00
Sat Flow, veh/h	0	5443	3741	0	1781	1585
Grp Volume(v), veh/h	0	734	946	0	308	0
Grp Sat Flow(s),veh/h/ln	0	1702	1777	0	1781	1585
Q Serve(g_s), s	0.0	4.8	10.4	0.0	15.1	0.0
Cycle Q Clear(g_c), s	0.0	4.8	10.4	0.0	15.1	0.0
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	3476	2419	0	353	
V/C Ratio(X)	0.00	0.21	0.39	0.00	0.87	
Avail Cap(c_a), veh/h	0	3476	2419	0	612	
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	5.4	6.3	0.0	35.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.1	0.0	6.9	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	2.4	5.2	0.0	11.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	0.0	5.5	6.4	0.0	41.9	0.0
LnGrp LOS		A	A		D	
Approach Vol, veh/h		734	946		308	
Approach Delay, s/veh		5.5	6.4		41.9	
Approach LOS		A	A		D	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	67.1	22.9	67.1
Change Period (Y+Rc), s	5.8	5.1	5.8
Max Green Setting (Gmax), s	48.2	30.9	48.2
Max Q Clear Time (g_c+I1), s	6.8	17.1	12.4
Green Ext Time (p_c), s	5.2	0.8	7.2

Intersection Summary	
HCM 7th Control Delay, s/veh	11.5
HCM 7th LOS	B

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



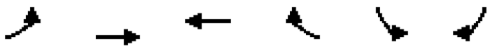
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1054	404	0	256	362
Future Volume (veh/h)	0	1054	404	0	256	362
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	1109	425	0	269	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	3587	2496	0	314	
Arrive On Green	0.00	0.70	0.70	0.00	0.18	0.00
Sat Flow, veh/h	0	5443	3741	0	1781	1585
Grp Volume(v), veh/h	0	1109	425	0	269	0
Grp Sat Flow(s),veh/h/ln	0	1702	1777	0	1781	1585
Q Serve(g_s), s	0.0	7.4	3.6	0.0	13.2	0.0
Cycle Q Clear(g_c), s	0.0	7.4	3.6	0.0	13.2	0.0
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	3587	2496	0	314	
V/C Ratio(X)	0.00	0.31	0.17	0.00	0.86	
Avail Cap(c_a), veh/h	0	3587	2496	0	671	
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	5.1	4.5	0.0	35.9	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	6.7	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	3.4	1.7	0.0	10.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	0.0	5.3	4.6	0.0	42.6	0.0
LnGrp LOS		A	A		D	
Approach Vol, veh/h		1109	425		269	
Approach Delay, s/veh		5.3	4.6		42.6	
Approach LOS		A	A		D	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	69.0	21.0	69.0
Change Period (Y+Rc), s	5.8	5.1	5.8
Max Green Setting (Gmax), s	45.2	33.9	45.2
Max Q Clear Time (g_c+I1), s	9.4	15.2	5.6
Green Ext Time (p_c), s	8.7	0.7	2.7

Intersection Summary	
HCM 7th Control Delay, s/veh	10.7
HCM 7th LOS	B

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



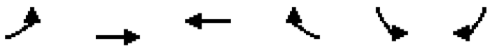
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	978	990	0	485	968
Future Volume (veh/h)	0	978	990	0	485	968
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	1029	1042	0	511	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	2914	2028	0	549	
Arrive On Green	0.00	0.57	0.57	0.00	0.31	0.00
Sat Flow, veh/h	0	5443	3741	0	1781	1585
Grp Volume(v), veh/h	0	1029	1042	0	511	0
Grp Sat Flow(s),veh/h/ln	0	1702	1777	0	1781	1585
Q Serve(g_s), s	0.0	9.8	16.0	0.0	25.0	0.0
Cycle Q Clear(g_c), s	0.0	9.8	16.0	0.0	25.0	0.0
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2914	2028	0	549	
V/C Ratio(X)	0.00	0.35	0.51	0.00	0.93	
Avail Cap(c_a), veh/h	0	2914	2028	0	612	
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	10.4	11.7	0.0	30.2	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.2	0.0	19.9	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	5.7	9.1	0.0	19.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	0.0	10.7	12.0	0.0	50.1	0.0
LnGrp LOS		B	B		D	
Approach Vol, veh/h		1029	1042		511	
Approach Delay, s/veh		10.7	12.0		50.1	
Approach LOS		B	B		D	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	57.2	32.8	57.2
Change Period (Y+Rc), s	5.8	5.1	5.8
Max Green Setting (Gmax), s	48.2	30.9	48.2
Max Q Clear Time (g_c+I1), s	11.8	27.0	18.0
Green Ext Time (p_c), s	7.9	0.7	7.9

Intersection Summary	
HCM 7th Control Delay, s/veh	19.0
HCM 7th LOS	B

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



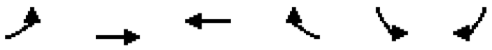
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1803	429	0	414	667
Future Volume (veh/h)	0	1803	429	0	414	667
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	1898	452	0	436	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	3107	2162	0	482	
Arrive On Green	0.00	0.61	0.61	0.00	0.27	0.00
Sat Flow, veh/h	0	5443	3741	0	1781	1585
Grp Volume(v), veh/h	0	1898	452	0	436	0
Grp Sat Flow(s),veh/h/ln	0	1702	1777	0	1781	1585
Q Serve(g_s), s	0.0	20.8	5.1	0.0	21.3	0.0
Cycle Q Clear(g_c), s	0.0	20.8	5.1	0.0	21.3	0.0
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	3107	2162	0	482	
V/C Ratio(X)	0.00	0.61	0.21	0.00	0.91	
Avail Cap(c_a), veh/h	0	3107	2162	0	671	
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	11.0	7.9	0.0	31.7	0.0
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.0	12.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	10.7	2.9	0.0	15.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	0.0	11.9	8.0	0.0	44.2	0.0
LnGrp LOS		B	A		D	
Approach Vol, veh/h		1898	452		436	
Approach Delay, s/veh		11.9	8.0		44.2	
Approach LOS		B	A		D	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	60.6	29.4	60.6
Change Period (Y+Rc), s	5.8	5.1	5.8
Max Green Setting (Gmax), s	45.2	33.9	45.2
Max Q Clear Time (g_c+I1), s	22.8	23.3	7.1
Green Ext Time (p_c), s	14.1	1.1	2.9

Intersection Summary	
HCM 7th Control Delay, s/veh	16.3
HCM 7th LOS	B

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



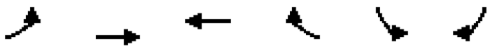
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1041	1007	0	485	968
Future Volume (veh/h)	0	1041	1007	0	485	968
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	1096	1060	0	511	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	2914	2028	0	549	
Arrive On Green	0.00	0.57	0.57	0.00	0.31	0.00
Sat Flow, veh/h	0	5443	3741	0	1781	1585
Grp Volume(v), veh/h	0	1096	1060	0	511	0
Grp Sat Flow(s),veh/h/ln	0	1702	1777	0	1781	1585
Q Serve(g_s), s	0.0	10.6	16.4	0.0	25.0	0.0
Cycle Q Clear(g_c), s	0.0	10.6	16.4	0.0	25.0	0.0
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2914	2028	0	549	
V/C Ratio(X)	0.00	0.38	0.52	0.00	0.93	
Avail Cap(c_a), veh/h	0	2914	2028	0	612	
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	10.6	11.8	0.0	30.2	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.2	0.0	19.9	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	6.2	9.3	0.0	19.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	0.0	10.9	12.1	0.0	50.1	0.0
LnGrp LOS		B	B		D	
Approach Vol, veh/h		1096	1060		511	
Approach Delay, s/veh		10.9	12.1		50.1	
Approach LOS		B	B		D	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		57.2		32.8		57.2
Change Period (Y+Rc), s		5.8		5.1		5.8
Max Green Setting (Gmax), s		48.2		30.9		48.2
Max Q Clear Time (g_c+I1), s		12.6		27.0		18.4
Green Ext Time (p_c), s		8.6		0.7		8.0

Intersection Summary		
HCM 7th Control Delay, s/veh	18.9	
HCM 7th LOS	B	

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1845	496	0	414	667
Future Volume (veh/h)	0	1845	496	0	414	667
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
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	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	1942	522	0	436	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	3107	2162	0	482	
Arrive On Green	0.00	0.61	0.61	0.00	0.27	0.00
Sat Flow, veh/h	0	5443	3741	0	1781	1585
Grp Volume(v), veh/h	0	1942	522	0	436	0
Grp Sat Flow(s),veh/h/ln	0	1702	1777	0	1781	1585
Q Serve(g_s), s	0.0	21.6	6.1	0.0	21.3	0.0
Cycle Q Clear(g_c), s	0.0	21.6	6.1	0.0	21.3	0.0
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	3107	2162	0	482	
V/C Ratio(X)	0.00	0.63	0.24	0.00	0.91	
Avail Cap(c_a), veh/h	0	3107	2162	0	671	
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	11.1	8.1	0.0	31.7	0.0
Incr Delay (d2), s/veh	0.0	1.0	0.1	0.0	12.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	11.1	3.5	0.0	15.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	0.0	12.1	8.1	0.0	44.2	0.0
LnGrp LOS		B	A		D	
Approach Vol, veh/h		1942	522		436	
Approach Delay, s/veh		12.1	8.1		44.2	
Approach LOS		B	A		D	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	60.6	29.4	60.6
Change Period (Y+Rc), s	5.8	5.1	5.8
Max Green Setting (Gmax), s	45.2	33.9	45.2
Max Q Clear Time (g_c+I1), s	23.6	23.3	8.1
Green Ext Time (p_c), s	14.1	1.1	3.4

Intersection Summary	
HCM 7th Control Delay, s/veh	16.2
HCM 7th LOS	B

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

LINSCOTT, LAW & GREENSPAN, ENGINEERS
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INTERSECTION CAPACITY UTILIZATION

I-605 Freeway Southbound On-Ramp @ Live Oak Avenue
Peak hr: AM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: I-605 Freeway Southbound On-Ramp
E-W St: Live Oak Avenue
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU3

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
NB Thru	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
NB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
SB Left	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
SB Thru	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
SB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
EB Left	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
EB Thru	214	3200	0.067 *	63	277	3200	0.087 *	7	73	294	3200	0.092 *	63	357	3200	0.112 *	0	357	3200	0.112 *
EB Right [3]	531	1600	0.000	0	531	1600	0.000	16	181	728	1600	0.000	0	728	1600	0.000	0	728	1600	0.000
WB Left	361	1600	0.226 *	68	429	1600	0.268 *	11	174	546	1600	0.341 *	68	614	1600	0.384 *	0	614	2880	0.213 *
WB Thru [3]	1414	3200	0.000	16	1430	3200	0.000	43	912	2369	3200	0.000	16	2385	3200	0.000	0	2385	3200	0.000
WB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.393				0.455					0.533				0.595				0.425
LOS			A				A					A				A				A

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green
3 Free Flow movement

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INTERSECTION CAPACITY UTILIZATION

I-605 Freeway Southbound On-Ramp @ Live Oak Avenue
Peak hr: PM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: I-605 Freeway Southbound On-Ramp
E-W St: Live Oak Avenue
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU3

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
NB Thru	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
NB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
SB Left	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
SB Thru	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
SB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
EB Left	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
EB Thru	710	3200	0.222 *	42	752	3200	0.235 *	22	83	815	3200	0.255 *	42	857	3200	0.268 *	0	857	3200	0.268 *
EB Right [3]	1143	1600	0.000	0	1143	1600	0.000	35	834	2012	1600	0.000	0	2012	1600	0.000	0	2012	1600	0.000
WB Left	418	1600	0.261 *	220	638	1600	0.399 *	13	327	758	1600	0.474 *	220	978	1600	0.611 *	0	978	2880	0.340 *
WB Thru [3]	856	3200	0.000	66	922	3200	0.000	26	561	1443	3200	0.000	66	1509	3200	0.000	0	1509	3200	0.000
WB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.583				0.734					0.828				0.979				0.707
LOS			A				C					D				E				C

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green
3 Free Flow movement



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	214	531	361	1414	0	0
Future Volume (veh/h)	214	531	361	1414	0	0
Initial Q (Qb), veh	0	0	0	0		
Lane Width Adj.	1.00	1.00	1.00	1.00		
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	1870	1870	1870	1870		
Adj Flow Rate, veh/h	228	0	384	1504		
Peak Hour Factor	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	2004		474	3259		
Arrive On Green	0.56	0.00	0.27	0.92		
Sat Flow, veh/h	3647	1585	1781	3647		
Grp Volume(v), veh/h	228	0	384	1504		
Grp Sat Flow(s),veh/h/ln	1777	1585	1781	1777		
Q Serve(g_s), s	2.1	0.0	14.1	4.3		
Cycle Q Clear(g_c), s	2.1	0.0	14.1	4.3		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	2004		474	3259		
V/C Ratio(X)	0.11		0.81	0.46		
Avail Cap(c_a), veh/h	2004		837	3259		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.74	0.74		
Uniform Delay (d), s/veh	7.1	0.0	24.0	0.4		
Incr Delay (d2), s/veh	0.1	0.0	5.2	0.3		
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	1.1	0.0	9.4	0.3		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	7.2	0.0	29.3	0.8		
LnGrp LOS	A		C	A		
Approach Vol, veh/h	228			1888		
Approach Delay, s/veh	7.2			6.6		
Approach LOS	A			A		

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	24.7	45.3				70.0
Change Period (Y+Rc), s	6.1	5.8				5.8
Max Green Setting (Gmax), s	32.9	25.2				64.2
Max Q Clear Time (g_c+I1), s	16.1	4.1				6.3
Green Ext Time (p_c), s	2.5	2.2				33.5

Intersection Summary	
HCM 7th Control Delay, s/veh	6.6
HCM 7th LOS	A

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	710	1143	418	856	0	0
Future Volume (veh/h)	710	1143	418	856	0	0
Initial Q (Qb), veh	0	0	0	0		
Lane Width Adj.	1.00	1.00	1.00	1.00		
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	1870	1870	1870	1870		
Adj Flow Rate, veh/h	724	0	427	873		
Peak Hour Factor	0.98	0.98	0.98	0.98		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	1915		518	3259		
Arrive On Green	0.54	0.00	0.29	0.92		
Sat Flow, veh/h	3647	1585	1781	3647		
Grp Volume(v), veh/h	724	0	427	873		
Grp Sat Flow(s),veh/h/ln	1777	1585	1781	1777		
Q Serve(g_s), s	8.3	0.0	15.6	1.9		
Cycle Q Clear(g_c), s	8.3	0.0	15.6	1.9		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	1915		518	3259		
V/C Ratio(X)	0.38		0.82	0.27		
Avail Cap(c_a), veh/h	1915		837	3259		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.90	0.90		
Uniform Delay (d), s/veh	9.3	0.0	23.1	0.3		
Incr Delay (d2), s/veh	0.6	0.0	6.4	0.2		
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	4.7	0.0	10.7	0.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	9.9	0.0	29.5	0.5		
LnGrp LOS	A		C	A		
Approach Vol, veh/h	724			1300		
Approach Delay, s/veh	9.9			10.0		
Approach LOS	A			B		

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	26.5	43.5				70.0
Change Period (Y+Rc), s	6.1	5.8				5.8
Max Green Setting (Gmax), s	32.9	25.2				64.2
Max Q Clear Time (g_c+I1), s	17.6	10.3				3.9
Green Ext Time (p_c), s	2.7	6.6				14.7

Intersection Summary		
HCM 7th Control Delay, s/veh		10.0
HCM 7th LOS		A

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	277	531	429	1430	0	0
Future Volume (veh/h)	277	531	429	1430	0	0
Initial Q (Qb), veh	0	0	0	0		
Lane Width Adj.	1.00	1.00	1.00	1.00		
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	1870	1870	1870	1870		
Adj Flow Rate, veh/h	295	0	456	1521		
Peak Hour Factor	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	1856		548	3259		
Arrive On Green	0.52	0.00	0.31	0.92		
Sat Flow, veh/h	3647	1585	1781	3647		
Grp Volume(v), veh/h	295	0	456	1521		
Grp Sat Flow(s),veh/h/ln	1777	1585	1781	1777		
Q Serve(g_s), s	3.0	0.0	16.7	4.3		
Cycle Q Clear(g_c), s	3.0	0.0	16.7	4.3		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	1856		548	3259		
V/C Ratio(X)	0.16		0.83	0.47		
Avail Cap(c_a), veh/h	1856		837	3259		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.69	0.69		
Uniform Delay (d), s/veh	8.7	0.0	22.5	0.4		
Incr Delay (d2), s/veh	0.2	0.0	5.4	0.3		
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	1.7	0.0	10.5	0.3		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	8.9	0.0	27.9	0.8		
LnGrp LOS	A		C	A		
Approach Vol, veh/h	295			1977		
Approach Delay, s/veh	8.9			7.0		
Approach LOS	A			A		

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	27.6	42.4				70.0
Change Period (Y+Rc), s	6.1	5.8				5.8
Max Green Setting (Gmax), s	32.9	25.2				64.2
Max Q Clear Time (g_c+I1), s	18.7	5.0				6.3
Green Ext Time (p_c), s	2.9	2.9				34.0

Intersection Summary	
HCM 7th Control Delay, s/veh	7.3
HCM 7th LOS	A

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	752	1143	638	922	0	0
Future Volume (veh/h)	752	1143	638	922	0	0
Initial Q (Qb), veh	0	0	0	0		
Lane Width Adj.	1.00	1.00	1.00	1.00		
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	1870	1870	1870	1870		
Adj Flow Rate, veh/h	767	0	651	941		
Peak Hour Factor	0.98	0.98	0.98	0.98		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	1495		729	3259		
Arrive On Green	0.42	0.00	0.41	0.92		
Sat Flow, veh/h	3647	1585	1781	3647		
Grp Volume(v), veh/h	767	0	651	941		
Grp Sat Flow(s),veh/h/ln	1777	1585	1781	1777		
Q Serve(g_s), s	11.2	0.0	23.8	2.1		
Cycle Q Clear(g_c), s	11.2	0.0	23.8	2.1		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	1495		729	3259		
V/C Ratio(X)	0.51		0.89	0.29		
Avail Cap(c_a), veh/h	1495		837	3259		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.80	0.80		
Uniform Delay (d), s/veh	15.0	0.0	19.3	0.3		
Incr Delay (d2), s/veh	1.3	0.0	10.3	0.2		
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	7.2	0.0	14.9	0.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	16.2	0.0	29.6	0.5		
LnGrp LOS	B		C	A		
Approach Vol, veh/h	767			1592		
Approach Delay, s/veh	16.2			12.4		
Approach LOS	B			B		

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	34.7	35.3				70.0
Change Period (Y+Rc), s	6.1	5.8				5.8
Max Green Setting (Gmax), s	32.9	25.2				64.2
Max Q Clear Time (g_c+I1), s	25.8	13.2				4.1
Green Ext Time (p_c), s	2.8	6.1				16.5

Intersection Summary	
HCM 7th Control Delay, s/veh	13.6
HCM 7th LOS	B

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	294	728	546	2369	0	0
Future Volume (veh/h)	294	728	546	2369	0	0
Initial Q (Qb), veh	0	0	0	0		
Lane Width Adj.	1.00	1.00	1.00	1.00		
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	1870	1870	1870	1870		
Adj Flow Rate, veh/h	309	0	575	2494		
Peak Hour Factor	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	1627		663	3259		
Arrive On Green	0.46	0.00	0.37	0.92		
Sat Flow, veh/h	3647	1585	1781	3647		
Grp Volume(v), veh/h	309	0	575	2494		
Grp Sat Flow(s),veh/h/ln	1777	1585	1781	1777		
Q Serve(g_s), s	3.6	0.0	21.0	13.7		
Cycle Q Clear(g_c), s	3.6	0.0	21.0	13.7		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	1627		663	3259		
V/C Ratio(X)	0.19		0.87	0.77		
Avail Cap(c_a), veh/h	1627		837	3259		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.09	0.09		
Uniform Delay (d), s/veh	11.3	0.0	20.4	0.8		
Incr Delay (d2), s/veh	0.3	0.0	1.0	0.2		
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	2.2	0.0	8.9	0.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	11.5	0.0	21.4	1.0		
LnGrp LOS	B		C	A		
Approach Vol, veh/h	309			3069		
Approach Delay, s/veh	11.5			4.8		
Approach LOS	B			A		

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	32.1	37.9				70.0
Change Period (Y+Rc), s	6.1	5.8				5.8
Max Green Setting (Gmax), s	32.9	25.2				64.2
Max Q Clear Time (g_c+I1), s	23.0	5.6				15.7
Green Ext Time (p_c), s	3.1	3.0				46.1

Intersection Summary	
HCM 7th Control Delay, s/veh	5.4
HCM 7th LOS	A

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	815	2012	758	1443	0	0
Future Volume (veh/h)	815	2012	758	1443	0	0
Initial Q (Qb), veh	0	0	0	0		
Lane Width Adj.	1.00	1.00	1.00	1.00		
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	1870	1870	1870	1870		
Adj Flow Rate, veh/h	858	0	798	1519		
Peak Hour Factor	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	1291		831	3259		
Arrive On Green	0.36	0.00	0.47	0.92		
Sat Flow, veh/h	3647	1585	1781	3647		
Grp Volume(v), veh/h	858	0	798	1519		
Grp Sat Flow(s),veh/h/ln	1777	1585	1781	1777		
Q Serve(g_s), s	14.2	0.0	30.3	4.3		
Cycle Q Clear(g_c), s	14.2	0.0	30.3	4.3		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	1291		831	3259		
V/C Ratio(X)	0.66		0.96	0.47		
Avail Cap(c_a), veh/h	1291		837	3259		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.54	0.54		
Uniform Delay (d), s/veh	18.7	0.0	18.0	0.4		
Incr Delay (d2), s/veh	2.7	0.0	14.7	0.3		
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	9.3	0.0	17.6	0.2		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	21.4	0.0	32.7	0.7		
LnGrp LOS	C		C	A		
Approach Vol, veh/h	858			2317		
Approach Delay, s/veh	21.4			11.7		
Approach LOS	C			B		

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	38.8	31.2				70.0
Change Period (Y+Rc), s	6.1	5.8				5.8
Max Green Setting (Gmax), s	32.9	25.2				64.2
Max Q Clear Time (g_c+I1), s	32.3	16.2				6.3
Green Ext Time (p_c), s	0.4	5.4				33.9

Intersection Summary		
HCM 7th Control Delay, s/veh	14.3	
HCM 7th LOS	B	

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	357	728	614	2385	0	0
Future Volume (veh/h)	357	728	614	2385	0	0
Initial Q (Qb), veh	0	0	0	0		
Lane Width Adj.	1.00	1.00	1.00	1.00		
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	1870	1870	1870	1870		
Adj Flow Rate, veh/h	380	0	653	2537		
Peak Hour Factor	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	1492		731	3259		
Arrive On Green	0.42	0.00	0.41	0.92		
Sat Flow, veh/h	3647	1585	1781	3647		
Grp Volume(v), veh/h	380	0	653	2537		
Grp Sat Flow(s),veh/h/ln	1777	1585	1781	1777		
Q Serve(g_s), s	4.9	0.0	23.9	14.5		
Cycle Q Clear(g_c), s	4.9	0.0	23.9	14.5		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	1492		731	3259		
V/C Ratio(X)	0.25		0.89	0.78		
Avail Cap(c_a), veh/h	1492		837	3259		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.09	0.09		
Uniform Delay (d), s/veh	13.2	0.0	19.2	0.8		
Incr Delay (d2), s/veh	0.4	0.0	1.4	0.2		
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	3.1	0.0	9.8	0.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	13.6	0.0	20.6	1.0		
LnGrp LOS	B		C	A		
Approach Vol, veh/h	380			3190		
Approach Delay, s/veh	13.6			5.0		
Approach LOS	B			A		

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	34.8	35.2				70.0
Change Period (Y+Rc), s	6.1	5.8				5.8
Max Green Setting (Gmax), s	32.9	25.2				64.2
Max Q Clear Time (g_c+I1), s	25.9	6.9				16.5
Green Ext Time (p_c), s	2.8	3.7				45.7

Intersection Summary	
HCM 7th Control Delay, s/veh	5.9
HCM 7th LOS	A

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	857	2012	978	1509	0	0
Future Volume (veh/h)	857	2012	978	1509	0	0
Initial Q (Qb), veh	0	0	0	0		
Lane Width Adj.	1.00	1.00	1.00	1.00		
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	1870	1870	1870	1870		
Adj Flow Rate, veh/h	902	0	1029	1588		
Peak Hour Factor	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	1279		837	3259		
Arrive On Green	0.36	0.00	0.47	0.92		
Sat Flow, veh/h	3647	1585	1781	3647		
Grp Volume(v), veh/h	902	0	1029	1588		
Grp Sat Flow(s),veh/h/ln	1777	1585	1781	1777		
Q Serve(g_s), s	15.2	0.0	32.9	4.7		
Cycle Q Clear(g_c), s	15.2	0.0	32.9	4.7		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	1279		837	3259		
V/C Ratio(X)	0.71		1.23	0.49		
Avail Cap(c_a), veh/h	1279		837	3259		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.32	0.32		
Uniform Delay (d), s/veh	19.2	0.0	18.5	0.4		
Incr Delay (d2), s/veh	3.3	0.0	106.7	0.2		
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	9.9	0.0	47.8	0.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	22.5	0.0	125.2	0.6		
LnGrp LOS	C		F	A		
Approach Vol, veh/h	902			2617		
Approach Delay, s/veh	22.5			49.6		
Approach LOS	C			D		

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	39.0	31.0				70.0
Change Period (Y+Rc), s	6.1	5.8				5.8
Max Green Setting (Gmax), s	32.9	25.2				64.2
Max Q Clear Time (g_c+I1), s	34.9	17.2				6.7
Green Ext Time (p_c), s	0.0	5.1				35.9

Intersection Summary	
HCM 7th Control Delay, s/veh	42.6
HCM 7th LOS	D

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	357	728	614	2385	0	0
Future Volume (veh/h)	357	728	614	2385	0	0
Initial Q (Qb), veh	0	0	0	0		
Lane Width Adj.	1.00	1.00	1.00	1.00		
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	1870	1870	1870	1870		
Adj Flow Rate, veh/h	380	0	653	2537		
Peak Hour Factor	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	1988		935	3259		
Arrive On Green	0.56	0.00	0.27	0.92		
Sat Flow, veh/h	3647	1585	3456	3647		
Grp Volume(v), veh/h	380	0	653	2537		
Grp Sat Flow(s),veh/h/ln	1777	1585	1728	1777		
Q Serve(g_s), s	3.7	0.0	11.9	14.5		
Cycle Q Clear(g_c), s	3.7	0.0	11.9	14.5		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	1988		935	3259		
V/C Ratio(X)	0.19		0.70	0.78		
Avail Cap(c_a), veh/h	1988		1624	3259		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.39	0.39		
Uniform Delay (d), s/veh	7.6	0.0	23.0	0.8		
Incr Delay (d2), s/veh	0.2	0.0	0.8	0.8		
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	2.0	0.0	6.5	0.6		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	7.8	0.0	23.8	1.6		
LnGrp LOS	A		C	A		
Approach Vol, veh/h	380			3190		
Approach Delay, s/veh	7.8			6.1		
Approach LOS	A			A		

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	25.0	45.0				70.0
Change Period (Y+Rc), s	6.1	5.8				5.8
Max Green Setting (Gmax), s	32.9	25.2				64.2
Max Q Clear Time (g_c+I1), s	13.9	5.7				16.5
Green Ext Time (p_c), s	5.0	3.8				45.7

Intersection Summary	
HCM 7th Control Delay, s/veh	6.3
HCM 7th LOS	A

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	857	2012	978	1509	0	0
Future Volume (veh/h)	857	2012	978	1509	0	0
Initial Q (Qb), veh	0	0	0	0		
Lane Width Adj.	1.00	1.00	1.00	1.00		
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	1870	1870	1870	1870		
Adj Flow Rate, veh/h	902	0	1029	1588		
Peak Hour Factor	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	1587		1325	3259		
Arrive On Green	0.45	0.00	0.38	0.92		
Sat Flow, veh/h	3647	1585	3456	3647		
Grp Volume(v), veh/h	902	0	1029	1588		
Grp Sat Flow(s),veh/h/ln	1777	1585	1728	1777		
Q Serve(g_s), s	13.2	0.0	18.3	4.7		
Cycle Q Clear(g_c), s	13.2	0.0	18.3	4.7		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	1587		1325	3259		
V/C Ratio(X)	0.57		0.78	0.49		
Avail Cap(c_a), veh/h	1587		1624	3259		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.66	0.66		
Uniform Delay (d), s/veh	14.4	0.0	18.9	0.4		
Incr Delay (d2), s/veh	1.5	0.0	1.9	0.3		
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	8.2	0.0	9.9	0.3		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	15.9	0.0	20.8	0.8		
LnGrp LOS	B		C	A		
Approach Vol, veh/h	902			2617		
Approach Delay, s/veh	15.9			8.7		
Approach LOS	B			A		

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	32.9	37.1				70.0
Change Period (Y+Rc), s	6.1	5.8				5.8
Max Green Setting (Gmax), s	32.9	25.2				64.2
Max Q Clear Time (g_c+I1), s	20.3	15.2				6.7
Green Ext Time (p_c), s	6.5	6.1				35.9

Intersection Summary	
HCM 7th Control Delay, s/veh	10.5
HCM 7th LOS	B

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

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INTERSECTION CAPACITY UTILIZATION

I-605 Freeway Northbound Off-Ramp @ Live Oak Avenue
Peak hr: AM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: I-605 Freeway Northbound Off-Ramp
E-W St: Live Oak Avenue
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU4

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left	0	0	0.000 *	0	0	0	0.000	0	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
NB Thru	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
NB Right [3]	459	2880	0.159	206	665	2880	0.231 *	14	296	769	2880	0.267	206	975	2880	0.339	0	975	2880	0.339
SB Left	0	0	0.000	0	0	0	0.000 *	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
SB Thru	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
SB Right	631	2880	0.219 *	0	631	2880	0.219	19	768	1418	2880	0.492 *	0	1418	2880	0.492 *	0	1418	2880	0.492 *
EB Left	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
EB Thru	206	3200	0.064	63	269	3200	0.084	6	73	285	3200	0.089	63	348	3200	0.109	0	348	3200	0.109
EB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
WB Left	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
WB Thru	1139	3200	0.356 *	83	1222	3200	0.382 *	35	319	1493	3200	0.467 *	83	1576	3200	0.493 *	0	1576	4800	0.328 *
WB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.675				0.713					1.059				1.085				0.921
LOS			B				C					F				F				E

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green
3 No Right-Turn on Red

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INTERSECTION CAPACITY UTILIZATION

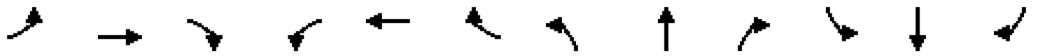
I-605 Freeway Northbound Off-Ramp @ Live Oak Avenue
Peak hr: PM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: I-605 Freeway Northbound Off-Ramp
E-W St: Live Oak Avenue
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU4

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000 *	0	0	0	0.000	0	0	0	0.000
NB Thru	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
NB Right [3]	744	2880	0.258 *	142	886	2880	0.308 *	23	173	940	2880	0.326	142	1082	2880	0.376 *	0	1082	2880	0.376 *
SB Left	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0	0.000	0	0	0	0.000 *	0	0	0	0.000 *
SB Thru	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
SB Right	607	2880	0.211	0	607	2880	0.211	18	394	1019	2880	0.354 *	0	1019	2880	0.354	0	1019	2880	0.354
EB Left	0	0	0.000	0	0	0	0.000 *	0	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
EB Thru	693	3200	0.217 *	42	735	3200	0.230	21	83	797	3200	0.249	42	839	3200	0.262	0	839	3200	0.262
EB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
WB Left	0	0	0.000 *	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
WB Thru	677	3200	0.212	285	962	3200	0.301 *	21	493	1191	3200	0.372 *	285	1476	3200	0.461 *	0	1476	4800	0.308 *
WB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.575				0.708					0.826				0.937				0.783
LOS			A				C					D				E				C

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green
3 No Right-Turn on Red



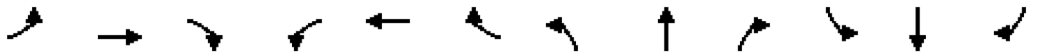
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	206	0	0	1139	0	0	0	459	0	0	631
Future Volume (veh/h)	0	206	0	0	1139	0	0	0	459	0	0	631
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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	1870	0	0	1870	0	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	222	0	0	1225	0	0	0	494	0	0	678
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	2	0	0	2	0	0	2	2	0	2	2
Cap, veh/h	0	2142	0	0	2142	0	0	517	876	0	517	876
Arrive On Green	0.00	0.60	0.00	0.00	0.60	0.00	0.00	0.00	0.28	0.00	0.00	0.28
Sat Flow, veh/h	0	3741	0	0	3741	0	0	1870	3170	0	1870	3170
Grp Volume(v), veh/h	0	222	0	0	1225	0	0	0	494	0	0	678
Grp Sat Flow(s),veh/h/ln	0	1777	0	0	1777	0	0	1870	1585	0	1870	1585
Q Serve(g_s), s	0.0	2.4	0.0	0.0	18.8	0.0	0.0	0.0	12.0	0.0	0.0	17.7
Cycle Q Clear(g_c), s	0.0	2.4	0.0	0.0	18.8	0.0	0.0	0.0	12.0	0.0	0.0	17.7
Prop In Lane	0.00		0.00	0.00		0.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	0	2142	0	0	2142	0	0	517	876	0	517	876
V/C Ratio(X)	0.00	0.10	0.00	0.00	0.57	0.00	0.00	0.00	0.56	0.00	0.00	0.77
Avail Cap(c_a), veh/h	0	2142	0	0	2142	0	0	725	1229	0	725	1229
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	7.6	0.0	0.0	10.8	0.0	0.0	0.0	27.9	0.0	0.0	30.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	1.1	0.0	0.0	0.0	1.2	0.0	0.0	3.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	1.4	0.0	0.0	10.4	0.0	0.0	0.0	8.0	0.0	0.0	11.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	7.7	0.0	0.0	12.0	0.0	0.0	0.0	29.2	0.0	0.0	33.5
LnGrp LOS		A			B				C			C
Approach Vol, veh/h		222			1225			494			678	
Approach Delay, s/veh		7.7			12.0			29.2			33.5	
Approach LOS		A			B			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	60.0	30.0	60.0	30.0
Change Period (Y+Rc), s	5.8	5.1	5.8	5.1
Max Green Setting (Gmax), s	44.2	34.9	44.2	34.9
Max Q Clear Time (g_c+I1), s	4.4	19.7	20.8	14.0
Green Ext Time (p_c), s	2.7	5.1	14.9	4.2

Intersection Summary	
HCM 7th Control Delay, s/veh	20.4
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



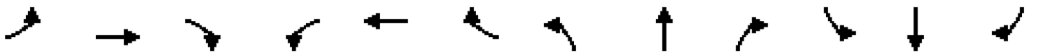
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	693	0	0	677	0	0	0	744	0	0	607
Future Volume (veh/h)	0	693	0	0	677	0	0	0	744	0	0	607
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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	1870	0	0	1870	0	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	745	0	0	728	0	0	0	800	0	0	653
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	2	0	0	2	0	0	2	2	0	2	2
Cap, veh/h	0	2011	0	0	2011	0	0	585	992	0	585	991
Arrive On Green	0.00	0.57	0.00	0.00	0.57	0.00	0.00	0.00	0.31	0.00	0.00	0.31
Sat Flow, veh/h	0	3741	0	0	3741	0	0	1870	3170	0	1870	3165
Grp Volume(v), veh/h	0	745	0	0	728	0	0	0	800	0	0	653
Grp Sat Flow(s),veh/h/ln	0	1777	0	0	1777	0	0	1870	1585	0	1870	1583
Q Serve(g_s), s	0.0	10.4	0.0	0.0	10.1	0.0	0.0	0.0	20.9	0.0	0.0	16.1
Cycle Q Clear(g_c), s	0.0	10.4	0.0	0.0	10.1	0.0	0.0	0.0	20.9	0.0	0.0	16.1
Prop In Lane	0.00		0.00	0.00		0.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	0	2011	0	0	2011	0	0	585	992	0	585	991
V/C Ratio(X)	0.00	0.37	0.00	0.00	0.36	0.00	0.00	0.00	0.81	0.00	0.00	0.66
Avail Cap(c_a), veh/h	0	2011	0	0	2011	0	0	725	1229	0	725	1227
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.91	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	10.7	0.0	0.0	10.7	0.0	0.0	0.0	28.4	0.0	0.0	26.8
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.0	0.5	0.0	0.0	0.0	4.5	0.0	0.0	1.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	6.4	0.0	0.0	6.3	0.0	0.0	0.0	12.8	0.0	0.0	10.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	11.2	0.0	0.0	11.2	0.0	0.0	0.0	32.9	0.0	0.0	28.5
LnGrp LOS		B			B				C			C
Approach Vol, veh/h		745			728			800			653	
Approach Delay, s/veh		11.2			11.2			32.9			28.5	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	56.7	33.3	56.7	33.3
Change Period (Y+Rc), s	5.8	5.1	5.8	5.1
Max Green Setting (Gmax), s	44.2	34.9	44.2	34.9
Max Q Clear Time (g_c+I1), s	12.4	18.1	12.1	22.9
Green Ext Time (p_c), s	10.1	5.2	9.8	5.3

Intersection Summary	
HCM 7th Control Delay, s/veh	21.0
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



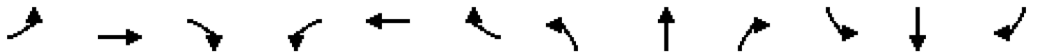
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	269	0	0	1222	0	0	0	665	0	0	631
Future Volume (veh/h)	0	269	0	0	1222	0	0	0	665	0	0	631
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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	1870	0	0	1870	0	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	289	0	0	1314	0	0	0	715	0	0	678
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	2	0	0	2	0	0	2	2	0	2	2
Cap, veh/h	0	2100	0	0	2100	0	0	538	913	0	538	913
Arrive On Green	0.00	0.59	0.00	0.00	0.59	0.00	0.00	0.00	0.29	0.00	0.00	0.29
Sat Flow, veh/h	0	3741	0	0	3741	0	0	1870	3170	0	1870	3170
Grp Volume(v), veh/h	0	289	0	0	1314	0	0	0	715	0	0	678
Grp Sat Flow(s),veh/h/ln	0	1777	0	0	1777	0	0	1870	1585	0	1870	1585
Q Serve(g_s), s	0.0	3.3	0.0	0.0	21.6	0.0	0.0	0.0	18.7	0.0	0.0	17.4
Cycle Q Clear(g_c), s	0.0	3.3	0.0	0.0	21.6	0.0	0.0	0.0	18.7	0.0	0.0	17.4
Prop In Lane	0.00		0.00	0.00		0.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	0	2100	0	0	2100	0	0	538	913	0	538	913
V/C Ratio(X)	0.00	0.14	0.00	0.00	0.63	0.00	0.00	0.00	0.78	0.00	0.00	0.74
Avail Cap(c_a), veh/h	0	2100	0	0	2100	0	0	725	1229	0	725	1229
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.99	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	8.2	0.0	0.0	11.9	0.0	0.0	0.0	29.5	0.0	0.0	29.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	1.4	0.0	0.0	0.0	3.8	0.0	0.0	2.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	2.0	0.0	0.0	11.8	0.0	0.0	0.0	11.7	0.0	0.0	10.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	8.3	0.0	0.0	13.4	0.0	0.0	0.0	33.3	0.0	0.0	31.9
LnGrp LOS		A			B				C			C
Approach Vol, veh/h		289			1314			715			678	
Approach Delay, s/veh		8.3			13.4			33.3			31.9	
Approach LOS		A			B			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	59.0	31.0	59.0	31.0
Change Period (Y+Rc), s	5.8	5.1	5.8	5.1
Max Green Setting (Gmax), s	44.2	34.9	44.2	34.9
Max Q Clear Time (g_c+I1), s	5.3	19.4	23.6	20.7
Green Ext Time (p_c), s	3.5	5.2	14.5	5.2

Intersection Summary	
HCM 7th Control Delay, s/veh	21.8
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



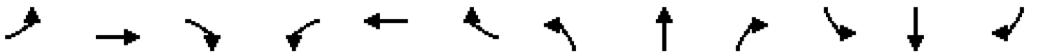
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	735	0	0	962	0	0	0	886	0	0	607
Future Volume (veh/h)	0	735	0	0	962	0	0	0	886	0	0	607
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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	1870	0	0	1870	0	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	790	0	0	1034	0	0	0	953	0	0	653
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	2	0	0	2	0	0	2	2	0	2	2
Cap, veh/h	0	1874	0	0	1874	0	0	658	1115	0	658	1113
Arrive On Green	0.00	0.53	0.00	0.00	0.53	0.00	0.00	0.00	0.35	0.00	0.00	0.35
Sat Flow, veh/h	0	3741	0	0	3741	0	0	1870	3170	0	1870	3166
Grp Volume(v), veh/h	0	790	0	0	1034	0	0	0	953	0	0	653
Grp Sat Flow(s),veh/h/ln	0	1777	0	0	1777	0	0	1870	1585	0	1870	1583
Q Serve(g_s), s	0.0	12.2	0.0	0.0	17.5	0.0	0.0	0.0	25.1	0.0	0.0	15.2
Cycle Q Clear(g_c), s	0.0	12.2	0.0	0.0	17.5	0.0	0.0	0.0	25.1	0.0	0.0	15.2
Prop In Lane	0.00		0.00	0.00		0.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	0	1874	0	0	1874	0	0	658	1115	0	658	1113
V/C Ratio(X)	0.00	0.42	0.00	0.00	0.55	0.00	0.00	0.00	0.86	0.00	0.00	0.59
Avail Cap(c_a), veh/h	0	1874	0	0	1874	0	0	725	1229	0	725	1228
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.82	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	12.9	0.0	0.0	14.2	0.0	0.0	0.0	27.1	0.0	0.0	23.8
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.0	1.2	0.0	0.0	0.0	6.6	0.0	0.0	1.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	7.4	0.0	0.0	10.5	0.0	0.0	0.0	15.1	0.0	0.0	9.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	13.5	0.0	0.0	15.4	0.0	0.0	0.0	33.6	0.0	0.0	25.0
LnGrp LOS		B			B				C			C
Approach Vol, veh/h		790			1034			953			653	
Approach Delay, s/veh		13.5			15.4			33.6			25.0	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	53.3	36.7	53.3	36.7
Change Period (Y+Rc), s	5.8	5.1	5.8	5.1
Max Green Setting (Gmax), s	44.2	34.9	44.2	34.9
Max Q Clear Time (g_c+I1), s	14.2	17.2	19.5	27.1
Green Ext Time (p_c), s	10.5	5.3	13.0	4.6

Intersection Summary	
HCM 7th Control Delay, s/veh	21.8
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



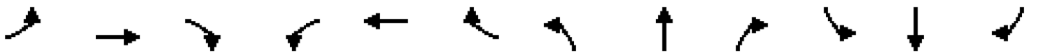
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	285	0	0	1493	0	0	0	769	0	0	1418
Future Volume (veh/h)	0	285	0	0	1493	0	0	0	769	0	0	1418
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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	1870	0	0	1870	0	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	300	0	0	1572	0	0	0	809	0	0	1493
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	2	0	0	2	0	0	2	2	0	2	2
Cap, veh/h	0	1745	0	0	1745	0	0	725	1229	0	725	1229
Arrive On Green	0.00	0.49	0.00	0.00	0.49	0.00	0.00	0.00	0.39	0.00	0.00	0.39
Sat Flow, veh/h	0	3741	0	0	3741	0	0	1870	3170	0	1870	3170
Grp Volume(v), veh/h	0	300	0	0	1572	0	0	0	809	0	0	1493
Grp Sat Flow(s),veh/h/ln	0	1777	0	0	1777	0	0	1870	1585	0	1870	1585
Q Serve(g_s), s	0.0	4.2	0.0	0.0	36.3	0.0	0.0	0.0	18.9	0.0	0.0	34.9
Cycle Q Clear(g_c), s	0.0	4.2	0.0	0.0	36.3	0.0	0.0	0.0	18.9	0.0	0.0	34.9
Prop In Lane	0.00		0.00	0.00		0.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	0	1745	0	0	1745	0	0	725	1229	0	725	1229
V/C Ratio(X)	0.00	0.17	0.00	0.00	0.90	0.00	0.00	0.00	0.66	0.00	0.00	1.21
Avail Cap(c_a), veh/h	0	1745	0	0	1745	0	0	725	1229	0	725	1229
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.99	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	12.7	0.0	0.0	20.9	0.0	0.0	0.0	22.6	0.0	0.0	27.5
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	7.9	0.0	0.0	0.0	1.8	0.0	0.0	104.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	2.8	0.0	0.0	21.1	0.0	0.0	0.0	11.2	0.0	0.0	44.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	12.9	0.0	0.0	28.8	0.0	0.0	0.0	24.4	0.0	0.0	131.8
LnGrp LOS		B			C				C			F
Approach Vol, veh/h		300			1572			809			1493	
Approach Delay, s/veh		12.9			28.8			24.4			131.8	
Approach LOS		B			C			C			F	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	50.0	40.0	50.0	40.0
Change Period (Y+Rc), s	5.8	5.1	5.8	5.1
Max Green Setting (Gmax), s	44.2	34.9	44.2	34.9
Max Q Clear Time (g_c+I1), s	6.2	36.9	38.3	20.9
Green Ext Time (p_c), s	3.7	0.0	5.3	5.9

Intersection Summary	
HCM 7th Control Delay, s/veh	63.7
HCM 7th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.



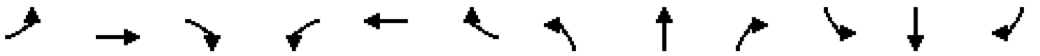
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	797	0	0	1191	0	0	0	940	0	0	1019
Future Volume (veh/h)	0	797	0	0	1191	0	0	0	940	0	0	1019
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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	1870	0	0	1870	0	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	839	0	0	1254	0	0	0	989	0	0	1073
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	2	0	0	2	0	0	2	2	0	2	2
Cap, veh/h	0	1793	0	0	1793	0	0	700	1187	0	700	1186
Arrive On Green	0.00	0.50	0.00	0.00	0.50	0.00	0.00	0.00	0.37	0.00	0.00	0.37
Sat Flow, veh/h	0	3741	0	0	3741	0	0	1870	3170	0	1870	3166
Grp Volume(v), veh/h	0	839	0	0	1254	0	0	0	989	0	0	1073
Grp Sat Flow(s),veh/h/ln	0	1777	0	0	1777	0	0	1870	1585	0	1870	1583
Q Serve(g_s), s	0.0	13.8	0.0	0.0	24.3	0.0	0.0	0.0	25.5	0.0	0.0	28.9
Cycle Q Clear(g_c), s	0.0	13.8	0.0	0.0	24.3	0.0	0.0	0.0	25.5	0.0	0.0	28.9
Prop In Lane	0.00		0.00	0.00		0.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	0	1793	0	0	1793	0	0	700	1187	0	700	1186
V/C Ratio(X)	0.00	0.47	0.00	0.00	0.70	0.00	0.00	0.00	0.83	0.00	0.00	0.91
Avail Cap(c_a), veh/h	0	1793	0	0	1793	0	0	725	1229	0	725	1228
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.68	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	14.5	0.0	0.0	17.1	0.0	0.0	0.0	25.6	0.0	0.0	26.6
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.0	2.3	0.0	0.0	0.0	5.6	0.0	0.0	10.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	8.0	0.0	0.0	14.1	0.0	0.0	0.0	15.1	0.0	0.0	17.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	15.1	0.0	0.0	19.4	0.0	0.0	0.0	31.2	0.0	0.0	36.8
LnGrp LOS		B			B				C			D
Approach Vol, veh/h		839			1254			989			1073	
Approach Delay, s/veh		15.1			19.4			31.2			36.8	
Approach LOS		B			B			C			D	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	51.2	38.8	51.2	38.8
Change Period (Y+Rc), s	5.8	5.1	5.8	5.1
Max Green Setting (Gmax), s	44.2	34.9	44.2	34.9
Max Q Clear Time (g_c+I1), s	15.8	30.9	26.3	27.5
Green Ext Time (p_c), s	11.0	2.8	12.5	4.5

Intersection Summary	
HCM 7th Control Delay, s/veh	25.8
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



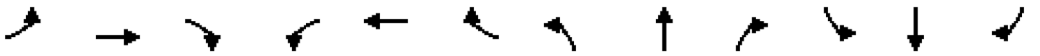
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	348	0	0	1576	0	0	0	975	0	0	1418
Future Volume (veh/h)	0	348	0	0	1576	0	0	0	975	0	0	1418
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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	1870	0	0	1870	0	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	374	0	0	1695	0	0	0	1048	0	0	1525
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	2	0	0	2	0	0	2	2	0	2	2
Cap, veh/h	0	1745	0	0	1745	0	0	725	1229	0	725	1229
Arrive On Green	0.00	0.49	0.00	0.00	0.49	0.00	0.00	0.00	0.39	0.00	0.00	0.39
Sat Flow, veh/h	0	3741	0	0	3741	0	0	1870	3170	0	1870	3170
Grp Volume(v), veh/h	0	374	0	0	1695	0	0	0	1048	0	0	1525
Grp Sat Flow(s),veh/h/ln	0	1777	0	0	1777	0	0	1870	1585	0	1870	1585
Q Serve(g_s), s	0.0	5.4	0.0	0.0	41.8	0.0	0.0	0.0	27.2	0.0	0.0	34.9
Cycle Q Clear(g_c), s	0.0	5.4	0.0	0.0	41.8	0.0	0.0	0.0	27.2	0.0	0.0	34.9
Prop In Lane	0.00		0.00	0.00		0.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	0	1745	0	0	1745	0	0	725	1229	0	725	1229
V/C Ratio(X)	0.00	0.21	0.00	0.00	0.97	0.00	0.00	0.00	0.85	0.00	0.00	1.24
Avail Cap(c_a), veh/h	0	1745	0	0	1745	0	0	725	1229	0	725	1229
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.97	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	13.0	0.0	0.0	22.3	0.0	0.0	0.0	25.2	0.0	0.0	27.5
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	15.7	0.0	0.0	0.0	6.5	0.0	0.0	115.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	3.6	0.0	0.0	25.7	0.0	0.0	0.0	16.0	0.0	0.0	47.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	13.3	0.0	0.0	38.0	0.0	0.0	0.0	31.7	0.0	0.0	142.9
LnGrp LOS		B			D				C			F
Approach Vol, veh/h		374			1695			1048			1525	
Approach Delay, s/veh		13.3			38.0			31.7			142.9	
Approach LOS		B			D			C			F	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	50.0	40.0	50.0	40.0
Change Period (Y+Rc), s	5.8	5.1	5.8	5.1
Max Green Setting (Gmax), s	44.2	34.9	44.2	34.9
Max Q Clear Time (g_c+I1), s	7.4	36.9	43.8	29.2
Green Ext Time (p_c), s	4.7	0.0	0.4	3.8

Intersection Summary	
HCM 7th Control Delay, s/veh	69.0
HCM 7th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	839	0	0	1476	0	0	0	1082	0	0	1019
Future Volume (veh/h)	0	839	0	0	1476	0	0	0	1082	0	0	1019
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1870	0	0	1870	0	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	883	0	0	1554	0	0	0	1139	0	0	1073
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	2	0	0	2	0	0	2	2	0	2	2
Cap, veh/h	0	1761	0	0	1761	0	0	717	1215	0	717	1213
Arrive On Green	0.00	0.50	0.00	0.00	0.50	0.00	0.00	0.00	0.38	0.00	0.00	0.38
Sat Flow, veh/h	0	3741	0	0	3741	0	0	1870	3170	0	1870	3166
Grp Volume(v), veh/h	0	883	0	0	1554	0	0	0	1139	0	0	1073
Grp Sat Flow(s),veh/h/ln	0	1777	0	0	1777	0	0	1870	1585	0	1870	1583
Q Serve(g_s), s	0.0	15.0	0.0	0.0	35.3	0.0	0.0	0.0	31.1	0.0	0.0	28.5
Cycle Q Clear(g_c), s	0.0	15.0	0.0	0.0	35.3	0.0	0.0	0.0	31.1	0.0	0.0	28.5
Prop In Lane	0.00		0.00	0.00		0.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	0	1761	0	0	1761	0	0	717	1215	0	717	1213
V/C Ratio(X)	0.00	0.50	0.00	0.00	0.88	0.00	0.00	0.00	0.94	0.00	0.00	0.88
Avail Cap(c_a), veh/h	0	1761	0	0	1761	0	0	725	1229	0	725	1228
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.64	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	15.2	0.0	0.0	20.3	0.0	0.0	0.0	26.7	0.0	0.0	25.9
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	6.8	0.0	0.0	0.0	13.7	0.0	0.0	8.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	8.5	0.0	0.0	20.3	0.0	0.0	0.0	19.2	0.0	0.0	17.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	15.9	0.0	0.0	27.1	0.0	0.0	0.0	40.5	0.0	0.0	34.3
LnGrp LOS		B			C				D			C
Approach Vol, veh/h		883			1554			1139			1073	
Approach Delay, s/veh		15.9			27.1			40.5			34.3	
Approach LOS		B			C			D			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	50.4	39.6	50.4	39.6
Change Period (Y+Rc), s	5.8	5.1	5.8	5.1
Max Green Setting (Gmax), s	44.2	34.9	44.2	34.9
Max Q Clear Time (g_c+I1), s	17.0	30.5	37.3	33.1
Green Ext Time (p_c), s	11.5	3.1	6.2	1.4

Intersection Summary	
HCM 7th Control Delay, s/veh	29.9
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



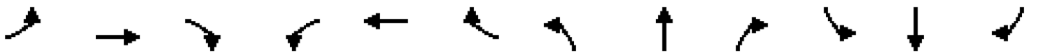
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	348	0	0	1576	0	0	0	975	0	0	1418
Future Volume (veh/h)	0	348	0	0	1576	0	0	0	975	0	0	1418
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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	1870	0	0	1870	0	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	374	0	0	1695	0	0	0	1048	0	0	1525
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	2	0	0	2	0	0	2	2	0	2	2
Cap, veh/h	0	1745	0	0	2508	0	0	725	1229	0	725	1229
Arrive On Green	0.00	0.49	0.00	0.00	0.49	0.00	0.00	0.00	0.39	0.00	0.00	0.39
Sat Flow, veh/h	0	3741	0	0	5443	0	0	1870	3170	0	1870	3170
Grp Volume(v), veh/h	0	374	0	0	1695	0	0	0	1048	0	0	1525
Grp Sat Flow(s),veh/h/ln	0	1777	0	0	1702	0	0	1870	1585	0	1870	1585
Q Serve(g_s), s	0.0	5.4	0.0	0.0	22.8	0.0	0.0	0.0	27.2	0.0	0.0	34.9
Cycle Q Clear(g_c), s	0.0	5.4	0.0	0.0	22.8	0.0	0.0	0.0	27.2	0.0	0.0	34.9
Prop In Lane	0.00		0.00	0.00		0.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	0	1745	0	0	2508	0	0	725	1229	0	725	1229
V/C Ratio(X)	0.00	0.21	0.00	0.00	0.68	0.00	0.00	0.00	0.85	0.00	0.00	1.24
Avail Cap(c_a), veh/h	0	1745	0	0	2508	0	0	725	1229	0	725	1229
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.99	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	13.0	0.0	0.0	17.4	0.0	0.0	0.0	25.2	0.0	0.0	27.5
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	1.5	0.0	0.0	0.0	6.5	0.0	0.0	115.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	3.6	0.0	0.0	12.7	0.0	0.0	0.0	16.0	0.0	0.0	47.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	13.3	0.0	0.0	18.9	0.0	0.0	0.0	31.7	0.0	0.0	142.9
LnGrp LOS		B			B				C			F
Approach Vol, veh/h		374			1695			1048			1525	
Approach Delay, s/veh		13.3			18.9			31.7			142.9	
Approach LOS		B			B			C			F	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	50.0	40.0	50.0	40.0
Change Period (Y+Rc), s	5.8	5.1	5.8	5.1
Max Green Setting (Gmax), s	44.2	34.9	44.2	34.9
Max Q Clear Time (g_c+I1), s	7.4	36.9	24.8	29.2
Green Ext Time (p_c), s	4.7	0.0	16.1	3.8

Intersection Summary	
HCM 7th Control Delay, s/veh	62.1
HCM 7th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	839	0	0	1476	0	0	0	1082	0	0	1019
Future Volume (veh/h)	0	839	0	0	1476	0	0	0	1082	0	0	1019
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1870	0	0	1870	0	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	883	0	0	1554	0	0	0	1139	0	0	1073
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	2	0	0	2	0	0	2	2	0	2	2
Cap, veh/h	0	1761	0	0	2531	0	0	717	1215	0	717	1213
Arrive On Green	0.00	0.50	0.00	0.00	0.50	0.00	0.00	0.00	0.38	0.00	0.00	0.38
Sat Flow, veh/h	0	3741	0	0	5443	0	0	1870	3170	0	1870	3166
Grp Volume(v), veh/h	0	883	0	0	1554	0	0	0	1139	0	0	1073
Grp Sat Flow(s),veh/h/ln	0	1777	0	0	1702	0	0	1870	1585	0	1870	1583
Q Serve(g_s), s	0.0	15.0	0.0	0.0	19.9	0.0	0.0	0.0	31.1	0.0	0.0	28.5
Cycle Q Clear(g_c), s	0.0	15.0	0.0	0.0	19.9	0.0	0.0	0.0	31.1	0.0	0.0	28.5
Prop In Lane	0.00		0.00	0.00		0.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h	0	1761	0	0	2531	0	0	717	1215	0	717	1213
V/C Ratio(X)	0.00	0.50	0.00	0.00	0.61	0.00	0.00	0.00	0.94	0.00	0.00	0.88
Avail Cap(c_a), veh/h	0	1761	0	0	2531	0	0	725	1229	0	725	1228
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.74	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	15.2	0.0	0.0	16.5	0.0	0.0	0.0	26.7	0.0	0.0	25.9
Incr Delay (d2), s/veh	0.0	0.8	0.0	0.0	1.1	0.0	0.0	0.0	13.7	0.0	0.0	8.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	8.8	0.0	0.0	11.3	0.0	0.0	0.0	19.2	0.0	0.0	17.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	16.0	0.0	0.0	17.6	0.0	0.0	0.0	40.5	0.0	0.0	34.3
LnGrp LOS		B			B				D			C
Approach Vol, veh/h		883			1554			1139			1073	
Approach Delay, s/veh		16.0			17.6			40.5			34.3	
Approach LOS		B			B			D			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	50.4	39.6	50.4	39.6
Change Period (Y+Rc), s	5.8	5.1	5.8	5.1
Max Green Setting (Gmax), s	44.2	34.9	44.2	34.9
Max Q Clear Time (g_c+I1), s	17.0	30.5	21.9	33.1
Green Ext Time (p_c), s	11.5	3.1	17.0	1.4

Intersection Summary	
HCM 7th Control Delay, s/veh	26.7
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

LINSCOTT, LAW & GREENSPAN, ENGINEERS
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INTERSECTION CAPACITY UTILIZATION

Arrow Highway @ Live Oak Avenue (East)
Peak hr: AM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: Arrow Highway
E-W St: Live Oak Avenue (East)
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU5

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
NB Thru	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
NB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
SB Left	288	2880	0.100	63	351	2880	0.122	9	74	371	2880	0.129	63	434	2880	0.151	0	434	2880	0.151
SB Thru	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
SB Right	63	1600	0.039	0	63	1600	0.039	2	32	97	1600	0.061	0	97	1600	0.061	0	97	1600	0.061
EB Left	94	1600	0.059 *	0	94	1600	0.059 *	3	10	107	1600	0.067 *	0	107	1600	0.067 *	0	107	1600	0.067 *
EB Thru	608	3200	0.190	269	877	3200	0.274	18	131	757	3200	0.237	269	1026	3200	0.321	0	1026	4800	0.214
EB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
WB Left	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
WB Thru	1395	3200	0.436 *	83	1478	3200	0.462 *	42	114	1551	3200	0.485 *	83	1634	3200	0.511 *	0	1634	3200	0.511 *
WB Right [3]	1251	2880	0.000	17	1268	2880	0.000	38	15	1304	2880	0.000	17	1321	2880	0.000	0	1321	2880	0.000
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.695				0.743					0.780				0.828				0.828
LOS			B				C					C				D				D

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green
3 Free Flow movement

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INTERSECTION CAPACITY UTILIZATION

Arrow Highway @ Live Oak Avenue (East)
Peak hr: PM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: Arrow Highway
E-W St: Live Oak Avenue (East)
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU5

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
NB Thru	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
NB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
SB Left	763	2880	0.265	42	805	2880	0.280	23	129	915	2880	0.318	42	957	2880	0.332	0	957	2880	0.332
SB Thru	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
SB Right	127	1600	0.079	0	127	1600	0.079	4	19	150	1600	0.094	0	150	1600	0.094	0	150	1600	0.094
EB Left	59	1600	0.037	0	59	1600	0.037	2	16	77	1600	0.048	0	77	1600	0.048	0	77	1600	0.048 *
EB Thru	1276	3200	0.399 *	183	1459	3200	0.456 *	39	79	1394	3200	0.436 *	183	1577	3200	0.493 *	0	1577	4800	0.329
EB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
WB Left	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000
WB Thru	633	3200	0.198	285	918	3200	0.287	19	151	803	3200	0.251	285	1088	3200	0.340	0	1088	3200	0.340 *
WB Right [3]	397	2880	0.000	67	464	2880	0.000	12	33	442	2880	0.000	67	509	2880	0.000	0	509	2880	0.000
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.764				0.835					0.853				0.925				0.820
LOS			C				D					D				E				D

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green
3 Free Flow movement

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INTERSECTION CAPACITY UTILIZATION

Azusa Canyon Road @ Arrow Highway
Peak hr: AM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: Azusa Canyon Road
E-W St: Arrow Highway
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU6

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left [3]	660	0	0.229	0	660	0	0.229	20	1	681	0	0.236	0	681	0	0.236	0	681	0	0.236
NB Thru [3]	6	2880	0.231 *	0	6	2880	0.231 *	0	0	6	2880	0.239 *	0	6	2880	0.239 *	0	6	2880	0.239 *
NB Right [3]	83	1600	0.052	0	83	1600	0.052	3	10	96	1600	0.060	0	96	1600	0.060	0	96	1600	0.060
SB Left [3]	12	1600	0.008	0	12	1600	0.008	0	0	12	1600	0.008	0	12	1600	0.008	0	12	1600	0.008
SB Thru [3]	3	1600	0.015 *	0	3	1600	0.015 *	0	0	3	1600	0.016 *	0	3	1600	0.016 *	0	3	1600	0.016 *
SB Right [3]	21	0	0.000	0	21	0	0.000	1	0	22	0	0.000	0	22	0	0.000	0	22	0	0.000
EB Left	19	1600	0.012 *	0	19	1600	0.012 *	1	0	20	1600	0.013 *	0	20	1600	0.013 *	0	20	1600	0.013 *
EB Thru	651	4800	0.165	332	983	4800	0.234	20	186	857	4800	0.210	332	1189	4800	0.279	0	1189	4800	0.279
EB Right	141	0	0.000	0	141	0	0.000	4	4	149	0	0.000	0	149	0	0.000	0	149	0	0.000
WB Left	61	1600	0.038	0	61	1600	0.038	2	6	69	1600	0.043	0	69	1600	0.043	0	69	1600	0.043
WB Thru	1582	3200	0.494 *	99	1681	3200	0.525 *	48	164	1794	3200	0.561 *	99	1893	3200	0.592 *	0	1893	4800	0.398 *
WB Right	17	1600	0.011	0	17	1600	0.011	1	0	18	1600	0.011	0	18	1600	0.011	0	18	0	0.000
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.853				0.883					0.927				0.958				0.765
LOS			D				D					E				E				C

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green
3 Split-phase operation

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INTERSECTION CAPACITY UTILIZATION

Azusa Canyon Road @ Arrow Highway
Peak hr: PM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: Azusa Canyon Road
E-W St: Arrow Highway
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU6

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left [3]	110	0	0.038	0	110	0	0.038	3	4	117	0	0.041	0	117	0	0.041	0	117	0	0.041
NB Thru [3]	15	2880	0.043	0	15	2880	0.043	0	0	15	2880	0.046	0	15	2880	0.046	0	15	2880	0.046
NB Right [3]	169	1600	0.106 *	0	169	1600	0.106 *	5	9	183	1600	0.114 *	0	183	1600	0.114 *	0	183	1600	0.114 *
SB Left [3]	24	1600	0.015	0	24	1600	0.015	1	0	25	1600	0.016	0	25	1600	0.016	0	25	1600	0.016
SB Thru [3]	12	1600	0.026 *	0	12	1600	0.026 *	0	0	12	1600	0.026 *	0	12	1600	0.026 *	0	12	1600	0.026 *
SB Right [3]	29	0	0.000	0	29	0	0.000	1	0	30	0	0.000	0	30	0	0.000	0	30	0	0.000
EB Left	13	1600	0.008	0	13	1600	0.008	0	0	13	1600	0.008	0	13	1600	0.008	0	13	1600	0.008
EB Thru	1710	4800	0.403 *	224	1934	4800	0.450 *	52	176	1938	4800	0.453 *	224	2162	4800	0.499 *	0	2162	4800	0.499 *
EB Right	226	0	0.000	0	226	0	0.000	7	2	235	0	0.000	0	235	0	0.000	0	235	0	0.000
WB Left	108	1600	0.068 *	0	108	1600	0.068 *	3	11	122	1600	0.076 *	0	122	1600	0.076 *	0	122	1600	0.076 *
WB Thru	805	3200	0.252	352	1157	3200	0.362	24	205	1034	3200	0.323	352	1386	3200	0.433	0	1386	4800	0.293
WB Right	17	1600	0.011	0	17	1600	0.011	1	0	18	1600	0.011	0	18	1600	0.011	0	18	0	0.000
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.702				0.749					0.770				0.816				0.816
LOS			C				C					C				D				D

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green
3 Split-phase operation

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	9	0	101	14	0	68
Future Vol, veh/h	9	0	101	14	0	68
Conflicting Peds, #/hr	0	1	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	64	64	64	64	64	64
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	0	158	22	0	106

Major/Minor	Minor2		Major2	
Conflicting Flow All	338	23	0	0
Stage 1	338	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.52	6.22	4.12	-
Critical Hdwy Stg 1	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	584	1054	-	-
Stage 1	641	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	0	1054	-	-
Mov Cap-2 Maneuver	0	-	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-

Approach	EB	WB
HCM Control Delay, s/v		
HCM LOS	-	

Minor Lane/Major Mvmt	EBLn1	WBL	WBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s/veh)	-	-	-
HCM Lane LOS	-	-	-
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	8	0	39	12	0	118
Future Vol, veh/h	8	0	39	12	0	118
Conflicting Peds, #/hr	0	0	0	0	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	0	50	15	0	151

Major/Minor	Minor2		Major2	
Conflicting Flow All	115	15	0	0
Stage 1	115	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.52	6.22	4.12	-
Critical Hdwy Stg 1	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	775	1064	-	-
Stage 1	800	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	0	1064	-	-
Mov Cap-2 Maneuver	0	-	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-

Approach	EB	WB
HCM Control Delay, s/v		
HCM LOS	-	

Minor Lane/Major Mvmt	EBLn1	WBL	WBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s/veh)	-	-	-
HCM Lane LOS	-	-	-
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Intersection Delay, s/veh	11.4
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	1
Conflicting Circle Lanes	1	1	2	2
Adj Approach Flow, veh/h	422	2009	106	104
Demand Flow Rate, veh/h	430	2049	108	106
Vehicles Circulating, veh/h	267	0	536	1669
Vehicles Exiting, veh/h	1508	644	161	380
Ped Vol Crossing Leg, #/h	0	0	1	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.1	12.8	5.2	16.9
Approach LOS	A	B	A	C

Lane	Left	Right	Left	Right	Left	Left
Designated Moves	LT	TR	LT	TR	LTR	LTR
Assumed Moves	LT	TR	LT	TR	LTR	LTR
RT Channelized						
Lane Util	0.470	0.530	0.470	0.530	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.544	4.544	4.544	4.544	4.328	4.328
A (Intercept)	1420	1420	1420	1420	1420	1420
B (Slope)	9.101e-4	9.101e-4	9.101e-4	9.101e-4	8.501e-4	8.501e-4
Entry Flow, veh/h	202	228	963	1086	108	106
Cap Entry Lane, veh/h	1114	1114	1420	1420	900	344
Entry HV Adj Factor	0.981	0.980	0.981	0.981	0.981	0.981
Flow Entry, veh/h	198	223	944	1065	106	104
Cap Entry, veh/h	1092	1091	1393	1393	884	337
V/C Ratio	0.181	0.205	0.678	0.765	0.120	0.308
Control Delay, s/veh	4.9	5.2	11.2	14.2	5.2	16.9
LOS	A	A	B	B	A	C
95th %tile Queue, veh	1	1	6	8	0	1

Intersection	
Intersection Delay, s/veh	13.1
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	1
Conflicting Circle Lanes	1	1	2	2
Adj Approach Flow, veh/h	1277	1122	151	409
Demand Flow Rate, veh/h	1303	1144	154	417
Vehicles Circulating, veh/h	468	0	1720	882
Vehicles Exiting, veh/h	831	1874	51	262
Ped Vol Crossing Leg, #/h	1	0	0	0
Ped Cap Adj	0.999	1.000	1.000	1.000
Approach Delay, s/veh	16.6	6.4	22.9	17.1
Approach LOS	C	A	C	C

Lane	Left	Right	Left	Right	Left	Left
Designated Moves	LT	TR	LT	TR	LTR	LTR
Assumed Moves	LT	TR	LT	TR	LTR	LTR
RT Channelized						
Lane Util	0.470	0.530	0.470	0.530	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.544	4.544	4.544	4.544	4.328	4.328
A (Intercept)	1420	1420	1420	1420	1420	1420
B (Slope)	9.101e-4	9.101e-4	9.101e-4	9.101e-4	8.501e-4	8.501e-4
Entry Flow, veh/h	612	691	538	606	154	417
Cap Entry Lane, veh/h	928	928	1420	1420	329	671
Entry HV Adj Factor	0.981	0.980	0.980	0.981	0.981	0.981
Flow Entry, veh/h	600	677	527	595	151	409
Cap Entry, veh/h	909	908	1392	1393	323	658
V/C Ratio	0.660	0.745	0.379	0.427	0.468	0.622
Control Delay, s/veh	14.6	18.3	6.1	6.6	22.9	17.1
LOS	B	C	A	A	C	C
95th %tile Queue, veh	5	7	2	2	2	4

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	9	0	104	14	0	70
Future Vol, veh/h	9	0	104	14	0	70
Conflicting Peds, #/hr	0	1	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	0	109	15	0	74

Major/Minor	Minor2		Major2	
Conflicting Flow All	234	16	0	0
Stage 1	234	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.52	6.22	4.12	-
Critical Hdwy Stg 1	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	667	1064	-	-
Stage 1	711	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	0	1064	-	-
Mov Cap-2 Maneuver	0	-	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-

Approach	EB	WB
HCM Control Delay, s/v		
HCM LOS	-	

Minor Lane/Major Mvmt	EBLn1	WBL	WBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s/veh)	-	-	-
HCM Lane LOS	-	-	-
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	8	0	40	12	0	122
Future Vol, veh/h	8	0	40	12	0	122
Conflicting Peds, #/hr	0	0	0	0	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	0	42	13	0	128

Major/Minor	Minor2		Major2	
Conflicting Flow All	97	13	0	0
Stage 1	97	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.52	6.22	4.12	-
Critical Hdwy Stg 1	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	793	1068	-	-
Stage 1	815	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	0	1068	-	-
Mov Cap-2 Maneuver	0	-	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-

Approach	EB	WB
HCM Control Delay, s/v		
HCM LOS	-	

Minor Lane/Major Mvmt	EBLn1	WBL	WBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s/veh)	-	-	-
HCM Lane LOS	-	-	-
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Intersection Delay, s/veh	11.5
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	1
Conflicting Circle Lanes	1	1	2	2
Adj Approach Flow, veh/h	422	2013	109	104
Demand Flow Rate, veh/h	430	2053	111	106
Vehicles Circulating, veh/h	271	0	536	1673
Vehicles Exiting, veh/h	1508	647	165	380
Ped Vol Crossing Leg, #/h	0	0	1	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.1	12.9	5.3	17.0
Approach LOS	A	B	A	C

Lane	Left	Right	Left	Right	Left	Left
Designated Moves	LT	TR	LT	TR	LTR	LTR
Assumed Moves	LT	TR	LT	TR	LTR	LTR
RT Channelized						
Lane Util	0.470	0.530	0.470	0.530	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.544	4.544	4.544	4.544	4.328	4.328
A (Intercept)	1420	1420	1420	1420	1420	1420
B (Slope)	9.101e-4	9.101e-4	9.101e-4	9.101e-4	8.501e-4	8.501e-4
Entry Flow, veh/h	202	228	965	1088	111	106
Cap Entry Lane, veh/h	1110	1110	1420	1420	900	342
Entry HV Adj Factor	0.981	0.980	0.981	0.981	0.982	0.981
Flow Entry, veh/h	198	223	946	1067	109	104
Cap Entry, veh/h	1088	1087	1393	1393	884	336
V/C Ratio	0.182	0.205	0.680	0.766	0.123	0.310
Control Delay, s/veh	5.0	5.2	11.3	14.3	5.3	17.0
LOS	A	A	B	B	A	C
95th %tile Queue, veh	1	1	6	8	0	1

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	1
Conflicting Circle Lanes	1	1	2	2
Adj Approach Flow, veh/h	1048	966	128	404
Demand Flow Rate, veh/h	1069	985	131	412
Vehicles Circulating, veh/h	455	0	1481	725
Vehicles Exiting, veh/h	682	1612	43	260
Ped Vol Crossing Leg, #/h	1	0	0	0
Ped Cap Adj	0.999	1.000	1.000	1.000
Approach Delay, s/veh	11.9	5.7	15.1	12.9
Approach LOS	B	A	C	B

Lane	Left	Right	Left	Right	Left	Left
Designated Moves	LT	TR	LT	TR	LTR	LTR
Assumed Moves	LT	TR	LT	TR	LTR	LTR
RT Channelized						
Lane Util	0.470	0.530	0.470	0.530	1.000	1.000
Follow-Up Headway, s	2.535	2.535	2.535	2.535	2.535	2.535
Critical Headway, s	4.544	4.544	4.544	4.544	4.328	4.328
A (Intercept)	1420	1420	1420	1420	1420	1420
B (Slope)	9.101e-4	9.101e-4	9.101e-4	9.101e-4	8.501e-4	8.501e-4
Entry Flow, veh/h	502	567	463	522	131	412
Cap Entry Lane, veh/h	939	939	1420	1420	403	767
Entry HV Adj Factor	0.981	0.980	0.980	0.980	0.977	0.981
Flow Entry, veh/h	493	555	454	512	128	404
Cap Entry, veh/h	920	919	1392	1392	394	752
V/C Ratio	0.535	0.605	0.326	0.368	0.325	0.537
Control Delay, s/veh	11.0	12.7	5.5	5.9	15.1	12.9
LOS	B	B	A	A	C	B
95th %tile Queue, veh	3	4	1	2	1	3

Intersection	
Int Delay, s/veh	129.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	270	0	104	946	362	0	0	70	101	0	0
Future Vol, veh/h	0	270	0	104	946	362	0	0	70	101	0	0
Conflicting Peds, #/hr	0	0	1	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	64	64	64	64	97	64	97	64	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	422	0	163	1478	373	0	0	109	104	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1851	0	0	423	0	0	1487	2599	212	2201	2413	926
Stage 1	-	-	-	-	-	-	423	423	-	1990	1990	-
Stage 2	-	-	-	-	-	-	1064	2176	-	211	423	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	324	-	-	1133	-	-	86	24	793	~ 25	32	271
Stage 1	-	-	-	-	-	-	579	586	-	~ 63	104	-
Stage 2	-	-	-	-	-	-	238	84	-	772	586	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	324	-	-	1132	-	-	60	17	793	~ 15	22	271
Mov Cap-2 Maneuver	-	-	-	-	-	-	60	17	-	~ 15	22	-
Stage 1	-	-	-	-	-	-	579	586	-	~ 43	72	-
Stage 2	-	-	-	-	-	-	165	58	-	665	586	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	2.32	10.27	$ 3228.34
HCM LOS			B	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	793	324	-	-	227	-	-	15
HCM Lane V/C Ratio	0.138	-	-	-	0.144	-	-	7.046
HCM Control Delay (s/veh)	10.3	0	-	-	8.7	2.2	-	$ 3228.3
HCM Lane LOS	B	A	-	-	A	A	-	F
HCM 95th %tile Q(veh)	0.5	0	-	-	0.5	-	-	14

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

Intersection	
Int Delay, s/veh	379

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	996	0	40	636	242	0	0	122	384	0	0
Future Vol, veh/h	0	996	0	40	636	242	0	0	122	384	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1048	0	42	669	255	0	0	128	404	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	924	0	0	1048	0	0	1468	2057	524	1405	1929	463
Stage 1	-	-	-	-	-	-	1048	1048	-	881	881	-
Stage 2	-	-	-	-	-	-	420	1008	-	524	1048	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	735	-	-	659	-	-	89	55	498	~ 99	66	546
Stage 1	-	-	-	-	-	-	243	303	-	~ 308	363	-
Stage 2	-	-	-	-	-	-	582	316	-	504	303	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	735	-	-	659	-	-	81	50	498	~ 67	60	545
Mov Cap-2 Maneuver	-	-	-	-	-	-	81	50	-	~ 67	60	-
Stage 1	-	-	-	-	-	-	243	303	-	~ 281	331	-
Stage 2	-	-	-	-	-	-	530	288	-	~ 374	303	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	1.06	14.73	$ 2381.15
HCM LOS			B	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	498	735	-	-	113	-	-	67
HCM Lane V/C Ratio	0.258	-	-	-	0.064	-	-	6.022
HCM Control Delay (s/veh)	14.7	0	-	-	10.8	0.8	-	$ 2381.1
HCM Lane LOS	B	A	-	-	B	A	-	F
HCM 95th %tile Q(veh)	1	0	-	-	0.2	-	-	45.5

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

Intersection	
Intersection Delay, s/veh	222.4
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	270	0	104	946	362	0	0	70	101	0	0
Future Vol, veh/h	0	270	0	104	946	362	0	0	70	101	0	0
Peak Hour Factor	0.97	0.64	0.64	0.64	0.64	0.97	0.64	0.97	0.64	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	422	0	163	1478	373	0	0	109	104	0	0
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay, s/veh	13.7	288.6	10.2	11.3
HCM LOS	B	F	B	B

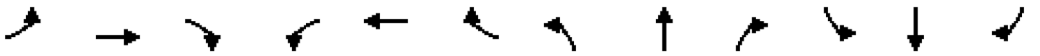
Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	0%	0%	18%	0%	100%
Vol Thru, %	0%	100%	100%	82%	57%	0%
Vol Right, %	100%	0%	0%	0%	43%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	70	135	135	577	835	101
LT Vol	0	0	0	104	0	101
Through Vol	0	135	135	473	473	0
RT Vol	70	0	0	0	362	0
Lane Flow Rate	109	211	211	902	1112	104
Geometry Grp	2	5	5	5	5	2
Degree of Util (X)	0.19	0.4	0.299	1.468	1.688	0.203
Departure Headway (Hd)	5.848	7.924	6.166	5.863	5.464	6.641
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	617	458	586	622	667	544
Service Time	3.848	5.624	3.866	3.658	3.259	4.641
HCM Lane V/C Ratio	0.177	0.461	0.36	1.45	1.667	0.191
HCM Control Delay, s/veh	10.2	15.8	11.5	236.5	330.9	11.3
HCM Lane LOS	B	C	B	F	F	B
HCM 95th-tile Q	0.7	1.9	1.2	43.1	62.3	0.8

Intersection	
Intersection Delay, s/veh	94.1
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	996	0	40	636	242	0	0	122	384	0	0
Future Vol, veh/h	0	996	0	40	636	242	0	0	122	384	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1048	0	42	669	255	0	0	128	404	0	0
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay, s/veh	93.3	123.6	16.1	50.7
HCM LOS	F	F	C	F

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	0%	0%	11%	0%	100%
Vol Thru, %	0%	100%	100%	89%	57%	0%
Vol Right, %	100%	0%	0%	0%	43%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	122	498	498	358	560	384
LT Vol	0	0	0	40	0	384
Through Vol	0	498	498	318	318	0
RT Vol	122	0	0	0	242	0
Lane Flow Rate	128	524	524	377	589	404
Geometry Grp	2	5	5	5	5	2
Degree of Util (X)	0.311	1.194	0.941	0.866	1.295	0.899
Departure Headway (Hd)	9.071	8.525	6.72	8.541	8.169	8.282
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	399	430	545	426	448	441
Service Time	7.071	6.225	4.42	6.241	5.869	6.282
HCM Lane V/C Ratio	0.321	1.219	0.961	0.885	1.315	0.916
HCM Control Delay, s/veh	16.1	135.4	51.1	46.2	173	50.7
HCM Lane LOS	C	F	F	E	F	F
HCM 95th-tile Q	1.3	19.8	11.9	8.7	24.9	9.7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	270	0	104	946	362	0	0	70	101	0	0
Future Volume (veh/h)	0	270	0	104	946	362	0	0	70	101	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	422	0	162	1478	373	0	0	109	104	0	0
Peak Hour Factor	0.97	0.64	0.64	0.64	0.64	0.97	0.64	0.97	0.64	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	2427	0	207	1623	423	0	0	339	284	0	0
Arrive On Green	0.00	0.68	0.00	0.68	0.68	0.68	0.00	0.00	0.22	0.22	0.00	0.00
Sat Flow, veh/h	0	3741	0	235	2377	619	0	0	1563	937	0	0
Grp Volume(v), veh/h	0	422	0	1054	0	959	0	0	109	104	0	0
Grp Sat Flow(s),veh/h/ln	0	1777	0	1640	0	1591	0	0	1563	937	0	0
Q Serve(g_s), s	0.0	3.8	0.0	47.4	0.0	43.3	0.0	0.0	5.3	6.7	0.0	0.0
Cycle Q Clear(g_c), s	0.0	3.8	0.0	51.3	0.0	43.3	0.0	0.0	5.3	12.0	0.0	0.0
Prop In Lane	0.00		0.00	0.15		0.39	0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	2427	0	1166	0	1086	0	0	339	284	0	0
V/C Ratio(X)	0.00	0.17	0.00	0.90	0.00	0.88	0.00	0.00	0.32	0.37	0.00	0.00
Avail Cap(c_a), veh/h	0	2468	0	1185	0	1105	0	0	339	284	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	5.1	0.0	12.6	0.0	11.4	0.0	0.0	29.6	34.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	9.8	0.0	8.5	0.0	0.0	2.5	3.6	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	2.3	0.0	25.8	0.0	21.7	0.0	0.0	4.0	4.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	5.2	0.0	22.4	0.0	19.9	0.0	0.0	32.1	38.3	0.0	0.0
LnGrp LOS		A		C		B			C	D		
Approach Vol, veh/h		422			2013			109			104	
Approach Delay, s/veh		5.2			21.2			32.1			38.3	
Approach LOS		A			C			C			D	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	24.0	66.0	24.0	66.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.5	62.5	18.5	62.5
Max Q Clear Time (g_c+I1), s	7.3	5.8	14.0	53.3
Green Ext Time (p_c), s	0.4	3.4	0.2	8.2

Intersection Summary	
HCM 7th Control Delay, s/veh	19.8
HCM 7th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	996	0	40	636	242	0	0	122	384	0	0
Future Volume (veh/h)	0	996	0	40	636	242	0	0	122	384	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1048	0	42	669	255	0	0	128	404	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	1496	0	67	823	358	0	0	749	626	0	0
Arrive On Green	0.00	0.42	0.00	0.42	0.42	0.42	0.00	0.00	0.48	0.48	0.00	0.00
Sat Flow, veh/h	0	3741	0	55	1954	850	0	0	1564	1140	0	0
Grp Volume(v), veh/h	0	1048	0	501	0	465	0	0	128	404	0	0
Grp Sat Flow(s),veh/h/ln	0	1777	0	1310	0	1549	0	0	1564	1140	0	0
Q Serve(g_s), s	0.0	21.8	0.0	11.8	0.0	22.3	0.0	0.0	4.2	24.1	0.0	0.0
Cycle Q Clear(g_c), s	0.0	21.8	0.0	33.6	0.0	22.3	0.0	0.0	4.2	28.2	0.0	0.0
Prop In Lane	0.00		0.00	0.08		0.55	0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	1496	0	595	0	652	0	0	749	626	0	0
V/C Ratio(X)	0.00	0.70	0.00	0.84	0.00	0.71	0.00	0.00	0.17	0.65	0.00	0.00
Avail Cap(c_a), veh/h	0	1560	0	622	0	680	0	0	749	626	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	21.4	0.0	23.6	0.0	21.6	0.0	0.0	13.3	21.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.4	0.0	9.9	0.0	3.4	0.0	0.0	0.5	5.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	14.0	0.0	17.2	0.0	13.2	0.0	0.0	2.8	12.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	22.7	0.0	33.5	0.0	24.9	0.0	0.0	13.8	26.4	0.0	0.0
LnGrp LOS		C		C		C			B	C		
Approach Vol, veh/h		1048			966			128			404	
Approach Delay, s/veh		22.7			29.4			13.8			26.4	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	47.6	42.4	47.6	42.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	41.5	39.5	41.5	39.5
Max Q Clear Time (g_c+I1), s	6.2	23.8	30.2	35.6
Green Ext Time (p_c), s	0.9	7.1	2.1	2.3

Intersection Summary	
HCM 7th Control Delay, s/veh	25.4
HCM 7th LOS	C

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	91	131	24	5	3
Future Vol, veh/h	1	91	131	24	5	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	1	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	69	69	69	69	69	69
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	132	190	35	7	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	225	0	-	0	276	112
Stage 1	-	-	-	-	207	-
Stage 2	-	-	-	-	69	-
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	1341	-	-	-	691	919
Stage 1	-	-	-	-	807	-
Stage 2	-	-	-	-	946	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	1341	-	-	-	690	919
Mov Cap-2 Maneuver	-	-	-	-	703	-
Stage 1	-	-	-	-	806	-
Stage 2	-	-	-	-	946	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.08	0	9.74
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1341	-	-	-	771
HCM Lane V/C Ratio	0.001	-	-	-	0.015
HCM Control Delay (s/veh)	7.7	-	-	-	9.7
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	150	54	2	16	1
Future Vol, veh/h	1	150	54	2	16	1
Conflicting Peds, #/hr	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	1	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	170	61	2	18	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	64	0	-	0	150	33
Stage 1	-	-	-	-	63	-
Stage 2	-	-	-	-	88	-
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	1537	-	-	-	827	1033
Stage 1	-	-	-	-	953	-
Stage 2	-	-	-	-	926	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	1537	-	-	-	826	1032
Mov Cap-2 Maneuver	-	-	-	-	805	-
Stage 1	-	-	-	-	952	-
Stage 2	-	-	-	-	926	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.05	0	9.52
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1537	-	-	-	816
HCM Lane V/C Ratio	0.001	-	-	-	0.024
HCM Control Delay (s/veh)	7.3	-	-	-	9.5
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	442	1408	41	16	3
Future Vol, veh/h	1	442	1408	41	16	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	1	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	69	69	69	69	69	69
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	641	2041	59	23	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2100	0	-	0	2393	1050
Stage 1	-	-	-	-	2070	-
Stage 2	-	-	-	-	323	-
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	258	-	-	-	28	224
Stage 1	-	-	-	-	83	-
Stage 2	-	-	-	-	706	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	258	-	-	-	28	224
Mov Cap-2 Maneuver	-	-	-	-	72	-
Stage 1	-	-	-	-	83	-
Stage 2	-	-	-	-	706	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.04	0	71.72
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	258	-	-	-	80
HCM Lane V/C Ratio	0.006	-	-	-	0.343
HCM Control Delay (s/veh)	19	-	-	-	71.7
HCM Lane LOS	C	-	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	1.3

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	1483	880	42	55	1
Future Vol, veh/h	1	1483	880	42	55	1
Conflicting Peds, #/hr	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	1	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	1685	1000	48	63	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1048	0	-	0	1869	525
Stage 1	-	-	-	-	1024	-
Stage 2	-	-	-	-	845	-
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	660	-	-	-	64	497
Stage 1	-	-	-	-	307	-
Stage 2	-	-	-	-	382	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	660	-	-	-	64	497
Mov Cap-2 Maneuver	-	-	-	-	184	-
Stage 1	-	-	-	-	307	-
Stage 2	-	-	-	-	382	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.01	0	34.08
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	660	-	-	-	186
HCM Lane V/C Ratio	0.002	-	-	-	0.342
HCM Control Delay (s/veh)	10.5	-	-	-	34.1
HCM Lane LOS	B	-	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	1.4

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	97	153	25	5	3
Future Vol, veh/h	1	97	153	25	5	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	1	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	102	161	26	5	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	187	0	-	0	227	94
Stage 1	-	-	-	-	174	-
Stage 2	-	-	-	-	53	-
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	1384	-	-	-	741	945
Stage 1	-	-	-	-	838	-
Stage 2	-	-	-	-	963	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	1384	-	-	-	740	945
Mov Cap-2 Maneuver	-	-	-	-	737	-
Stage 1	-	-	-	-	838	-
Stage 2	-	-	-	-	963	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.08	0	9.53
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1384	-	-	-	804
HCM Lane V/C Ratio	0.001	-	-	-	0.01
HCM Control Delay (s/veh)	7.6	-	-	-	9.5
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	170	59	2	16	1
Future Vol, veh/h	1	170	59	2	16	1
Conflicting Peds, #/hr	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	1	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	179	62	2	17	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	64	0	-	0	155	33
Stage 1	-	-	-	-	63	-
Stage 2	-	-	-	-	92	-
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	1536	-	-	-	821	1033
Stage 1	-	-	-	-	952	-
Stage 2	-	-	-	-	922	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	1536	-	-	-	821	1032
Mov Cap-2 Maneuver	-	-	-	-	801	-
Stage 1	-	-	-	-	951	-
Stage 2	-	-	-	-	922	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.04	0	9.53
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1536	-	-	-	812
HCM Lane V/C Ratio	0.001	-	-	-	0.022
HCM Control Delay (s/veh)	7.3	-	-	-	9.5
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	448	1430	42	16	3
Future Vol, veh/h	1	448	1430	42	16	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	1	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	69	69	69	69	69	69
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	649	2072	61	23	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2133	0	-	0	2430	1067
Stage 1	-	-	-	-	2103	-
Stage 2	-	-	-	-	328	-
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	251	-	-	-	26	218
Stage 1	-	-	-	-	80	-
Stage 2	-	-	-	-	703	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	251	-	-	-	26	218
Mov Cap-2 Maneuver	-	-	-	-	69	-
Stage 1	-	-	-	-	79	-
Stage 2	-	-	-	-	703	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.04	0	75.72
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	251	-	-	-	77
HCM Lane V/C Ratio	0.006	-	-	-	0.357
HCM Control Delay (s/veh)	19.4	-	-	-	75.7
HCM Lane LOS	C	-	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	1.4

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	1503	885	42	55	1
Future Vol, veh/h	1	1503	885	42	55	1
Conflicting Peds, #/hr	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	1	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	1582	932	44	58	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	976	0	-	0	1747	489
Stage 1	-	-	-	-	954	-
Stage 2	-	-	-	-	793	-
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	703	-	-	-	77	525
Stage 1	-	-	-	-	335	-
Stage 2	-	-	-	-	406	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	703	-	-	-	77	524
Mov Cap-2 Maneuver	-	-	-	-	202	-
Stage 1	-	-	-	-	334	-
Stage 2	-	-	-	-	406	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.01	0	29.61
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	703	-	-	-	204
HCM Lane V/C Ratio	0.001	-	-	-	0.288
HCM Control Delay (s/veh)	10.1	-	-	-	29.6
HCM Lane LOS	B	-	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	1.1

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INTERSECTION CAPACITY UTILIZATION

Irwindale Avenue @ Foothill Boulevard
Peak hr: AM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: Irwindale Avenue
E-W St: Foothill Boulevard
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU9

Date: 2/4/2025
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left [3]	473	0	0.164	18	491	0	0.170	14	163	650	0	0.226	18	668	0	0.232	0	668	0	0.232
NB Thru [3]	45	2880	0.180 *	0	45	2880	0.186 *	1	0	46	2880	0.242 *	0	46	2880	0.248 *	0	46	2880	0.248 *
NB Right [3],[4]	646	2880	0.000	18	664	2880	0.000	20	1	667	2880	0.000	18	685	2880	0.000	0	685	2880	0.000
SB Left [3]	2	0	0.001	0	2	0	0.001	0	0	2	0	0.001	0	2	0	0.001	0	2	0	0.001
SB Thru [3]	50	1600	0.033 *	0	50	1600	0.033 *	2	0	52	1600	0.034 *	0	52	1600	0.034 *	0	52	3200	0.017 *
SB Right [3]	1	0	0.000	0	1	0	0.000	0	0	1	0	0.000	0	1	0	0.000	0	1	0	0.000
EB Left	1	1600	0.001	0	1	1600	0.001	0	0	1	1600	0.001	0	1	1600	0.001	0	1	1600	0.001
EB Thru	271	3200	0.085	0	271	3200	0.085	8	17	296	3200	0.093	0	296	3200	0.093	0	296	3200	0.093 *
EB Right	242	1600	0.151 *	65	307	1600	0.192 *	7	51	300	1600	0.188 *	65	365	1600	0.228 *	0	365	1600	0.000
WB Left	666	2880	0.231 *	65	731	2880	0.254 *	20	8	694	2880	0.241 *	65	759	2880	0.264 *	0	759	2880	0.264 *
WB Thru	983	3200	0.308	0	983	3200	0.308	30	47	1060	3200	0.332	0	1060	3200	0.332	0	1060	3200	0.332
WB Right	3	0	0.000	0	3	0	0.000	0	0	3	0	0.000	0	3	0	0.000	0	3	0	0.000
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.695				0.765					0.805				0.874				0.721
LOS			B				C					D				D				C

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green
3 Split-phase operation.
4 The northbound right-turn lane has an overlapping phase with the westbound left-turn phase.

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INTERSECTION CAPACITY UTILIZATION

Irwindale Avenue @ Foothill Boulevard
Peak hr: PM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: Irwindale Avenue
E-W St: Foothill Boulevard
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU9

Date: 2/4/2025
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left [3]	278	0	0.097	69	347	0	0.120	8	54	340	0	0.118	69	409	0	0.142	0	409	0	0.142
NB Thru [3]	5	2880	0.098 *	0	5	2880	0.122 *	0	0	5	2880	0.120 *	0	5	2880	0.144 *	0	5	2880	0.144 *
NB Right [3],[4]	820	2880	0.040	69	889	2880	0.048	25	8	853	2880	0.041	69	922	2880	0.050	0	922	2880	0.050
SB Left [3]	2	0	0.001	0	2	0	0.001	0	0	2	0	0.001	0	2	0	0.001	0	2	0	0.001
SB Thru [3]	9	1600	0.008 *	0	9	1600	0.008 *	0	0	9	1600	0.008 *	0	9	1600	0.008 *	0	9	3200	0.004 *
SB Right [3]	1	0	0.000	0	1	0	0.000	0	0	1	0	0.000	0	1	0	0.000	0	1	0	0.000
EB Left	2	1600	0.001	0	2	1600	0.001	0	0	2	1600	0.001	0	2	1600	0.001	0	2	1600	0.001
EB Thru	1102	3200	0.344	0	1102	3200	0.344	33	54	1189	3200	0.372	0	1189	3200	0.372	0	1189	3200	0.372
EB Right	607	1600	0.379 *	44	651	1600	0.407 *	18	166	791	1600	0.494 *	44	835	1600	0.522 *	0	835	1600	0.380 *
WB Left	706	2880	0.245 *	44	750	2880	0.260 *	21	8	735	2880	0.255 *	44	779	2880	0.270 *	0	779	2880	0.270 *
WB Thru	486	3200	0.152	0	486	3200	0.152	15	16	517	3200	0.162	0	517	3200	0.162	0	517	3200	0.162
WB Right	1	0	0.000	0	1	0	0.000	0	0	1	0	0.000	0	1	0	0.000	0	1	0	0.000
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.830				0.897					0.977				1.044				0.898
LOS			D				D					E				F				D

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green
3 Split-phase operation.
4 The northbound right-turn lane has an overlapping phase with the westbound left-turn phase.

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INTERSECTION CAPACITY UTILIZATION

Irwindale Avenue @ I-210 Freeway Westbound Off-Ramp
Peak hr: AM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: Irwindale Avenue
E-W St: I-210 Freeway Westbound Off-Ramp Irwindale
Project: Brew Yard Specific Plan/1-26-4728-1
File: ICU10

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
NB Thru	1048	4800	0.296 *	36	1084	4800	0.316 *	32	81	1161	4800	0.323 *	36	1197	4800	0.343 *	0	1197	4800	0.343 *
NB Right [3]	374	0	0.000	59	433	0	0.000	11	5	390	0	0.000	59	449	0	0.000	0	449	0	0.000
SB Left	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
SB Thru	970	4800	0.202	130	1100	4800	0.229	29	59	1058	4800	0.220	130	1188	4800	0.248	0	1188	4800	0.248
SB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
EB Left	0	0	0.000 *	0	0	0	0.000	0	0	0	0	0.000 *	0	0	0	0.000	0	0	0	0.000
EB Thru	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
EB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
WB Left	126	1600	0.079	138	264	1600	0.165	4	60	190	1600	0.119	138	328	1600	0.205	0	328	1600	0.205
WB Thru	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
WB Right	191	1600	0.119 *	0	191	1600	0.119	6	79	276	1600	0.173 *	0	276	1600	0.173	0	276	1600	0.173
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.516				0.581					0.596				0.648				0.648
LOS			A				A					A				B				B

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green
3 Free Flow movement

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INTERSECTION CAPACITY UTILIZATION

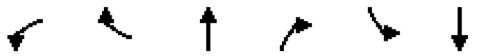
Irwindale Avenue @ I-210 Freeway Westbound Off-Ramp
Peak hr: PM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: Irwindale Avenue
E-W St: I-210 Freeway Westbound Off-Ramp Irwindale
Project: Brew Yard Specific Plan/1-26-4728-1
File: ICU10

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left	0	0	0.000 *	0	0	0	0.000	0	0	0	0	0.000 *	0	0	0	0.000	0	0	0	0.000
NB Thru	854	4800	0.279	137	991	4800	0.351 *	26	37	917	4800	0.302	137	1054	4800	0.374 *	0	1054	4800	0.374 *
NB Right [3]	485	0	0.000	210	695	0	0.000	15	31	531	0	0.000	210	741	0	0.000	0	741	0	0.000
SB Left	0	0	0.000	0	0	0	0.000 *	0	0	0	0	0.000	0	0	0	0.000 *	0	0	0	0.000 *
SB Thru	1353	4800	0.282 *	87	1440	4800	0.300	41	174	1568	4800	0.327 *	87	1655	4800	0.345	0	1655	4800	0.345
SB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
EB Left	0	0	0.000 *	0	0	0	0.000	0	0	0	0	0.000 *	0	0	0	0.000	0	0	0	0.000
EB Thru	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
EB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
WB Left	177	1600	0.111	94	271	1600	0.169	5	33	215	1600	0.134	94	309	1600	0.193	0	309	1600	0.193
WB Thru	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
WB Right	194	1600	0.121 *	0	194	1600	0.121	6	26	226	1600	0.141 *	0	226	1600	0.141	0	226	1600	0.141
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.503				0.621					0.568				0.667				0.667
LOS			A				B					A				B				B

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green
3 Free Flow movement



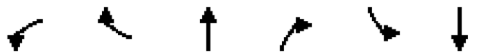
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	126	191	1048	374	0	970
Future Volume (veh/h)	126	191	1048	374	0	970
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.04	1.04	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1945	1945	1870	1870	0	1870
Adj Flow Rate, veh/h	127	193	1059	0	0	980
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	0	2
Cap, veh/h	278	247	3804		0	3804
Arrive On Green	0.15	0.15	1.00	0.00	0.00	0.75
Sat Flow, veh/h	1853	1648	5443	0	0	5443
Grp Volume(v), veh/h	127	193	1059	0	0	980
Grp Sat Flow(s),veh/h/ln	1853	1648	1702	0	0	1702
Q Serve(g_s), s	6.3	11.3	0.0	0.0	0.0	6.1
Cycle Q Clear(g_c), s	6.3	11.3	0.0	0.0	0.0	6.1
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	278	247	3804		0	3804
V/C Ratio(X)	0.46	0.78	0.28		0.00	0.26
Avail Cap(c_a), veh/h	572	509	3804		0	3804
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.67	0.00	0.00	1.00
Uniform Delay (d), s/veh	38.8	40.9	0.0	0.0	0.0	4.0
Incr Delay (d2), s/veh	1.7	7.4	0.1	0.0	0.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.3	8.7	0.1	0.0	0.0	2.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	40.5	48.3	0.1	0.0	0.0	4.2
LnGrp LOS	D	D	A			A
Approach Vol, veh/h	320		1059			980
Approach Delay, s/veh	45.2		0.1			4.2
Approach LOS	D		A			A

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		79.9		20.1		79.9
Change Period (Y+Rc), s		5.4		5.1		5.4
Max Green Setting (Gmax), s		58.6		30.9		58.6
Max Q Clear Time (g_c+I1), s		2.0		13.3		8.1
Green Ext Time (p_c), s		13.7		1.5		12.0

Intersection Summary	
HCM 7th Control Delay, s/veh	7.9
HCM 7th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



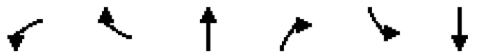
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	177	194	854	485	0	1353
Future Volume (veh/h)	177	194	854	485	0	1353
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.04	1.04	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1945	1945	1870	1870	0	1870
Adj Flow Rate, veh/h	184	202	890	0	0	1409
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	0	2
Cap, veh/h	283	252	3838		0	3838
Arrive On Green	0.15	0.15	0.75	0.00	0.00	0.75
Sat Flow, veh/h	1853	1648	5443	0	0	5443
Grp Volume(v), veh/h	184	202	890	0	0	1409
Grp Sat Flow(s),veh/h/ln	1853	1648	1702	0	0	1702
Q Serve(g_s), s	10.3	13.0	5.8	0.0	0.0	10.4
Cycle Q Clear(g_c), s	10.3	13.0	5.8	0.0	0.0	10.4
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	283	252	3838		0	3838
V/C Ratio(X)	0.65	0.80	0.23		0.00	0.37
Avail Cap(c_a), veh/h	554	493	3838		0	3838
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.71	0.00	0.00	1.00
Uniform Delay (d), s/veh	43.8	45.0	4.1	0.0	0.0	4.7
Incr Delay (d2), s/veh	3.5	8.1	0.1	0.0	0.0	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.6	9.8	2.8	0.0	0.0	5.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	47.4	53.1	4.2	0.0	0.0	5.0
LnGrp LOS	D	D	A			A
Approach Vol, veh/h	386		890			1409
Approach Delay, s/veh	50.4		4.2			5.0
Approach LOS	D		A			A

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		88.1		21.9		88.1
Change Period (Y+Rc), s		5.4		5.1		5.4
Max Green Setting (Gmax), s		66.6		32.9		66.6
Max Q Clear Time (g_c+I1), s		7.8		15.0		12.4
Green Ext Time (p_c), s		10.7		1.8		21.0

Intersection Summary	
HCM 7th Control Delay, s/veh	11.2
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



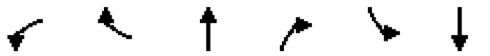
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	264	191	1084	433	0	1100
Future Volume (veh/h)	264	191	1084	433	0	1100
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.04	1.04	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1945	1945	1870	1870	0	1870
Adj Flow Rate, veh/h	230	233	1095	0	0	1111
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	0	2
Cap, veh/h	327	291	3668		0	3668
Arrive On Green	0.18	0.18	1.00	0.00	0.00	0.72
Sat Flow, veh/h	1853	1648	5443	0	0	5443
Grp Volume(v), veh/h	230	233	1095	0	0	1111
Grp Sat Flow(s),veh/h/ln	1853	1648	1702	0	0	1702
Q Serve(g_s), s	11.7	13.6	0.0	0.0	0.0	7.8
Cycle Q Clear(g_c), s	11.7	13.6	0.0	0.0	0.0	7.8
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	327	291	3668		0	3668
V/C Ratio(X)	0.70	0.80	0.30		0.00	0.30
Avail Cap(c_a), veh/h	572	509	3668		0	3668
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.53	0.00	0.00	1.00
Uniform Delay (d), s/veh	38.7	39.5	0.0	0.0	0.0	5.1
Incr Delay (d2), s/veh	3.9	7.1	0.1	0.0	0.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.4	9.9	0.1	0.0	0.0	3.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	42.6	46.6	0.1	0.0	0.0	5.3
LnGrp LOS	D	D	A			A
Approach Vol, veh/h	463		1095			1111
Approach Delay, s/veh	44.6		0.1			5.3
Approach LOS	D		A			A

Timer - Assigned Phs	2		4		6
Phs Duration (G+Y+Rc), s	77.2		22.8		77.2
Change Period (Y+Rc), s	5.4		5.1		5.4
Max Green Setting (Gmax), s	58.6		30.9		58.6
Max Q Clear Time (g_c+I1), s	2.0		15.6		9.8
Green Ext Time (p_c), s	14.4		2.1		14.3

Intersection Summary	
HCM 7th Control Delay, s/veh	10.0
HCM 7th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



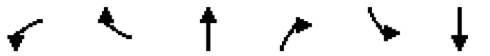
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	271	194	991	695	0	1440
Future Volume (veh/h)	271	194	991	695	0	1440
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.04	1.04	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1945	1945	1870	1870	0	1870
Adj Flow Rate, veh/h	242	245	1032	0	0	1500
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	0	2
Cap, veh/h	336	299	3693		0	3693
Arrive On Green	0.18	0.18	0.72	0.00	0.00	0.72
Sat Flow, veh/h	1853	1648	5443	0	0	5443
Grp Volume(v), veh/h	242	245	1032	0	0	1500
Grp Sat Flow(s),veh/h/ln	1853	1648	1702	0	0	1702
Q Serve(g_s), s	13.5	15.7	7.7	0.0	0.0	12.7
Cycle Q Clear(g_c), s	13.5	15.7	7.7	0.0	0.0	12.7
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	336	299	3693		0	3693
V/C Ratio(X)	0.72	0.82	0.28		0.00	0.41
Avail Cap(c_a), veh/h	554	493	3693		0	3693
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.35	0.00	0.00	1.00
Uniform Delay (d), s/veh	42.4	43.3	5.3	0.0	0.0	6.0
Incr Delay (d2), s/veh	4.1	7.7	0.1	0.0	0.0	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.7	11.3	3.7	0.0	0.0	6.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	46.5	51.0	5.3	0.0	0.0	6.3
LnGrp LOS	D	D	A			A
Approach Vol, veh/h	487		1032			1500
Approach Delay, s/veh	48.8		5.3			6.3
Approach LOS	D		A			A

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		85.0		25.0		85.0
Change Period (Y+Rc), s		5.4		5.1		5.4
Max Green Setting (Gmax), s		66.6		32.9		66.6
Max Q Clear Time (g_c+I1), s		9.7		17.7		14.7
Green Ext Time (p_c), s		13.2		2.2		22.8

Intersection Summary	
HCM 7th Control Delay, s/veh	12.8
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	190	276	1161	390	0	1058
Future Volume (veh/h)	190	276	1161	390	0	1058
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.04	1.04	1.00	1.00	1.00	1.00
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	1945	1945	1870	1870	0	1870
Adj Flow Rate, veh/h	200	291	1222	0	0	1114
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	0	2
Cap, veh/h	389	346	3499		0	3499
Arrive On Green	0.21	0.21	1.00	0.00	0.00	0.69
Sat Flow, veh/h	1853	1648	5443	0	0	5443
Grp Volume(v), veh/h	200	291	1222	0	0	1114
Grp Sat Flow(s),veh/h/ln	1853	1648	1702	0	0	1702
Q Serve(g_s), s	9.6	16.9	0.0	0.0	0.0	8.8
Cycle Q Clear(g_c), s	9.6	16.9	0.0	0.0	0.0	8.8
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	389	346	3499		0	3499
V/C Ratio(X)	0.51	0.84	0.35		0.00	0.32
Avail Cap(c_a), veh/h	572	509	3499		0	3499
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.56	0.00	0.00	1.00
Uniform Delay (d), s/veh	35.0	37.9	0.0	0.0	0.0	6.3
Incr Delay (d2), s/veh	1.5	9.9	0.2	0.0	0.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.8	12.1	0.1	0.0	0.0	4.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	36.5	47.8	0.2	0.0	0.0	6.6
LnGrp LOS	D	D	A			A
Approach Vol, veh/h	491		1222			1114
Approach Delay, s/veh	43.2		0.2			6.6
Approach LOS	D		A			A

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	73.9	26.1	73.9
Change Period (Y+Rc), s	5.4	5.1	5.4
Max Green Setting (Gmax), s	58.6	30.9	58.6
Max Q Clear Time (g_c+I1), s	2.0	18.9	10.8
Green Ext Time (p_c), s	17.0	2.0	14.3

Intersection Summary	
HCM 7th Control Delay, s/veh	10.2
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



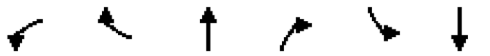
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	215	226	917	531	0	1568
Future Volume (veh/h)	215	226	917	531	0	1568
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.04	1.04	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1945	1945	1870	1870	0	1870
Adj Flow Rate, veh/h	226	238	965	0	0	1651
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	0	2
Cap, veh/h	327	291	3718		0	3718
Arrive On Green	0.18	0.18	0.73	0.00	0.00	0.73
Sat Flow, veh/h	1853	1648	5443	0	0	5443
Grp Volume(v), veh/h	226	238	965	0	0	1651
Grp Sat Flow(s),veh/h/ln	1853	1648	1702	0	0	1702
Q Serve(g_s), s	12.6	15.3	7.0	0.0	0.0	14.3
Cycle Q Clear(g_c), s	12.6	15.3	7.0	0.0	0.0	14.3
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	327	291	3718		0	3718
V/C Ratio(X)	0.69	0.82	0.26		0.00	0.44
Avail Cap(c_a), veh/h	554	493	3718		0	3718
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.54	0.00	0.00	1.00
Uniform Delay (d), s/veh	42.5	43.6	5.0	0.0	0.0	6.0
Incr Delay (d2), s/veh	3.7	7.8	0.1	0.0	0.0	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.0	11.0	3.6	0.0	0.0	7.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	46.2	51.4	5.1	0.0	0.0	6.4
LnGrp LOS	D	D	A			A
Approach Vol, veh/h	464		965			1651
Approach Delay, s/veh	48.9		5.1			6.4
Approach LOS	D		A			A

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		85.5		24.5		85.5
Change Period (Y+Rc), s		5.4		5.1		5.4
Max Green Setting (Gmax), s		66.6		32.9		66.6
Max Q Clear Time (g_c+I1), s		9.0		17.3		16.3
Green Ext Time (p_c), s		12.0		2.1		25.9

Intersection Summary	
HCM 7th Control Delay, s/veh	12.4
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



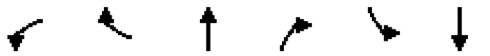
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	328	276	1197	449	0	1188
Future Volume (veh/h)	328	276	1197	449	0	1188
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.04	1.04	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1945	1945	1870	1870	0	1870
Adj Flow Rate, veh/h	305	307	1209	0	0	1200
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	0	2
Cap, veh/h	413	367	3432		0	3432
Arrive On Green	0.22	0.22	1.00	0.00	0.00	0.67
Sat Flow, veh/h	1853	1648	5443	0	0	5443
Grp Volume(v), veh/h	305	307	1209	0	0	1200
Grp Sat Flow(s),veh/h/ln	1853	1648	1702	0	0	1702
Q Serve(g_s), s	15.3	17.8	0.0	0.0	0.0	10.1
Cycle Q Clear(g_c), s	15.3	17.8	0.0	0.0	0.0	10.1
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	413	367	3432		0	3432
V/C Ratio(X)	0.74	0.84	0.35		0.00	0.35
Avail Cap(c_a), veh/h	572	509	3432		0	3432
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.39	0.00	0.00	1.00
Uniform Delay (d), s/veh	36.1	37.1	0.0	0.0	0.0	7.0
Incr Delay (d2), s/veh	4.2	9.9	0.1	0.0	0.0	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.6	12.6	0.1	0.0	0.0	5.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	40.3	47.0	0.1	0.0	0.0	7.3
LnGrp LOS	D	D	A			A
Approach Vol, veh/h	612		1209			1200
Approach Delay, s/veh	43.7		0.1			7.3
Approach LOS	D		A			A

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		72.6		27.4		72.6
Change Period (Y+Rc), s		5.4		5.1		5.4
Max Green Setting (Gmax), s		58.6		30.9		58.6
Max Q Clear Time (g_c+I1), s		2.0		19.8		12.1
Green Ext Time (p_c), s		16.7		2.5		15.8

Intersection Summary	
HCM 7th Control Delay, s/veh	11.8
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	309	226	1054	741	0	1655
Future Volume (veh/h)	309	226	1054	741	0	1655
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.04	1.04	1.00	1.00	1.00	1.00
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	1945	1945	1870	1870	0	1870
Adj Flow Rate, veh/h	282	285	1109	0	0	1742
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	0	2
Cap, veh/h	382	340	3565		0	3565
Arrive On Green	0.21	0.21	0.70	0.00	0.00	0.70
Sat Flow, veh/h	1853	1648	5443	0	0	5443
Grp Volume(v), veh/h	282	285	1109	0	0	1742
Grp Sat Flow(s),veh/h/ln	1853	1648	1702	0	0	1702
Q Serve(g_s), s	15.7	18.2	9.2	0.0	0.0	17.2
Cycle Q Clear(g_c), s	15.7	18.2	9.2	0.0	0.0	17.2
Prop In Lane	1.00	1.00		0.00	0.00	
Lane Grp Cap(c), veh/h	382	340	3565		0	3565
V/C Ratio(X)	0.74	0.84	0.31		0.00	0.49
Avail Cap(c_a), veh/h	554	493	3565		0	3565
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.09	0.00	0.00	1.00
Uniform Delay (d), s/veh	40.9	41.9	6.4	0.0	0.0	7.6
Incr Delay (d2), s/veh	4.1	10.0	0.0	0.0	0.0	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.0	12.9	3.6	0.0	0.0	9.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	45.0	51.9	6.4	0.0	0.0	8.1
LnGrp LOS	D	D	A			A
Approach Vol, veh/h	567		1109			1742
Approach Delay, s/veh	48.4		6.4			8.1
Approach LOS	D		A			A

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		82.2		27.8		82.2
Change Period (Y+Rc), s		5.4		5.1		5.4
Max Green Setting (Gmax), s		66.6		32.9		66.6
Max Q Clear Time (g_c+I1), s		11.2		20.2		19.2
Green Ext Time (p_c), s		14.6		2.4		27.1

Intersection Summary	
HCM 7th Control Delay, s/veh	14.2
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

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INTERSECTION CAPACITY UTILIZATION

Irwindale Avenue @ I-210 Freeway Eastbound Ramps
Peak hr: AM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: Irwindale Avenue
E-W St: I-210 Freeway Eastbound Ramps
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU11

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
NB Thru	913	3200	0.285 *	95	1008	3200	0.315 *	28	21	962	3200	0.301 *	95	1057	3200	0.330 *	0	1057	3200	0.330 *
NB Right	189	1600	0.118	45	234	1600	0.146	6	24	219	1600	0.137	45	264	1600	0.165	0	264	1600	0.165
SB Left	161	2880	0.056 *	0	161	2880	0.056 *	5	20	186	2880	0.065 *	0	186	2880	0.065 *	0	186	2880	0.065 *
SB Thru	365	3200	0.114	267	632	3200	0.198	11	76	452	3200	0.141	267	719	3200	0.225	0	719	3200	0.225
SB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
EB Left	511	0	0.106	0	511	0	0.106	16	79	606	0	0.126	0	606	0	0.126	0	606	0	0.126
EB Thru	1	4800	0.233 *	0	1	4800	0.274 *	0	64	65	4800	0.276 *	0	65	4800	0.317 *	0	65	4800	0.317 *
EB Right	604	0	0.000	198	802	0	0.000	18	31	653	0	0.000	198	851	0	0.000	0	851	0	0.000
WB Left	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
WB Thru	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
WB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.674				0.745					0.741				0.812				0.812
LOS			B				C					C				D				D

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green

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INTERSECTION CAPACITY UTILIZATION

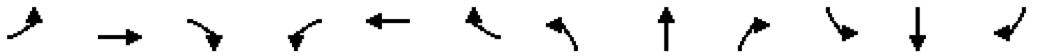
Irwindale Avenue @ I-210 Freeway Eastbound Ramps
Peak hr: PM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: Irwindale Avenue
E-W St: I-210 Freeway Eastbound Ramps
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU11

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
NB Thru	884	3200	0.276 *	348	1232	3200	0.385 *	27	99	1010	3200	0.316 *	348	1358	3200	0.424 *	0	1358	3200	0.424 *
NB Right	279	1600	0.174	146	425	1600	0.266	8	62	349	1600	0.218	146	495	1600	0.309	0	495	1600	0.309
SB Left	374	2880	0.130 *	0	374	2880	0.130 *	11	79	464	2880	0.161 *	0	464	2880	0.161 *	0	464	2880	0.161 *
SB Thru	668	3200	0.209	181	849	3200	0.265	20	43	731	3200	0.228	181	912	3200	0.285	0	912	3200	0.285
SB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
EB Left	455	0	0.095	0	455	0	0.095	14	26	495	0	0.103	0	495	0	0.103	0	495	0	0.103
EB Thru	11	4800	0.181 *	0	11	4800	0.209 *	0	8	19	4800	0.195 *	0	19	4800	0.223 *	0	19	4800	0.223 *
EB Right	405	0	0.000	134	539	0	0.000	12	6	423	0	0.000	134	557	0	0.000	0	557	0	0.000
WB Left	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
WB Thru	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
WB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.688				0.824					0.772				0.909				0.909
LOS			B				D					C				E				E

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	511	1	604	0	0	0	0	913	189	161	365	0
Future Volume (veh/h)	511	1	604	0	0	0	0	913	189	161	365	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.04	1.04	1.04				1.00	1.00	1.04	1.04	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945				0	1870	1945	1945	1870	0
Adj Flow Rate, veh/h	760	0	413				0	971	201	171	388	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	1023	0	455				0	1662	771	356	2182	0
Arrive On Green	0.28	0.00	0.28				0.00	0.47	0.47	0.03	0.20	0.00
Sat Flow, veh/h	3705	0	1648				0	3647	1647	3594	3647	0
Grp Volume(v), veh/h	760	0	413				0	971	201	171	388	0
Grp Sat Flow(s),veh/h/ln	1853	0	1648				0	1777	1647	1797	1777	0
Q Serve(g_s), s	18.7	0.0	24.2				0.0	20.0	7.4	4.7	9.0	0.0
Cycle Q Clear(g_c), s	18.7	0.0	24.2				0.0	20.0	7.4	4.7	9.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	1023	0	455				0	1662	771	356	2182	0
V/C Ratio(X)	0.74	0.00	0.91				0.00	0.58	0.26	0.48	0.18	0.00
Avail Cap(c_a), veh/h	1052	0	468				0	1662	771	873	2182	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.95	0.95	0.00
Uniform Delay (d), s/veh	33.0	0.0	35.0				0.0	19.5	16.1	45.8	19.0	0.0
Incr Delay (d2), s/veh	3.0	0.0	21.4				0.0	1.5	0.8	1.4	0.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	13.3	0.0	17.8				0.0	12.6	5.0	3.9	7.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	36.0	0.0	56.4				0.0	21.0	17.0	47.2	19.2	0.0
LnGrp LOS	D		E					C	B	D	B	
Approach Vol, veh/h		1173						1172			559	
Approach Delay, s/veh		43.2						20.3			27.7	
Approach LOS		D						C			C	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	14.6	52.2	33.2	66.8
Change Period (Y+Rc), s	4.7	5.4	5.6	5.4
Max Green Setting (Gmax), s	24.3	31.6	28.4	60.6
Max Q Clear Time (g_c+I1), s	6.7	22.0	26.2	11.0
Green Ext Time (p_c), s	0.7	6.0	1.4	3.8

Intersection Summary	
HCM 7th Control Delay, s/veh	31.0
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	455	11	405	0	0	0	0	884	279	374	668	0
Future Volume (veh/h)	455	11	405	0	0	0	0	884	279	374	668	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.04	1.04	1.04				1.00	1.00	1.04	1.04	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945				0	1870	1945	1945	1870	0
Adj Flow Rate, veh/h	616	0	288				0	931	294	394	703	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	822	0	366				0	1702	789	511	2374	0
Arrive On Green	0.22	0.00	0.22				0.00	0.48	0.48	0.14	0.67	0.00
Sat Flow, veh/h	3705	0	1648				0	3647	1646	3594	3647	0
Grp Volume(v), veh/h	616	0	288				0	931	294	394	703	0
Grp Sat Flow(s),veh/h/ln	1853	0	1648				0	1777	1646	1797	1777	0
Q Serve(g_s), s	15.5	0.0	16.5				0.0	18.5	11.3	10.6	8.2	0.0
Cycle Q Clear(g_c), s	15.5	0.0	16.5				0.0	18.5	11.3	10.6	8.2	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	822	0	366				0	1702	789	511	2374	0
V/C Ratio(X)	0.75	0.00	0.79				0.00	0.55	0.37	0.77	0.30	0.00
Avail Cap(c_a), veh/h	1052	0	468				0	1702	789	873	2374	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.91	0.91	0.00
Uniform Delay (d), s/veh	36.3	0.0	36.7				0.0	18.4	16.5	41.3	6.9	0.0
Incr Delay (d2), s/veh	2.7	0.0	7.9				0.0	1.3	1.4	3.2	0.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.5	0.0	11.7				0.0	11.8	7.7	8.2	4.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	39.0	0.0	44.5				0.0	19.7	17.9	44.6	7.2	0.0
LnGrp LOS	D		D					B	B	D	A	
Approach Vol, veh/h		904						1225			1097	
Approach Delay, s/veh		40.8						19.2			20.6	
Approach LOS		D						B			C	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	18.9	53.3		27.8		72.2						
Change Period (Y+Rc), s	4.7	5.4		5.6		5.4						
Max Green Setting (Gmax), s	24.3	31.6		28.4		60.6						
Max Q Clear Time (g_c+I1), s	12.6	20.5		18.5		10.2						
Green Ext Time (p_c), s	1.7	6.8		3.7		7.8						

Intersection Summary												
HCM 7th Control Delay, s/veh			25.7									
HCM 7th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	511	1	802	0	0	0	0	1008	234	161	632	0
Future Volume (veh/h)	511	1	802	0	0	0	0	1008	234	161	632	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.04	1.04	1.04				1.00	1.00	1.04	1.04	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945				0	1870	1945	1945	1870	0
Adj Flow Rate, veh/h	363	0	1048				0	1072	249	171	672	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	526	0	936				0	1634	758	356	2154	0
Arrive On Green	0.28	0.00	0.28				0.00	0.46	0.46	0.10	0.61	0.00
Sat Flow, veh/h	1853	0	3297				0	3647	1647	3594	3647	0
Grp Volume(v), veh/h	363	0	1048				0	1072	249	171	672	0
Grp Sat Flow(s),veh/h/ln	1853	0	1648				0	1777	1647	1797	1777	0
Q Serve(g_s), s	17.4	0.0	28.4				0.0	23.3	9.6	4.5	9.2	0.0
Cycle Q Clear(g_c), s	17.4	0.0	28.4				0.0	23.3	9.6	4.5	9.2	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	526	0	936				0	1634	758	356	2154	0
V/C Ratio(X)	0.69	0.00	1.12				0.00	0.66	0.33	0.48	0.31	0.00
Avail Cap(c_a), veh/h	526	0	936				0	1634	758	873	2154	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.92	0.92	0.00
Uniform Delay (d), s/veh	31.9	0.0	35.8				0.0	20.9	17.2	42.6	9.6	0.0
Incr Delay (d2), s/veh	4.2	0.0	67.9				0.0	2.1	1.2	1.3	0.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.9	0.0	29.0				0.0	14.5	6.6	3.6	5.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	36.1	0.0	103.7				0.0	23.0	18.3	43.9	9.9	0.0
LnGrp LOS	D		F					C	B	D	A	
Approach Vol, veh/h		1411						1321			843	
Approach Delay, s/veh		86.3						22.1			16.8	
Approach LOS		F						C			B	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	14.6	51.4	34.0	66.0
Change Period (Y+Rc), s	4.7	5.4	5.6	5.4
Max Green Setting (Gmax), s	24.3	31.6	28.4	60.6
Max Q Clear Time (g_c+I1), s	6.5	25.3	30.4	11.2
Green Ext Time (p_c), s	0.7	4.6	0.0	7.4

Intersection Summary	
HCM 7th Control Delay, s/veh	46.2
HCM 7th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	455	11	539	0	0	0	0	1232	425	374	849	0
Future Volume (veh/h)	455	11	539	0	0	0	0	1232	425	374	849	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.04	1.04	1.04				1.00	1.00	1.04	1.04	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945				0	1870	1945	1945	1870	0
Adj Flow Rate, veh/h	674	0	367				0	1297	447	394	894	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	960	0	427				0	1570	727	511	2242	0
Arrive On Green	0.26	0.00	0.26				0.00	0.44	0.44	0.14	0.63	0.00
Sat Flow, veh/h	3705	0	1648				0	3647	1646	3594	3647	0
Grp Volume(v), veh/h	674	0	367				0	1297	447	394	894	0
Grp Sat Flow(s),veh/h/ln	1853	0	1648				0	1777	1646	1797	1777	0
Q Serve(g_s), s	16.5	0.0	21.2				0.0	32.1	20.8	10.6	12.4	0.0
Cycle Q Clear(g_c), s	16.5	0.0	21.2				0.0	32.1	20.8	10.6	12.4	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	960	0	427				0	1570	727	511	2242	0
V/C Ratio(X)	0.70	0.00	0.86				0.00	0.83	0.61	0.77	0.40	0.00
Avail Cap(c_a), veh/h	1052	0	468				0	1570	727	873	2242	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.87	0.87	0.00
Uniform Delay (d), s/veh	33.6	0.0	35.3				0.0	24.5	21.4	41.3	9.1	0.0
Incr Delay (d2), s/veh	2.2	0.0	14.7				0.0	5.1	3.9	3.1	0.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.0	0.0	15.2				0.0	19.6	13.0	8.1	7.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	35.7	0.0	50.0				0.0	29.6	25.2	44.4	9.6	0.0
LnGrp LOS	D		D					C	C	D	A	
Approach Vol, veh/h		1041						1744			1288	
Approach Delay, s/veh		40.8						28.5			20.2	
Approach LOS		D						C			C	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	18.9	49.6	31.5	68.5
Change Period (Y+Rc), s	4.7	5.4	5.6	5.4
Max Green Setting (Gmax), s	24.3	31.6	28.4	60.6
Max Q Clear Time (g_c+I1), s	12.6	34.1	23.2	14.4
Green Ext Time (p_c), s	1.7	0.0	2.7	10.7

Intersection Summary	
HCM 7th Control Delay, s/veh	29.0
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



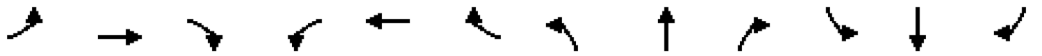
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	606	65	653	0	0	0	0	962	219	186	452	0
Future Volume (veh/h)	606	65	653	0	0	0	0	962	219	186	452	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.04	1.04	1.04				1.00	1.00	1.04	1.04	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945				0	1870	1945	1945	1870	0
Adj Flow Rate, veh/h	887	0	473				0	1013	231	196	476	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	1052	0	468				0	1633	757	358	2154	0
Arrive On Green	0.28	0.00	0.28				0.00	0.46	0.46	0.03	0.20	0.00
Sat Flow, veh/h	3705	0	1648				0	3647	1647	3594	3647	0
Grp Volume(v), veh/h	887	0	473				0	1013	231	196	476	0
Grp Sat Flow(s),veh/h/ln	1853	0	1648				0	1777	1647	1797	1777	0
Q Serve(g_s), s	22.5	0.0	28.4				0.0	21.6	8.8	5.4	11.2	0.0
Cycle Q Clear(g_c), s	22.5	0.0	28.4				0.0	21.6	8.8	5.4	11.2	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	1052	0	468				0	1633	757	358	2154	0
V/C Ratio(X)	0.84	0.00	1.01				0.00	0.62	0.31	0.55	0.22	0.00
Avail Cap(c_a), veh/h	1052	0	468				0	1633	757	873	2154	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.90	0.90	0.00
Uniform Delay (d), s/veh	33.7	0.0	35.8				0.0	20.4	17.0	46.1	20.2	0.0
Incr Delay (d2), s/veh	6.6	0.0	44.2				0.0	1.8	1.0	1.7	0.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	16.1	0.0	23.6				0.0	13.5	6.0	4.5	8.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	40.3	0.0	80.0				0.0	22.2	18.0	47.8	20.5	0.0
LnGrp LOS	D		F					C	B	D	C	
Approach Vol, veh/h		1360						1244			672	
Approach Delay, s/veh		54.1						21.4			28.4	
Approach LOS		D						C			C	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	14.7	51.3	34.0	66.0
Change Period (Y+Rc), s	4.7	5.4	5.6	5.4
Max Green Setting (Gmax), s	24.3	31.6	28.4	60.6
Max Q Clear Time (g_c+I1), s	7.4	23.6	30.4	13.2
Green Ext Time (p_c), s	0.9	5.4	0.0	4.8

Intersection Summary	
HCM 7th Control Delay, s/veh	36.4
HCM 7th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	495	19	423	0	0	0	0	1010	349	464	731	0
Future Volume (veh/h)	495	19	423	0	0	0	0	1010	349	464	731	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.04	1.04	1.04				1.00	1.00	1.04	1.04	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945				0	1870	1945	1945	1870	0
Adj Flow Rate, veh/h	668	0	303				0	1063	367	488	769	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	856	0	381				0	1574	729	608	2342	0
Arrive On Green	0.23	0.00	0.23				0.00	0.44	0.44	0.17	0.66	0.00
Sat Flow, veh/h	3705	0	1648				0	3647	1646	3594	3647	0
Grp Volume(v), veh/h	668	0	303				0	1063	367	488	769	0
Grp Sat Flow(s),veh/h/ln	1853	0	1648				0	1777	1646	1797	1777	0
Q Serve(g_s), s	16.9	0.0	17.3				0.0	23.8	16.0	13.1	9.4	0.0
Cycle Q Clear(g_c), s	16.9	0.0	17.3				0.0	23.8	16.0	13.1	9.4	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	856	0	381				0	1574	729	608	2342	0
V/C Ratio(X)	0.78	0.00	0.80				0.00	0.68	0.50	0.80	0.33	0.00
Avail Cap(c_a), veh/h	1052	0	468				0	1574	729	873	2342	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.86	0.86	0.00
Uniform Delay (d), s/veh	36.1	0.0	36.2				0.0	22.1	20.0	39.9	7.4	0.0
Incr Delay (d2), s/veh	3.6	0.0	8.6				0.0	2.3	2.5	3.9	0.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.5	0.0	12.2				0.0	14.8	10.3	9.6	5.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	39.6	0.0	44.8				0.0	24.5	22.4	43.8	7.7	0.0
LnGrp LOS	D		D					C	C	D	A	
Approach Vol, veh/h		971						1430			1257	
Approach Delay, s/veh		41.3						24.0			21.7	
Approach LOS		D						C			C	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	21.6	49.7	28.7	71.3
Change Period (Y+Rc), s	4.7	5.4	5.6	5.4
Max Green Setting (Gmax), s	24.3	31.6	28.4	60.6
Max Q Clear Time (g_c+I1), s	15.1	25.8	19.3	11.4
Green Ext Time (p_c), s	1.9	4.4	3.8	8.8

Intersection Summary	
HCM 7th Control Delay, s/veh	27.8
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	606	65	851	0	0	0	0	1057	264	186	719	0
Future Volume (veh/h)	606	65	851	0	0	0	0	1057	264	186	719	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.04	1.04	1.04				1.00	1.00	1.04	1.04	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945				0	1870	1945	1945	1870	0
Adj Flow Rate, veh/h	453	0	1157				0	1124	281	198	765	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	526	0	936				0	1633	757	358	2154	0
Arrive On Green	0.28	0.00	0.28				0.00	0.46	0.46	0.10	0.61	0.00
Sat Flow, veh/h	1853	0	3297				0	3647	1647	3594	3647	0
Grp Volume(v), veh/h	453	0	1157				0	1124	281	198	765	0
Grp Sat Flow(s),veh/h/ln	1853	0	1648				0	1777	1647	1797	1777	0
Q Serve(g_s), s	23.2	0.0	28.4				0.0	25.0	11.1	5.2	10.8	0.0
Cycle Q Clear(g_c), s	23.2	0.0	28.4				0.0	25.0	11.1	5.2	10.8	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	526	0	936				0	1633	757	358	2154	0
V/C Ratio(X)	0.86	0.00	1.24				0.00	0.69	0.37	0.55	0.36	0.00
Avail Cap(c_a), veh/h	526	0	936				0	1633	757	873	2154	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.87	0.87	0.00
Uniform Delay (d), s/veh	33.9	0.0	35.8				0.0	21.4	17.6	42.9	9.9	0.0
Incr Delay (d2), s/veh	14.0	0.0	115.3				0.0	2.4	1.4	1.7	0.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	17.8	0.0	38.7				0.0	15.3	7.6	4.2	6.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	47.9	0.0	151.1				0.0	23.8	19.0	44.6	10.3	0.0
LnGrp LOS	D		F					C	B	D	B	
Approach Vol, veh/h		1610						1405			963	
Approach Delay, s/veh		122.1						22.8			17.3	
Approach LOS		F						C			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	14.7	51.3		34.0		66.0
Change Period (Y+Rc), s	4.7	5.4		5.6		5.4
Max Green Setting (Gmax), s	24.3	31.6		28.4		60.6
Max Q Clear Time (g_c+I1), s	7.2	27.0		30.4		12.8
Green Ext Time (p_c), s	0.9	3.6		0.0		8.7

Intersection Summary	
HCM 7th Control Delay, s/veh	61.7
HCM 7th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	495	19	557	0	0	0	0	1358	495	464	912	0
Future Volume (veh/h)	495	19	557	0	0	0	0	1358	495	464	912	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.04	1.04	1.04				1.00	1.00	1.04	1.04	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1945	1945	1945				0	1870	1945	1945	1870	0
Adj Flow Rate, veh/h	721	0	387				0	1429	521	488	960	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	990	0	441				0	1445	669	608	2213	0
Arrive On Green	0.27	0.00	0.27				0.00	0.41	0.41	0.17	0.62	0.00
Sat Flow, veh/h	3705	0	1648				0	3647	1646	3594	3647	0
Grp Volume(v), veh/h	721	0	387				0	1429	521	488	960	0
Grp Sat Flow(s),veh/h/ln	1853	0	1648				0	1777	1646	1797	1777	0
Q Serve(g_s), s	17.7	0.0	22.5				0.0	39.9	27.5	13.1	14.0	0.0
Cycle Q Clear(g_c), s	17.7	0.0	22.5				0.0	39.9	27.5	13.1	14.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	990	0	441				0	1445	669	608	2213	0
V/C Ratio(X)	0.73	0.00	0.88				0.00	0.99	0.78	0.80	0.43	0.00
Avail Cap(c_a), veh/h	1052	0	468				0	1445	669	873	2213	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.82	0.82	0.00
Uniform Delay (d), s/veh	33.3	0.0	35.1				0.0	29.4	25.8	39.9	9.8	0.0
Incr Delay (d2), s/veh	2.7	0.0	17.1				0.0	21.2	8.7	3.7	0.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.8	0.0	16.2				0.0	27.3	17.2	9.5	8.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	36.0	0.0	52.2				0.0	50.6	34.5	43.6	10.3	0.0
LnGrp LOS	D		D					D	C	D	B	
Approach Vol, veh/h		1108						1950			1448	
Approach Delay, s/veh		41.7						46.3			21.5	
Approach LOS		D						D			C	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	21.6	46.1	32.3	67.7
Change Period (Y+Rc), s	4.7	5.4	5.6	5.4
Max Green Setting (Gmax), s	24.3	31.6	28.4	60.6
Max Q Clear Time (g_c+I1), s	15.1	41.9	24.5	16.0
Green Ext Time (p_c), s	1.9	0.0	2.3	11.8

Intersection Summary	
HCM 7th Control Delay, s/veh	37.2
HCM 7th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

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INTERSECTION CAPACITY UTILIZATION

Irwindale Avenue @ Jardin De Roca-Irwindale Road
Peak hr: AM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: Irwindale Avenue
E-W St: Jardin De Roca-Irwindale Road
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU12

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left	7	1600	0.004	0	7	1600	0.004	0	0	7	1600	0.004	0	7	1600	0.004	0	7	1600	0.004
NB Thru	1008	3200	0.315 *	141	1149	3200	0.359 *	31	40	1079	3200	0.337 *	141	1220	3200	0.381 *	0	1220	3200	0.381 *
NB Right	88	1600	0.055	0	88	1600	0.055	3	18	109	1600	0.068	0	109	1600	0.068	0	109	1600	0.068
SB Left	159	1600	0.099 *	0	159	1600	0.099 *	5	42	206	1600	0.129 *	0	206	1600	0.129 *	0	206	1600	0.129 *
SB Thru	819	3200	0.256	465	1284	3200	0.401	25	128	972	3200	0.304	465	1437	3200	0.449	0	1437	3200	0.449
SB Right	7	1600	0.004	0	7	1600	0.004	0	0	7	1600	0.004	0	7	1600	0.004	0	7	1600	0.004
EB Left	6	0	0.004 *	0	6	0	0.004 *	0	0	6	0	0.004 *	0	6	0	0.004 *	0	6	0	0.004 *
EB Thru	0	1600	0.006	0	0	1600	0.006	0	0	0	1600	0.006	0	0	1600	0.006	0	0	1600	0.006
EB Right	3	0	0.000	0	3	0	0.000	0	0	3	0	0.000	0	3	0	0.000	0	3	0	0.000
WB Left	16	0	0.010	0	16	0	0.010	0	2	18	0	0.011	0	18	0	0.011	0	18	0	0.011
WB Thru	0	1600	0.043 *	0	0	1600	0.043 *	0	0	0	1600	0.049 *	0	0	1600	0.049 *	0	0	1600	0.049 *
WB Right	52	0	0.000	0	52	0	0.000	2	6	60	0	0.000	0	60	0	0.000	0	60	0	0.000
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.561				0.605					0.618				0.663				0.663
LOS			A				B					B				B				B

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green

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INTERSECTION CAPACITY UTILIZATION

Irwindale Avenue @ Jardin De Roca-Irwindale Road
Peak hr: PM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: Irwindale Avenue
E-W St: Jardin De Roca-Irwindale Road
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU12

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left	7	1600	0.004	0	7	1600	0.004	0	0	7	1600	0.004	0	7	1600	0.004	0	7	1600	0.004
NB Thru	992	3200	0.310 *	494	1486	3200	0.464 *	30	122	1144	3200	0.358 *	494	1638	3200	0.512 *	0	1638	3200	0.512 *
NB Right	23	1600	0.014	0	23	1600	0.014	1	3	27	1600	0.017	0	27	1600	0.017	0	27	1600	0.017
SB Left	28	1600	0.018 *	0	28	1600	0.018 *	1	8	37	1600	0.023 *	0	37	1600	0.023 *	0	37	1600	0.023 *
SB Thru	1020	3200	0.319	315	1335	3200	0.417	31	49	1100	3200	0.344	315	1415	3200	0.442	0	1415	3200	0.442
SB Right	5	1600	0.003	0	5	1600	0.003	0	0	5	1600	0.003	0	5	1600	0.003	0	5	1600	0.003
EB Left	6	0	0.004 *	0	6	0	0.004 *	0	0	6	0	0.004 *	0	6	0	0.004 *	0	6	0	0.004 *
EB Thru	0	1600	0.014	0	0	1600	0.014	0	0	0	1600	0.015	0	0	1600	0.015	0	0	1600	0.015
EB Right	17	0	0.000	0	17	0	0.000	1	0	18	0	0.000	0	18	0	0.000	0	18	0	0.000
WB Left	71	0	0.044	0	71	0	0.044	2	16	89	0	0.056	0	89	0	0.056	0	89	0	0.056
WB Thru	0	1600	0.156 *	0	0	1600	0.156 *	0	0	0	1600	0.194 *	0	0	1600	0.194 *	0	0	1600	0.194 *
WB Right	179	0	0.000	0	179	0	0.000	5	38	222	0	0.000	0	222	0	0.000	0	222	0	0.000
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.588				0.742					0.679				0.833				0.833
LOS			A				C					B				D				D

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green

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INTERSECTION CAPACITY UTILIZATION

Irwindale Avenue @ First Street
Peak hr: AM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: Irwindale Avenue
E-W St: First Street
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU13

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left	54	1600	0.034	830	884	1600	0.553 *	2	6	62	1600	0.039	830	892	1600	0.558 *	0	892	2880	0.310 *
NB Thru	1195	3200	0.374 *	0	1195	3200	0.374	36	56	1287	3200	0.403 *	0	1287	3200	0.403	0	1287	3200	0.403
NB Right	3	0	0.000	0	3	0	0.000	0	0	3	0	0.000	0	3	0	0.000	0	3	0	0.000
SB Left	1	1600	0.001 *	0	1	1600	0.001	0	0	1	1600	0.001 *	0	1	1600	0.001	0	1	1600	0.001
SB Thru	610	4800	0.127	0	610	4800	0.127	19	118	747	4800	0.156	0	747	4800	0.156	0	747	4800	0.156
SB Right	108	1600	0.068	465	573	1600	0.358 *	3	12	123	1600	0.077	465	588	1600	0.368 *	0	588	1600	0.368 *
EB Left [3]	67	0	0.023	141	208	0	0.072	2	1	70	0	0.024	141	211	0	0.073	0	211	0	0.044
EB Thru [3]	0	2880	0.023	0	0	2880	0.072	0	0	0	2880	0.024	0	0	2880	0.073	0	0	4800	0.097 *
EB Right [3]	30	1600	0.019	222	252	1600	0.158 *	1	2	33	1600	0.021	222	255	1600	0.159 *	0	255	0	0.000
WB Left [3]	1	1600	0.001	0	1	1600	0.001	0	0	1	1600	0.001	0	1	1600	0.001	0	1	1600	0.001
WB Thru [3]	0	1600	0.000	0	0	1600	0.000	0	0	0	1600	0.000	0	0	1600	0.000	0	0	1600	0.000
WB Right [3]	1	1600	0.001	0	1	1600	0.001	0	0	1	1600	0.001	0	1	1600	0.001	0	1	1600	0.001
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.499				1.169					0.529				1.185				0.875
LOS			A				F					A				F				D

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green
3 Split-phase operation

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INTERSECTION CAPACITY UTILIZATION

Irwindale Avenue @ First Street
Peak hr: PM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: Irwindale Avenue
E-W St: First Street
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU13

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left	24	1600	0.015	552	576	1600	0.360 *	1	1	26	1600	0.016	552	578	1600	0.361 *	0	578	2880	0.201 *
NB Thru	816	3200	0.255 *	0	816	3200	0.255	25	119	960	3200	0.300 *	0	960	3200	0.300	0	960	3200	0.300
NB Right	1	0	0.000	0	1	0	0.000	0	0	1	0	0.000	0	1	0	0.000	0	1	0	0.000
SB Left	3	1600	0.002 *	0	3	1600	0.002	0	0	3	1600	0.002 *	0	3	1600	0.002	0	3	1600	0.002
SB Thru	1078	4800	0.225	0	1078	4800	0.225 *	33	63	1174	4800	0.245	0	1174	4800	0.245 *	0	1174	4800	0.245 *
SB Right	40	1600	0.025	315	355	1600	0.222	1	2	43	1600	0.027	315	358	1600	0.224	0	358	1600	0.224
EB Left [3]	134	0	0.047	494	628	0	0.218	4	5	143	0	0.050	494	637	0	0.221	0	637	0	0.133
EB Thru [3]	0	2880	0.047	0	0	2880	0.218	0	0	0	2880	0.050	0	0	2880	0.221	0	0	4800	0.327 *
EB Right [3]	42	1600	0.026	878	920	1600	0.575 *	1	10	53	1600	0.033	878	931	1600	0.582 *	0	931	0	0.000
WB Left [3]	3	1600	0.002	0	3	1600	0.002	0	0	3	1600	0.002	0	3	1600	0.002	0	3	1600	0.002
WB Thru [3]	0	1600	0.000	0	0	1600	0.000	0	0	0	1600	0.000	0	0	1600	0.000	0	0	1600	0.000
WB Right [3]	6	1600	0.004 *	0	6	1600	0.004 *	0	0	6	1600	0.004 *	0	6	1600	0.004 *	0	6	1600	0.004 *
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.407				1.263					0.456				1.291				0.876
LOS			A				F					A				F				D

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green
3 Split-phase operation

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INTERSECTION CAPACITY UTILIZATION

Irwindale Avenue @ Gladstone Street
Peak hr: AM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: Irwindale Avenue
E-W St: Gladstone Street
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU14

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left	5	1600	0.003	0	5	1600	0.003	0	0	5	1600	0.003	0	5	1600	0.003	0	5	1600	0.003
NB Thru	659	3200	0.206 *	648	1307	3200	0.408 *	20	55	734	3200	0.229 *	648	1382	3200	0.432 *	0	1382	3200	0.432 *
NB Right	74	1600	0.046	0	74	1600	0.046	2	0	76	1600	0.048	0	76	1600	0.048	0	76	1600	0.048
SB Left	118	2880	0.041 *	41	159	2880	0.055 *	4	64	186	2880	0.065 *	41	227	2880	0.079 *	0	227	2880	0.079 *
SB Thru	476	3200	0.150	182	658	3200	0.207	14	55	545	3200	0.172	182	727	3200	0.228	0	727	3200	0.228
SB Right	4	0	0.000	0	4	0	0.000	0	0	4	0	0.000	0	4	0	0.000	0	4	0	0.000
EB Left	0	1600	0.000	0	0	1600	0.000	0	0	0	1600	0.000	0	0	1600	0.000	0	0	1600	0.000
EB Thru	1	1600	0.005 *	0	1	1600	0.005 *	0	0	1	1600	0.005 *	0	1	1600	0.005 *	0	1	1600	0.005 *
EB Right	7	0	0.000	0	7	0	0.000	0	0	7	0	0.000	0	7	0	0.000	0	7	0	0.000
WB Left	445	1600	0.278 *	0	445	1600	0.278 *	14	1	460	1600	0.288 *	0	460	1600	0.288 *	0	460	0	0.160
WB Thru	30	1600	0.019	0	30	1600	0.019	1	0	31	1600	0.019	0	31	1600	0.019	0	31	2880	0.170
WB Right [3]	623	2880	0.175	182	805	2880	0.224	19	10	652	2880	0.162	182	834	2880	0.211	0	834	2880	0.211 *
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.630				0.847					0.686				0.903				0.826
LOS			B				D					B				E				D

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green
3 The westbound right-turn lane has an overlapping phase with the southbound left-turn phase.

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INTERSECTION CAPACITY UTILIZATION

Irwindale Avenue @ Gladstone Street
Peak hr: PM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: Irwindale Avenue
E-W St: Gladstone Street
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU14

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left	5	1600	0.003	0	5	1600	0.003	0	0	5	1600	0.003	0	5	1600	0.003	0	5	1600	0.003
NB Thru	651	3200	0.203 *	434	1085	3200	0.339 *	20	64	735	3200	0.230 *	434	1169	3200	0.365 *	0	1169	3200	0.365 *
NB Right	290	1600	0.181	0	290	1600	0.181	9	7	306	1600	0.191	0	306	1600	0.191	0	306	1600	0.191
SB Left	313	2880	0.109 *	192	505	2880	0.175 *	10	10	333	2880	0.116 *	192	525	2880	0.182 *	0	525	2880	0.182 *
SB Thru	847	3200	0.266	686	1533	3200	0.480	26	64	937	3200	0.294	686	1623	3200	0.508	0	1623	3200	0.508
SB Right	3	0	0.000	0	3	0	0.000	0	0	3	0	0.000	0	3	0	0.000	0	3	0	0.000
EB Left	1	1600	0.001	0	1	1600	0.001	0	0	1	1600	0.001	0	1	1600	0.001	0	1	1600	0.001
EB Thru	37	1600	0.032 *	0	37	1600	0.032 *	1	0	38	1600	0.033 *	0	38	1600	0.033 *	0	38	1600	0.033 *
EB Right	14	0	0.000	0	14	0	0.000	0	0	14	0	0.000	0	14	0	0.000	0	14	0	0.000
WB Left	95	1600	0.059 *	0	95	1600	0.059 *	3	6	104	1600	0.065 *	0	104	1600	0.065 *	0	104	0	0.036
WB Thru	6	1600	0.004	0	6	1600	0.004	0	0	6	1600	0.004	0	6	1600	0.004	0	6	2880	0.038 *
WB Right [3]	130	2880	0.000	119	249	2880	0.000	4	56	190	2880	0.000	119	309	2880	0.000	0	309	2880	0.000
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.503				0.706					0.543				0.745				0.718
LOS			A				C					A				C				C

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green
3 The westbound right-turn lane has an overlapping phase with the southbound left-turn phase.

LINSCOTT, LAW & GREENSPAN, ENGINEERS
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INTERSECTION CAPACITY UTILIZATION

Irwindale Avenue @ Arrow Highway
Peak hr: AM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: Irwindale Avenue
E-W St: Arrow Highway
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU15

Date: 2/4/2025
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left	138	1600	0.086	0	138	1600	0.086	4	26	168	1600	0.105	0	168	1600	0.105	0	168	1600	0.105
NB Thru	640	3200	0.212 *	186	826	3200	0.270 *	19	19	678	3200	0.227 *	186	864	3200	0.285 *	0	864	3200	0.285 *
NB Right	38	0	0.000	0	38	0	0.000	1	8	47	0	0.000	0	47	0	0.000	0	47	0	0.000
SB Left	74	1600	0.046 *	36	110	1600	0.069 *	2	2	78	1600	0.049 *	36	114	1600	0.071 *	0	114	2880	0.040 *
SB Thru	438	3200	0.137	45	483	3200	0.151	13	2	453	3200	0.142	45	498	3200	0.156	0	498	3200	0.156
SB Right [3]	374	1600	0.113	99	473	1600	0.029	11	51	436	1600	0.136	99	535	1600	0.052	0	535	1600	0.052
EB Left	275	2280	0.121 *	332	607	2280	0.266 *	8	28	311	2280	0.136 *	332	643	2280	0.282 *	0	643	2280	0.282 *
EB Thru	375	4800	0.089	0	375	4800	0.089	11	158	544	4800	0.127	0	544	4800	0.127	0	544	4800	0.127
EB Right	54	0	0.000	0	54	0	0.000	2	10	66	0	0.000	0	66	0	0.000	0	66	0	0.000
WB Left	75	1600	0.047	0	75	1600	0.047	2	1	78	1600	0.049	0	78	1600	0.049	0	78	1600	0.049
WB Thru	926	3200	0.319 *	0	926	3200	0.360 *	28	93	1047	3200	0.360 *	0	1047	3200	0.400 *	0	1047	3200	0.327 *
WB Right	95	0	0.000	130	225	0	0.000	3	6	104	0	0.000	130	234	0	0.000	0	234	1600	0.107
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.798				1.065					0.871				1.138				1.033
LOS			C				F					D				F				F

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green
3 The southbound right-turn lane has an overlapping phase with the eastbound left-turn phase.

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INTERSECTION CAPACITY UTILIZATION

Irwindale Avenue @ Arrow Highway
Peak hr: PM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: Irwindale Avenue
E-W St: Arrow Highway
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU15

Date: 2/4/2025
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left	87	1600	0.054	0	87	1600	0.054	3	16	106	1600	0.066	0	106	1600	0.066	0	106	1600	0.066 *
NB Thru	487	3200	0.173 *	123	610	3200	0.211 *	15	9	511	3200	0.181 *	123	634	3200	0.220 *	0	634	3200	0.220
NB Right	66	0	0.000	0	66	0	0.000	2	1	69	0	0.000	0	69	0	0.000	0	69	0	0.000
SB Left	158	1600	0.099 *	137	295	1600	0.184 *	5	14	177	1600	0.111 *	137	314	1600	0.196 *	0	314	2880	0.109
SB Thru	645	3200	0.202	197	842	3200	0.263	20	12	677	3200	0.212	197	874	3200	0.273	0	874	3200	0.273 *
SB Right [3]	335	1600	0.043	352	687	1600	0.165	10	45	390	1600	0.046	352	742	1600	0.168	0	742	1600	0.168
EB Left	379	2280	0.166	224	603	2280	0.264 *	12	60	451	2280	0.198	224	675	2280	0.296 *	0	675	2280	0.296 *
EB Thru	1457	4800	0.328 *	0	1457	4800	0.328	44	102	1603	4800	0.364 *	0	1603	4800	0.364	0	1603	4800	0.364
EB Right	116	0	0.000	0	116	0	0.000	4	25	145	0	0.000	0	145	0	0.000	0	145	0	0.000
WB Left	75	1600	0.047 *	0	75	1600	0.047	2	7	84	1600	0.053 *	0	84	1600	0.053	0	84	1600	0.053
WB Thru	433	3200	0.158	0	433	3200	0.185 *	13	157	603	3200	0.212	0	603	3200	0.239 *	0	603	3200	0.188 *
WB Right	71	0	0.000	87	158	0	0.000	2	2	75	0	0.000	87	162	0	0.000	0	162	1600	0.000
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.746				0.945					0.809				1.051				0.924
LOS			C				E					D				F				E

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green
3 The southbound right-turn lane has an overlapping phase with the eastbound left-turn phase.

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INTERSECTION CAPACITY UTILIZATION

Irwindale Avenue @ Cypress Street
Peak hr: AM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: Irwindale Avenue
E-W St: Cypress Street
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU16

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left	172	1600	0.108	0	172	1600	0.108	5	0	177	1600	0.111	0	177	1600	0.111	0	177	1600	0.111
NB Thru	874	3200	0.304 *	126	1000	3200	0.343 *	27	53	954	3200	0.330 *	126	1080	3200	0.369 *	0	1080	3200	0.369 *
NB Right	99	0	0.000	0	99	0	0.000	3	0	102	0	0.000	0	102	0	0.000	0	102	0	0.000
SB Left	56	1600	0.035 *	0	56	1600	0.035 *	2	0	58	1600	0.036 *	0	58	1600	0.036 *	0	58	1600	0.036 *
SB Thru	464	3200	0.159	31	495	3200	0.173	14	13	491	3200	0.168	31	522	3200	0.182	0	522	3200	0.182
SB Right	46	0	0.000	14	60	0	0.000	1	0	47	0	0.000	14	61	0	0.000	0	61	0	0.000
EB Left	40	1600	0.025 *	61	101	1600	0.063 *	1	0	41	1600	0.026 *	61	102	1600	0.064 *	0	102	1600	0.064 *
EB Thru	177	3200	0.074	0	177	3200	0.074	5	8	190	3200	0.079	0	190	3200	0.079	0	190	3200	0.079
EB Right	61	0	0.000	0	61	0	0.000	2	0	63	0	0.000	0	63	0	0.000	0	63	0	0.000
WB Left	217	1600	0.136	0	217	1600	0.136	7	0	224	1600	0.140	0	224	1600	0.140	0	224	1600	0.140
WB Thru	598	3200	0.231 *	0	598	3200	0.231 *	18	2	618	3200	0.239 *	0	618	3200	0.239 *	0	618	3200	0.239 *
WB Right	142	0	0.000	0	142	0	0.000	4	0	146	0	0.000	0	146	0	0.000	0	146	0	0.000
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.695				0.773					0.731				0.808				0.808
LOS			B				C					C				D				D

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green

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INTERSECTION CAPACITY UTILIZATION

Irwindale Avenue @ Cypress Street
Peak hr: PM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: Irwindale Avenue
E-W St: Cypress Street
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU16

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left	55	1600	0.034 *	0	55	1600	0.034 *	2	0	57	1600	0.036 *	0	57	1600	0.036 *	0	57	1600	0.036 *
NB Thru	499	3200	0.209	83	582	3200	0.235	15	26	540	3200	0.223	83	623	3200	0.249	0	623	3200	0.249
NB Right	169	0	0.000	0	169	0	0.000	5	0	174	0	0.000	0	174	0	0.000	0	174	0	0.000
SB Left	141	1600	0.088	0	141	1600	0.088	4	0	145	1600	0.091	0	145	1600	0.091	0	145	1600	0.091
SB Thru	863	3200	0.284 *	133	996	3200	0.345 *	26	44	933	3200	0.306 *	133	1066	3200	0.368 *	0	1066	3200	0.368 *
SB Right	45	0	0.000	64	109	0	0.000	1	0	46	0	0.000	64	110	0	0.000	0	110	0	0.000
EB Left	69	1600	0.043	40	109	1600	0.068	2	0	71	1600	0.044	40	111	1600	0.069	0	111	1600	0.069
EB Thru	636	3200	0.231 *	0	636	3200	0.231 *	19	1	656	3200	0.238 *	0	656	3200	0.238 *	0	656	3200	0.238 *
EB Right	102	0	0.000	0	102	0	0.000	3	0	105	0	0.000	0	105	0	0.000	0	105	0	0.000
WB Left	112	1600	0.070 *	0	112	1600	0.070 *	3	0	115	1600	0.072 *	0	115	1600	0.072 *	0	115	1600	0.072 *
WB Thru	205	3200	0.082	0	205	3200	0.082	6	7	218	3200	0.086	0	218	3200	0.086	0	218	3200	0.086
WB Right	56	0	0.000	0	56	0	0.000	2	0	58	0	0.000	0	58	0	0.000	0	58	0	0.000
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.719				0.780					0.751				0.813				0.813
LOS			C				C					C				D				D

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green

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INTERSECTION CAPACITY UTILIZATION

Vincent Avenue @ Arrow Highway
Peak hr: AM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: Vincent Avenue
E-W St: Arrow Highway
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU17

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left	218	1600	0.136 *	63	281	1600	0.176 *	7	19	244	1600	0.153 *	63	307	1600	0.192 *	0	307	1600	0.192 *
NB Thru	340	3200	0.133	0	340	3200	0.133	10	24	374	3200	0.146	0	374	3200	0.146	0	374	3200	0.146
NB Right	85	0	0.000	0	85	0	0.000	3	6	94	0	0.000	0	94	0	0.000	0	94	0	0.000
SB Left	29	1600	0.018	0	29	1600	0.018	1	0	30	1600	0.019	0	30	1600	0.019	0	30	1600	0.019
SB Thru	142	3200	0.062 *	0	142	3200	0.062 *	4	167	313	3200	0.116 *	0	313	3200	0.116 *	0	313	3200	0.116 *
SB Right	57	0	0.000	0	57	0	0.000	2	0	59	0	0.000	0	59	0	0.000	0	59	0	0.000
EB Left	64	1600	0.040 *	0	64	1600	0.040 *	2	0	66	1600	0.041 *	0	66	1600	0.041 *	0	66	1600	0.041 *
EB Thru	343	3200	0.107	21	364	3200	0.114	10	23	376	3200	0.118	21	397	3200	0.124	0	397	3200	0.124
EB Right	83	1600	0.052	16	99	1600	0.062	3	143	229	1600	0.143	16	245	1600	0.153	0	245	1600	0.153
WB Left	128	1600	0.080	0	128	1600	0.080	4	27	159	1600	0.099	0	159	1600	0.099	0	159	1600	0.099
WB Thru	933	3200	0.318 *	67	1000	3200	0.339 *	28	81	1042	3200	0.353 *	67	1109	3200	0.374 *	0	1109	3200	0.374 *
WB Right	84	0	0.000	0	84	0	0.000	3	0	87	0	0.000	0	87	0	0.000	0	87	0	0.000
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.656				0.717					0.763				0.823				0.823
LOS			B				C					C				D				D

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green

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INTERSECTION CAPACITY UTILIZATION

Vincent Avenue @ Arrow Highway
Peak hr: PM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: Vincent Avenue
E-W St: Arrow Highway
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU17

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left	66	1600	0.041 *	42	108	1600	0.068 *	2	126	194	1600	0.121 *	42	236	1600	0.148 *	0	236	1600	0.148 *
NB Thru	200	3200	0.102	0	200	3200	0.102	6	151	357	3200	0.160	0	357	3200	0.160	0	357	3200	0.160
NB Right	126	0	0.000	0	126	0	0.000	4	25	155	0	0.000	0	155	0	0.000	0	155	0	0.000
SB Left	41	1600	0.026	0	41	1600	0.026	1	0	42	1600	0.026	0	42	1600	0.026	0	42	1600	0.026
SB Thru	242	3200	0.103 *	0	242	3200	0.103 *	7	28	277	3200	0.114 *	0	277	3200	0.114 *	0	277	3200	0.114 *
SB Right	86	0	0.000	0	86	0	0.000	3	0	89	0	0.000	0	89	0	0.000	0	89	0	0.000
EB Left	131	1600	0.082	0	131	1600	0.082	4	0	135	1600	0.084	0	135	1600	0.084	0	135	1600	0.084
EB Thru	1229	3200	0.384 *	71	1300	3200	0.406 *	37	90	1356	3200	0.424 *	71	1427	3200	0.446 *	0	1427	3200	0.446 *
EB Right	301	1600	0.188	66	367	1600	0.229	9	26	336	1600	0.210	66	402	1600	0.251	0	402	1600	0.251
WB Left	97	1600	0.061 *	0	97	1600	0.061 *	3	6	106	1600	0.066 *	0	106	1600	0.066 *	0	106	1600	0.066 *
WB Thru	439	3200	0.152	46	485	3200	0.166	13	40	492	3200	0.168	46	538	3200	0.183	0	538	3200	0.183
WB Right	46	0	0.000	0	46	0	0.000	1	0	47	0	0.000	0	47	0	0.000	0	47	0	0.000
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.688				0.737					0.826				0.874				0.874
LOS			B				C					D				D				D

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green

Intersection	
Intersection Delay, s/veh	22.9
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	61	9	42	427	176	0	0	293	304
Future Vol, veh/h	0	0	0	61	9	42	427	176	0	0	293	304
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	63	9	43	440	181	0	0	302	313
Number of Lanes	0	0	0	0	1	1	1	2	0	0	2	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	3
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	3	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay, s/veh	12.1	29.3	18.4
HCM LOS	B	D	C

Lane	NBLn1	NBLn2	NBLn3	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	87%	0%	0%	0%
Vol Thru, %	0%	100%	100%	13%	0%	100%	24%
Vol Right, %	0%	0%	0%	0%	100%	0%	76%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	427	88	88	70	42	195	402
LT Vol	427	0	0	61	0	0	0
Through Vol	0	88	88	9	0	195	98
RT Vol	0	0	0	0	42	0	304
Lane Flow Rate	440	91	91	72	43	201	414
Geometry Grp	6	6	6	6	6	6	6
Degree of Util (X)	0.848	0.162	0.118	0.168	0.087	0.365	0.689
Departure Headway (Hd)	6.933	6.428	4.674	8.394	7.237	6.524	5.989
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	519	556	761	425	491	550	600
Service Time	4.696	4.19	2.436	6.193	5.034	4.293	3.758
HCM Lane V/C Ratio	0.848	0.164	0.12	0.169	0.088	0.365	0.69
HCM Control Delay, s/veh	37.5	10.4	8.1	12.9	10.7	13	21.1
HCM Lane LOS	E	B	A	B	B	B	C
HCM 95th-tile Q	8.8	0.6	0.4	0.6	0.3	1.7	5.4

Intersection	
Intersection Delay, s/veh	16
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	162	0	123	247	246	0	0	367	140
Future Vol, veh/h	0	0	0	162	0	123	247	246	0	0	367	140
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	174	0	132	266	265	0	0	395	151
Number of Lanes	0	0	0	0	1	1	1	2	0	0	2	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	3
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	3	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay, s/veh	14.7	15.6	17.2
HCM LOS	B	C	C

Lane	NBLn1	NBLn2	NBLn3	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	0%
Vol Thru, %	0%	100%	100%	0%	0%	100%	47%
Vol Right, %	0%	0%	0%	0%	100%	0%	53%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	247	123	123	162	123	245	262
LT Vol	247	0	0	162	0	0	0
Through Vol	0	123	123	0	0	245	122
RT Vol	0	0	0	0	123	0	140
Lane Flow Rate	266	132	132	174	132	263	282
Geometry Grp	6	6	6	6	6	6	6
Degree of Util (X)	0.568	0.264	0.199	0.401	0.26	0.523	0.531
Departure Headway (Hd)	7.695	7.185	5.417	8.284	7.065	7.156	6.775
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	470	500	663	435	509	505	533
Service Time	5.433	4.923	3.154	6.025	4.806	4.893	4.512
HCM Lane V/C Ratio	0.566	0.264	0.199	0.4	0.259	0.521	0.529
HCM Control Delay, s/veh	20.1	12.5	9.5	16.5	12.3	17.5	17
HCM Lane LOS	C	B	A	C	B	C	C
HCM 95th-tile Q	3.5	1.1	0.7	1.9	1	3	3.1

Intersection	
Intersection Delay, s/veh	24.2
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	85	9	42	427	176	0	0	293	304
Future Vol, veh/h	0	0	0	85	9	42	427	176	0	0	293	304
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	88	9	43	440	181	0	0	302	313
Number of Lanes	0	0	0	0	1	1	1	2	0	0	2	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	3
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	3	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay, s/veh	12.9	31.4	19.5
HCM LOS	B	D	C

Lane	NBLn1	NBLn2	NBLn3	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	90%	0%	0%	0%
Vol Thru, %	0%	100%	100%	10%	0%	100%	24%
Vol Right, %	0%	0%	0%	0%	100%	0%	76%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	427	88	88	94	42	195	402
LT Vol	427	0	0	85	0	0	0
Through Vol	0	88	88	9	0	195	98
RT Vol	0	0	0	0	42	0	304
Lane Flow Rate	440	91	91	97	43	201	414
Geometry Grp	6	6	6	6	6	6	6
Degree of Util (X)	0.865	0.165	0.121	0.231	0.089	0.373	0.705
Departure Headway (Hd)	7.072	6.566	4.81	8.569	7.393	6.668	6.132
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	511	543	737	422	488	536	584
Service Time	4.858	4.351	2.594	6.269	5.093	4.459	3.923
HCM Lane V/C Ratio	0.861	0.168	0.123	0.23	0.088	0.375	0.709
HCM Control Delay, s/veh	40.4	10.7	8.3	13.8	10.8	13.4	22.4
HCM Lane LOS	E	B	A	B	B	B	C
HCM 95th-tile Q	9.2	0.6	0.4	0.9	0.3	1.7	5.7

Intersection	
Intersection Delay, s/veh	16.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	178	0	123	247	246	0	0	367	140
Future Vol, veh/h	0	0	0	178	0	123	247	246	0	0	367	140
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	191	0	132	266	265	0	0	395	151
Number of Lanes	0	0	0	0	1	1	1	2	0	0	2	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	3
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	3	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay, s/veh	15.4	15.8	17.6
HCM LOS	C	C	C

Lane	NBLn1	NBLn2	NBLn3	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	0%
Vol Thru, %	0%	100%	100%	0%	0%	100%	47%
Vol Right, %	0%	0%	0%	0%	100%	0%	53%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	247	123	123	178	123	245	262
LT Vol	247	0	0	178	0	0	0
Through Vol	0	123	123	0	0	245	122
RT Vol	0	0	0	0	123	0	140
Lane Flow Rate	266	132	132	191	132	263	282
Geometry Grp	6	6	6	6	6	6	6
Degree of Util (X)	0.574	0.267	0.202	0.442	0.261	0.53	0.538
Departure Headway (Hd)	7.784	7.273	5.503	8.315	7.096	7.246	6.864
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	465	495	652	434	507	497	525
Service Time	5.524	5.014	3.243	6.057	4.838	4.985	4.603
HCM Lane V/C Ratio	0.572	0.267	0.202	0.44	0.26	0.529	0.537
HCM Control Delay, s/veh	20.5	12.7	9.6	17.5	12.3	17.9	17.4
HCM Lane LOS	C	B	A	C	B	C	C
HCM 95th-tile Q	3.5	1.1	0.8	2.2	1	3.1	3.2

Intersection	
Intersection Delay, s/veh	29.6
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	79	9	43	448	181	0	0	303	313
Future Vol, veh/h	0	0	0	79	9	43	448	181	0	0	303	313
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	83	9	45	472	191	0	0	319	329
Number of Lanes	0	0	0	0	1	1	1	2	0	0	2	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	3
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	3	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay, s/veh	13	40.5	22.1
HCM LOS	B	E	C

Lane	NBLn1	NBLn2	NBLn3	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	90%	0%	0%	0%
Vol Thru, %	0%	100%	100%	10%	0%	100%	24%
Vol Right, %	0%	0%	0%	0%	100%	0%	76%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	448	91	91	88	43	202	414
LT Vol	448	0	0	79	0	0	0
Through Vol	0	91	91	9	0	202	101
RT Vol	0	0	0	0	43	0	313
Lane Flow Rate	472	95	95	93	45	213	436
Geometry Grp	6	6	6	6	6	6	6
Degree of Util (X)	0.937	0.176	0.129	0.226	0.096	0.406	0.755
Departure Headway (Hd)	7.156	6.649	4.893	8.779	7.604	6.871	6.235
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	505	535	723	411	474	527	575
Service Time	4.954	4.447	2.689	6.485	5.309	4.571	4.035
HCM Lane V/C Ratio	0.935	0.178	0.131	0.226	0.095	0.404	0.758
HCM Control Delay, s/veh	52.9	10.9	8.4	14	11.1	14.2	26
HCM Lane LOS	F	B	A	B	B	B	D
HCM 95th-tile Q	11.4	0.6	0.4	0.9	0.3	2	6.7

Intersection	
Intersection Delay, s/veh	17
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	173	0	127	272	255	0	0	382	144
Future Vol, veh/h	0	0	0	173	0	127	272	255	0	0	382	144
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	182	0	134	286	268	0	0	402	152
Number of Lanes	0	0	0	0	1	1	1	2	0	0	2	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	3
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	3	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay, s/veh	15.3	17	18
HCM LOS	C	C	C

Lane	NBLn1	NBLn2	NBLn3	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	0%
Vol Thru, %	0%	100%	100%	0%	0%	100%	47%
Vol Right, %	0%	0%	0%	0%	100%	0%	53%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	272	128	128	173	127	255	271
LT Vol	272	0	0	173	0	0	0
Through Vol	0	128	128	0	0	255	127
RT Vol	0	0	0	0	127	0	144
Lane Flow Rate	286	134	134	182	134	268	286
Geometry Grp	6	6	6	6	6	6	6
Degree of Util (X)	0.619	0.271	0.205	0.425	0.267	0.543	0.548
Departure Headway (Hd)	7.789	7.278	5.508	8.409	7.189	7.286	6.906
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	464	494	651	428	500	496	523
Service Time	5.528	5.018	3.247	6.153	4.933	5.024	4.644
HCM Lane V/C Ratio	0.616	0.271	0.206	0.425	0.268	0.54	0.547
HCM Control Delay, s/veh	22.4	12.7	9.7	17.3	12.5	18.4	17.7
HCM Lane LOS	C	B	A	C	B	C	C
HCM 95th-tile Q	4.1	1.1	0.8	2.1	1.1	3.2	3.3

Intersection	
Intersection Delay, s/veh	30.3
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	103	9	43	448	181	0	0	303	313
Future Vol, veh/h	0	0	0	103	9	43	448	181	0	0	303	313
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	106	9	44	462	187	0	0	312	323
Number of Lanes	0	0	0	0	1	1	1	2	0	0	2	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	3
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	3	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay, s/veh	13.8	41.7	22.8
HCM LOS	B	E	C

Lane	NBLn1	NBLn2	NBLn3	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	92%	0%	0%	0%
Vol Thru, %	0%	100%	100%	8%	0%	100%	24%
Vol Right, %	0%	0%	0%	0%	100%	0%	76%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	448	91	91	112	43	202	414
LT Vol	448	0	0	103	0	0	0
Through Vol	0	91	91	9	0	202	101
RT Vol	0	0	0	0	43	0	313
Lane Flow Rate	462	93	93	115	44	208	427
Geometry Grp	6	6	6	6	6	6	6
Degree of Util (X)	0.943	0.175	0.129	0.281	0.093	0.403	0.763
Departure Headway (Hd)	7.347	6.861	5.101	8.77	7.584	6.972	6.435
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	494	526	707	410	473	519	563
Service Time	5.069	4.561	2.801	6.511	5.324	4.689	4.152
HCM Lane V/C Ratio	0.935	0.177	0.132	0.28	0.093	0.401	0.758
HCM Control Delay, s/veh	54.6	11	8.6	14.9	11.1	14.3	27
HCM Lane LOS	F	B	A	B	B	B	D
HCM 95th-tile Q	11.5	0.6	0.4	1.1	0.3	1.9	6.8

Intersection	
Intersection Delay, s/veh	17.5
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	189	0	127	272	255	0	0	382	144
Future Vol, veh/h	0	0	0	189	0	127	272	255	0	0	382	144
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	199	0	134	286	268	0	0	402	152
Number of Lanes	0	0	0	0	1	1	1	2	0	0	2	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	3
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	3	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay, s/veh	16.1	17.4	18.5
HCM LOS	C	C	C

Lane	NBLn1	NBLn2	NBLn3	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%	0%	0%
Vol Thru, %	0%	100%	100%	0%	0%	100%	47%
Vol Right, %	0%	0%	0%	0%	100%	0%	53%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	272	128	128	189	127	255	271
LT Vol	272	0	0	189	0	0	0
Through Vol	0	128	128	0	0	255	127
RT Vol	0	0	0	0	127	0	144
Lane Flow Rate	286	134	134	199	134	268	286
Geometry Grp	6	6	6	6	6	6	6
Degree of Util (X)	0.626	0.275	0.209	0.466	0.268	0.549	0.555
Departure Headway (Hd)	7.877	7.366	5.594	8.44	7.219	7.376	6.995
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	458	489	642	428	497	491	517
Service Time	5.618	5.107	3.335	6.187	4.966	5.119	4.738
HCM Lane V/C Ratio	0.624	0.274	0.209	0.465	0.27	0.546	0.553
HCM Control Delay, s/veh	23	12.9	9.8	18.4	12.6	18.8	18.2
HCM Lane LOS	C	B	A	C	B	C	C
HCM 95th-tile Q	4.2	1.1	0.8	2.4	1.1	3.3	3.3

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	109	131	0	129	122
Future Vol, veh/h	0	109	131	0	129	122
Conflicting Peds, #/hr	0	0	0	1	1	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	122	147	0	145	137

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	271	149
Stage 1	-	-	-	-	147	-
Stage 2	-	-	-	-	123	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	0	-	-	0	719	897
Stage 1	0	-	-	0	880	-
Stage 2	0	-	-	0	902	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	719	896
Mov Cap-2 Maneuver	-	-	-	-	719	-
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	902	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	10.53
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	719	896
HCM Lane V/C Ratio	-	-	0.202	0.153
HCM Control Delay (s/veh)	-	-	11.3	9.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.8	0.5

Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↰	↱
Traffic Vol, veh/h	0	212	61	0	231	30
Future Vol, veh/h	0	212	61	0	231	30
Conflicting Peds, #/hr	0	0	0	0	2	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	233	67	0	254	33

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	302	68
Stage 1	-	-	-	-	67	-
Stage 2	-	-	-	-	235	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	0	-	-	0	690	995
Stage 1	0	-	-	0	956	-
Stage 2	0	-	-	0	804	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	690	994
Mov Cap-2 Maneuver	-	-	-	-	690	-
Stage 1	-	-	-	-	956	-
Stage 2	-	-	-	-	804	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	12.71
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	690	994
HCM Lane V/C Ratio	-	-	0.368	0.033
HCM Control Delay (s/veh)	-	-	13.2	8.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	1.7	0.1

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	109	131	0	129	122
Future Vol, veh/h	0	109	131	0	129	122
Conflicting Peds, #/hr	0	0	0	1	1	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	122	147	0	145	137

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	271	149
Stage 1	-	-	-	-	147	-
Stage 2	-	-	-	-	123	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	0	-	-	0	719	897
Stage 1	0	-	-	0	880	-
Stage 2	0	-	-	0	902	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	719	896
Mov Cap-2 Maneuver	-	-	-	-	719	-
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	902	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	10.53
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	719	896
HCM Lane V/C Ratio	-	-	0.202	0.153
HCM Control Delay (s/veh)	-	-	11.3	9.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.8	0.5

Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↰	↱
Traffic Vol, veh/h	0	212	61	0	231	30
Future Vol, veh/h	0	212	61	0	231	30
Conflicting Peds, #/hr	0	0	0	0	2	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	233	67	0	254	33

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	302	68
Stage 1	-	-	-	-	67	-
Stage 2	-	-	-	-	235	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	0	-	-	0	690	995
Stage 1	0	-	-	0	956	-
Stage 2	0	-	-	0	804	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	690	994
Mov Cap-2 Maneuver	-	-	-	-	690	-
Stage 1	-	-	-	-	956	-
Stage 2	-	-	-	-	804	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	12.71
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	690	994
HCM Lane V/C Ratio	-	-	0.368	0.033
HCM Control Delay (s/veh)	-	-	13.2	8.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	1.7	0.1

Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	120	135	0	148	128
Future Vol, veh/h	0	120	135	0	148	128
Conflicting Peds, #/hr	0	0	0	1	1	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	126	142	0	156	135

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	269	144
Stage 1	-	-	-	-	142	-
Stage 2	-	-	-	-	127	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	0	-	-	0	720	903
Stage 1	0	-	-	0	885	-
Stage 2	0	-	-	0	898	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	720	902
Mov Cap-2 Maneuver	-	-	-	-	720	-
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	898	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	720	902
HCM Lane V/C Ratio	-	-	0.216	0.149
HCM Control Delay (s/veh)	-	-	11.4	9.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.8	0.5

Intersection	
Int Delay, s/veh	6.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	224	63	0	242	38
Future Vol, veh/h	0	224	63	0	242	38
Conflicting Peds, #/hr	0	0	0	0	2	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	236	66	0	255	40

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	304	67
Stage 1	-	-	-	-	66	-
Stage 2	-	-	-	-	238	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	0	-	-	0	688	996
Stage 1	0	-	-	0	956	-
Stage 2	0	-	-	0	802	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	688	995
Mov Cap-2 Maneuver	-	-	-	-	688	-
Stage 1	-	-	-	-	956	-
Stage 2	-	-	-	-	802	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	12.67
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	688	995
HCM Lane V/C Ratio	-	-	0.37	0.04
HCM Control Delay (s/veh)	-	-	13.3	8.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	1.7	0.1

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↰	↱
Traffic Vol, veh/h	0	120	135	0	148	128
Future Vol, veh/h	0	120	135	0	148	128
Conflicting Peds, #/hr	0	0	0	1	1	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	135	152	0	166	144

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	288	154
Stage 1	-	-	-	-	152	-
Stage 2	-	-	-	-	136	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	0	-	-	0	703	892
Stage 1	0	-	-	0	876	-
Stage 2	0	-	-	0	891	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	703	891
Mov Cap-2 Maneuver	-	-	-	-	703	-
Stage 1	-	-	-	-	876	-
Stage 2	-	-	-	-	891	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	10.83
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	703	891
HCM Lane V/C Ratio	-	-	0.237	0.161
HCM Control Delay (s/veh)	-	-	11.7	9.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.9	0.6

Intersection	
Int Delay, s/veh	6.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	224	63	0	242	38
Future Vol, veh/h	0	224	63	0	242	38
Conflicting Peds, #/hr	0	0	0	0	2	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	236	66	0	255	40

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	304	67
Stage 1	-	-	-	-	66	-
Stage 2	-	-	-	-	238	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	0	-	-	0	688	996
Stage 1	0	-	-	0	956	-
Stage 2	0	-	-	0	802	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	688	995
Mov Cap-2 Maneuver	-	-	-	-	688	-
Stage 1	-	-	-	-	956	-
Stage 2	-	-	-	-	802	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	12.67
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	688	995
HCM Lane V/C Ratio	-	-	0.37	0.04
HCM Control Delay (s/veh)	-	-	13.3	8.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	1.7	0.1

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INTERSECTION CAPACITY UTILIZATION

Vernon Avenue-Lark Ellen Avenue @ Gladstone Street
Peak hr: AM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: Vernon Avenue-Lark Ellen Avenue
E-W St: Gladstone Street
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU20

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left	48	1600	0.030	0	48	1600	0.030	1	0	49	1600	0.031	0	49	1600	0.031	0	49	1600	0.031
NB Thru	351	1600	0.219 *	0	351	1600	0.219 *	11	4	366	1600	0.229 *	0	366	1600	0.229 *	0	366	1600	0.229 *
NB Right	230	1600	0.144	0	230	1600	0.144	7	0	237	1600	0.148	0	237	1600	0.148	0	237	1600	0.148
SB Left	22	1600	0.014 *	0	22	1600	0.014 *	1	0	23	1600	0.014 *	0	23	1600	0.014 *	0	23	1600	0.014 *
SB Thru	396	3200	0.150	0	396	3200	0.158	12	1	409	3200	0.165	0	409	3200	0.172	0	409	3200	0.172
SB Right	84	0	0.000	24	108	0	0.000	3	31	118	0	0.000	24	142	0	0.000	0	142	0	0.000
EB Left	56	1600	0.035 *	5	61	1600	0.038 *	2	4	62	1600	0.039 *	5	67	1600	0.042 *	0	67	1600	0.042 *
EB Thru	211	3200	0.073	35	246	3200	0.084	6	12	229	3200	0.079	35	264	3200	0.090	0	264	3200	0.090
EB Right	24	0	0.000	0	24	0	0.000	1	0	25	0	0.000	0	25	0	0.000	0	25	0	0.000
WB Left	211	1600	0.132	0	211	1600	0.132	6	0	217	1600	0.136	0	217	1600	0.136	0	217	1600	0.136
WB Thru	625	3200	0.213 *	158	783	3200	0.262 *	19	75	719	3200	0.243 *	158	877	3200	0.292 *	0	877	3200	0.292 *
WB Right	55	0	0.000	0	55	0	0.000	2	0	57	0	0.000	0	57	0	0.000	0	57	0	0.000
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.581				0.633					0.624				0.677				0.677
LOS			A				B					B				B				B

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green

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INTERSECTION CAPACITY UTILIZATION

Vernon Avenue-Lark Ellen Avenue @ Gladstone Street
Peak hr: PM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: Vernon Avenue-Lark Ellen Avenue
E-W St: Gladstone Street
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU20

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left	28	1600	0.018	0	28	1600	0.018	1	0	29	1600	0.018	0	29	1600	0.018	0	29	1600	0.018
NB Thru	343	1600	0.214 *	0	343	1600	0.214 *	10	2	355	1600	0.222 *	0	355	1600	0.222 *	0	355	1600	0.222 *
NB Right	168	1600	0.105	0	168	1600	0.105	5	0	173	1600	0.108	0	173	1600	0.108	0	173	1600	0.108
SB Left	40	1600	0.025 *	0	40	1600	0.025 *	1	0	41	1600	0.026 *	0	41	1600	0.026 *	0	41	1600	0.026 *
SB Thru	361	3200	0.133	0	361	3200	0.138	11	8	380	3200	0.140	0	380	3200	0.145	0	380	3200	0.145
SB Right	63	0	0.000	16	79	0	0.000	2	4	69	0	0.000	16	85	0	0.000	0	85	0	0.000
EB Left	132	1600	0.083	26	158	1600	0.099	4	31	167	1600	0.104	26	193	1600	0.121	0	193	1600	0.121
EB Thru	728	3200	0.248 *	166	894	3200	0.299 *	22	81	831	3200	0.280 *	166	997	3200	0.332 *	0	997	3200	0.332 *
EB Right	64	0	0.000	0	64	0	0.000	2	0	66	0	0.000	0	66	0	0.000	0	66	0	0.000
WB Left	95	1600	0.059 *	0	95	1600	0.059 *	3	14	112	1600	0.070 *	0	112	1600	0.070 *	0	112	1600	0.070 *
WB Thru	193	3200	0.071	103	296	3200	0.103	6	12	211	3200	0.077	103	314	3200	0.109	0	314	3200	0.109
WB Right	34	0	0.000	0	34	0	0.000	1	0	35	0	0.000	0	35	0	0.000	0	35	0	0.000
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.646				0.698					0.698				0.750				0.750
LOS			B				B					B				C				C

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green

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INTERSECTION CAPACITY UTILIZATION

Alameda Avenue-I-210 Freeway Westbound Ramps @ First Street
Peak hr: AM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: Alameda Avenue-I-210 Freeway Westbound Ramps
E-W St: First Street
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU21

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left [3]	84	1600	0.053 *	36	120	1600	0.075 *	3	65	152	1600	0.095 *	36	188	1600	0.118 *	0	188	1600	0.118 *
NB Thru [3]	9	1600	0.008	0	9	1600	0.008	0	0	9	1600	0.008	0	9	1600	0.008	0	9	1600	0.008
NB Right [3]	3	0	0.000	0	3	0	0.000	0	0	3	0	0.000	0	3	0	0.000	0	3	0	0.000
SB Left [3]	18	1600	0.011	0	18	1600	0.011	1	0	19	1600	0.012	0	19	1600	0.012	0	19	1600	0.012
SB Thru [3]	97	1600	0.061 *	0	97	1600	0.061 *	3	0	100	1600	0.063 *	0	100	1600	0.063 *	0	100	1600	0.063 *
SB Right [3]	89	1600	0.056	0	89	1600	0.056	3	0	92	1600	0.058	0	92	1600	0.058	0	92	1600	0.058
EB Left	5	1600	0.003	0	5	1600	0.003	0	0	5	1600	0.003	0	5	1600	0.003	0	5	1600	0.003
EB Thru	173	3200	0.190 *	0	173	3200	0.190 *	5	0	178	3200	0.197 *	0	178	3200	0.197 *	0	178	3200	0.197 *
EB Right	435	0	0.000	0	435	0	0.000	13	3	451	0	0.000	0	451	0	0.000	0	451	0	0.000
WB Left	444	1600	0.278 *	0	444	1600	0.278 *	13	0	457	1600	0.286 *	0	457	1600	0.286 *	0	457	1600	0.286 *
WB Thru	429	1600	0.268	0	429	1600	0.268	13	0	442	1600	0.276	0	442	1600	0.276	0	442	1600	0.276
WB Right	25	1600	0.016	0	25	1600	0.016	1	0	26	1600	0.016	0	26	1600	0.016	0	26	1600	0.016
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.681				0.703					0.740				0.762				0.762
LOS			B				C					C				C				C

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green
3 Split-phase operation

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INTERSECTION CAPACITY UTILIZATION

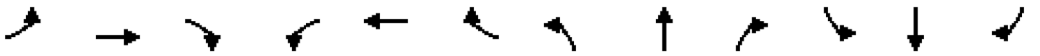
Alameda Avenue-I-210 Freeway Westbound Ramps @ First Street
Peak hr: PM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: Alameda Avenue-I-210 Freeway Westbound Ramps
E-W St: First Street
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU21

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left [3]	332	1600	0.208 *	24	356	1600	0.223 *	10	18	360	1600	0.225 *	24	384	1600	0.240 *	0	384	1600	0.240 *
NB Thru [3]	86	1600	0.113	0	86	1600	0.113	3	1	90	1600	0.117	0	90	1600	0.117	0	90	1600	0.117
NB Right [3]	94	0	0.000	0	94	0	0.000	3	0	97	0	0.000	0	97	0	0.000	0	97	0	0.000
SB Left [3]	33	1600	0.021	0	33	1600	0.021	1	0	34	1600	0.021	0	34	1600	0.021	0	34	1600	0.021
SB Thru [3]	29	1600	0.018	0	29	1600	0.018	1	0	30	1600	0.019	0	30	1600	0.019	0	30	1600	0.019
SB Right [3]	47	1600	0.029 *	0	47	1600	0.029 *	1	0	48	1600	0.030 *	0	48	1600	0.030 *	0	48	1600	0.030 *
EB Left	22	1600	0.014	0	22	1600	0.014	1	0	23	1600	0.014	0	23	1600	0.014	0	23	1600	0.014
EB Thru	415	3200	0.189 *	0	415	3200	0.189 *	13	0	428	3200	0.196 *	0	428	3200	0.196 *	0	428	3200	0.196 *
EB Right	190	0	0.000	0	190	0	0.000	6	4	200	0	0.000	0	200	0	0.000	0	200	0	0.000
WB Left	163	1600	0.102 *	0	163	1600	0.102 *	5	0	168	1600	0.105 *	0	168	1600	0.105 *	0	168	1600	0.105 *
WB Thru	229	1600	0.143	0	229	1600	0.143	7	0	236	1600	0.148	0	236	1600	0.148	0	236	1600	0.148
WB Right	32	1600	0.020	0	32	1600	0.020	1	0	33	1600	0.021	0	33	1600	0.021	0	33	1600	0.021
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.628				0.643					0.656				0.671				0.671
LOS			B				B					B				B				B

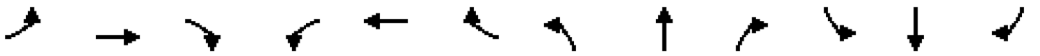
** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green
3 Split-phase operation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	173	435	444	429	25	84	9	3	18	97	89
Future Volume (veh/h)	5	173	435	444	429	25	84	9	3	18	97	89
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.04	1.00	1.00	1.04	1.04	1.04	1.00	1.04	1.00	1.04
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	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	1870	1870	1945	1870	1870	1945	1945	1945	1870	1945	1870	1945
Adj Flow Rate, veh/h	5	188	473	483	466	27	91	10	3	20	105	97
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	633	1291	1152	532	1359	1185	126	98	29	147	149	131
Arrive On Green	0.73	0.73	0.73	0.73	0.73	0.73	0.07	0.07	0.07	0.08	0.08	0.08
Sat Flow, veh/h	901	1777	1585	774	1870	1631	1853	1437	431	1853	1870	1648
Grp Volume(v), veh/h	5	188	473	483	466	27	91	0	13	20	105	97
Grp Sat Flow(s),veh/h/ln	901	1777	1585	774	1870	1631	1853	0	1868	1853	1870	1648
Q Serve(g_s), s	0.2	3.9	14.0	73.2	10.9	0.6	5.8	0.0	0.8	1.2	6.6	6.9
Cycle Q Clear(g_c), s	11.1	3.9	14.0	87.2	10.9	0.6	5.8	0.0	0.8	1.2	6.6	6.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	633	1291	1152	532	1359	1185	126	0	127	147	149	131
V/C Ratio(X)	0.01	0.15	0.41	0.91	0.34	0.02	0.72	0.00	0.10	0.14	0.71	0.74
Avail Cap(c_a), veh/h	633	1291	1152	532	1359	1185	523	0	528	233	235	207
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.0	5.0	6.4	24.2	6.0	4.6	54.8	0.0	52.5	51.4	53.9	54.0
Incr Delay (d2), s/veh	0.0	0.2	1.1	21.8	0.7	0.0	15.3	0.0	0.7	0.6	8.4	11.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	2.4	7.8	22.5	7.2	0.3	5.8	0.0	0.7	1.1	6.2	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.0	5.3	7.5	46.0	6.7	4.6	70.1	0.0	53.2	52.0	62.3	65.0
LnGrp LOS	A	A	A	D	A	A	E		D	D	E	E
Approach Vol, veh/h		666			976			104			222	
Approach Delay, s/veh		6.9			26.1			68.0			62.5	
Approach LOS		A			C			E			E	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		92.3		14.4		92.3		13.3				
Change Period (Y+Rc), s		5.1		4.9		5.1		5.1				
Max Green Setting (Gmax), s		55.9		15.1		55.9		33.9				
Max Q Clear Time (g_c+I1), s		16.0		8.9		89.2		7.8				
Green Ext Time (p_c), s		10.1		0.6		0.0		0.6				

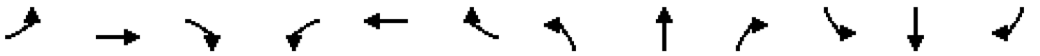
Intersection Summary												
HCM 7th Control Delay, s/veh			25.9									
HCM 7th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	415	190	163	229	32	332	86	94	33	29	47
Future Volume (veh/h)	22	415	190	163	229	32	332	86	94	33	29	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.04	1.00	1.00	1.04	1.04	1.04	1.00	1.04	1.00	1.04
Ped-Bike Adj(A_pbT)	0.99		1.00	1.00		0.99	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	1870	1870	1945	1870	1870	1945	1945	1945	1870	1945	1870	1945
Adj Flow Rate, veh/h	22	419	192	165	231	32	335	87	95	33	29	47
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	606	1293	586	433	1019	890	422	194	212	141	142	125
Arrive On Green	0.54	0.54	0.54	0.54	0.54	0.54	0.23	0.23	0.23	0.08	0.08	0.08
Sat Flow, veh/h	1110	2373	1075	809	1870	1633	1853	850	928	1853	1870	1648
Grp Volume(v), veh/h	22	313	298	165	231	32	335	0	182	33	29	47
Grp Sat Flow(s),veh/h/ln	1110	1777	1671	809	1870	1633	1853	0	1778	1853	1870	1648
Q Serve(g_s), s	1.0	9.7	9.9	14.2	6.4	0.9	17.0	0.0	8.8	1.7	1.5	2.7
Cycle Q Clear(g_c), s	7.5	9.7	9.9	24.1	6.4	0.9	17.0	0.0	8.8	1.7	1.5	2.7
Prop In Lane	1.00		0.64	1.00		1.00	1.00		0.52	1.00		1.00
Lane Grp Cap(c), veh/h	606	968	910	433	1019	890	422	0	405	141	142	125
V/C Ratio(X)	0.04	0.32	0.33	0.38	0.23	0.04	0.79	0.00	0.45	0.23	0.20	0.37
Avail Cap(c_a), veh/h	606	968	910	433	1019	890	628	0	603	280	282	249
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.8	12.6	12.6	19.3	11.8	10.6	36.4	0.0	33.2	43.5	43.3	43.9
Incr Delay (d2), s/veh	0.1	0.9	1.0	2.5	0.5	0.1	7.5	0.0	1.7	1.2	1.0	2.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	6.9	6.7	5.1	4.8	0.6	13.1	0.0	7.0	1.5	1.3	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	13.9	13.5	13.6	21.8	12.3	10.6	43.9	0.0	34.9	44.6	44.3	46.5
LnGrp LOS	B	B	B	C	B	B	D		C	D	D	D
Approach Vol, veh/h		633			428			517			109	
Approach Delay, s/veh		13.5			15.9			40.7			45.4	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	59.6	12.5	59.6	27.9
Change Period (Y+Rc), s	5.1	4.9	5.1	5.1
Max Green Setting (Gmax), s	35.9	15.1	35.9	33.9
Max Q Clear Time (g_c+I1), s	11.9	4.7	26.1	19.0
Green Ext Time (p_c), s	7.4	0.3	2.9	3.8

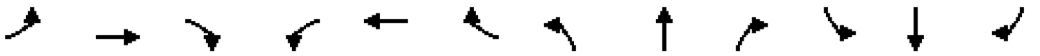
Intersection Summary	
HCM 7th Control Delay, s/veh	24.5
HCM 7th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	173	435	444	429	25	120	9	3	18	97	89
Future Volume (veh/h)	5	173	435	444	429	25	120	9	3	18	97	89
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.04	1.00	1.00	1.04	1.04	1.04	1.00	1.04	1.00	1.04
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	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	1870	1870	1945	1870	1870	1945	1945	1945	1870	1945	1870	1945
Adj Flow Rate, veh/h	5	188	473	483	466	27	130	10	3	20	105	97
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	604	1248	1114	506	1314	1146	170	132	40	147	149	131
Arrive On Green	0.70	0.70	0.70	0.70	0.70	0.70	0.09	0.09	0.09	0.08	0.08	0.08
Sat Flow, veh/h	901	1777	1585	774	1870	1631	1853	1437	431	1853	1870	1648
Grp Volume(v), veh/h	5	188	473	483	466	27	130	0	13	20	105	97
Grp Sat Flow(s),veh/h/ln	901	1777	1585	774	1870	1631	1853	0	1868	1853	1870	1648
Q Serve(g_s), s	0.3	4.2	15.2	69.1	11.8	0.6	8.2	0.0	0.8	1.2	6.6	6.9
Cycle Q Clear(g_c), s	12.1	4.2	15.2	84.3	11.8	0.6	8.2	0.0	0.8	1.2	6.6	6.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	604	1248	1114	506	1314	1146	170	0	172	147	149	131
V/C Ratio(X)	0.01	0.15	0.42	0.96	0.35	0.02	0.76	0.00	0.08	0.14	0.71	0.74
Avail Cap(c_a), veh/h	604	1248	1114	506	1314	1146	523	0	528	233	235	207
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.5	5.9	7.6	28.1	7.1	5.4	53.2	0.0	49.8	51.4	53.9	54.0
Incr Delay (d2), s/veh	0.0	0.3	1.2	30.3	0.8	0.0	13.9	0.0	0.4	0.6	8.4	11.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	2.7	8.6	25.5	8.0	0.4	7.9	0.0	0.7	1.1	6.2	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	9.5	6.2	8.8	58.4	7.8	5.4	67.1	0.0	50.2	52.0	62.3	65.0
LnGrp LOS	A	A	A	E	A	A	E		D	D	E	E
Approach Vol, veh/h		666			976			143			222	
Approach Delay, s/veh		8.0			32.8			65.6			62.5	
Approach LOS		A			C			E			E	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		89.4		14.4		89.4		16.1				
Change Period (Y+Rc), s		5.1		4.9		5.1		5.1				
Max Green Setting (Gmax), s		55.9		15.1		55.9		33.9				
Max Q Clear Time (g_c+I1), s		17.2		8.9		86.3		10.2				
Green Ext Time (p_c), s		10.0		0.6		0.0		0.9				

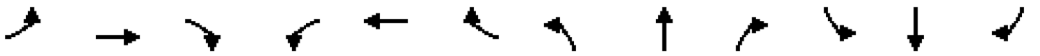
Intersection Summary												
HCM 7th Control Delay, s/veh			30.2									
HCM 7th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	415	190	163	229	32	356	86	94	33	29	47
Future Volume (veh/h)	22	415	190	163	229	32	356	86	94	33	29	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.04	1.00	1.00	1.04	1.04	1.04	1.00	1.04	1.00	1.04
Ped-Bike Adj(A_pbT)	0.99		1.00	1.00		0.99	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	1870	1870	1945	1870	1870	1945	1945	1945	1870	1945	1870	1945
Adj Flow Rate, veh/h	22	419	192	165	231	32	360	87	95	33	29	47
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	590	1263	572	420	995	869	446	205	223	141	142	125
Arrive On Green	0.53	0.53	0.53	0.53	0.53	0.53	0.24	0.24	0.24	0.08	0.08	0.08
Sat Flow, veh/h	1110	2373	1075	809	1870	1633	1853	850	928	1853	1870	1648
Grp Volume(v), veh/h	22	313	298	165	231	32	360	0	182	33	29	47
Grp Sat Flow(s),veh/h/ln	1110	1777	1671	809	1870	1633	1853	0	1778	1853	1870	1648
Q Serve(g_s), s	1.1	10.0	10.2	14.6	6.6	0.9	18.3	0.0	8.7	1.7	1.5	2.7
Cycle Q Clear(g_c), s	7.7	10.0	10.2	24.8	6.6	0.9	18.3	0.0	8.7	1.7	1.5	2.7
Prop In Lane	1.00		0.64	1.00		1.00	1.00		0.52	1.00		1.00
Lane Grp Cap(c), veh/h	590	946	889	420	995	869	446	0	428	141	142	125
V/C Ratio(X)	0.04	0.33	0.34	0.39	0.23	0.04	0.81	0.00	0.43	0.23	0.20	0.37
Avail Cap(c_a), veh/h	590	946	889	420	995	869	628	0	603	280	282	249
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.5	13.3	13.3	20.4	12.5	11.2	35.8	0.0	32.1	43.5	43.3	43.9
Incr Delay (d2), s/veh	0.1	0.9	1.0	2.7	0.5	0.1	8.3	0.0	1.4	1.2	1.0	2.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	7.2	6.9	5.3	5.0	0.6	14.0	0.0	6.9	1.5	1.3	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	14.7	14.2	14.3	23.1	13.0	11.2	44.1	0.0	33.5	44.6	44.3	46.6
LnGrp LOS	B	B	B	C	B	B	D		C	D	D	D
Approach Vol, veh/h		633			428			542			109	
Approach Delay, s/veh		14.3			16.8			40.6			45.4	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	58.3	12.5	58.3	29.2
Change Period (Y+Rc), s	5.1	4.9	5.1	5.1
Max Green Setting (Gmax), s	35.9	15.1	35.9	33.9
Max Q Clear Time (g_c+I1), s	12.2	4.7	26.8	20.3
Green Ext Time (p_c), s	7.3	0.3	2.8	3.8

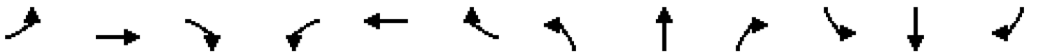
Intersection Summary	
HCM 7th Control Delay, s/veh	25.2
HCM 7th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	178	451	457	442	26	152	9	3	19	100	92
Future Volume (veh/h)	5	178	451	457	442	26	152	9	3	19	100	92
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.04	1.00	1.00	1.04	1.04	1.04	1.00	1.04	1.00	1.04
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	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	1870	1870	1945	1870	1870	1945	1945	1945	1870	1945	1870	1945
Adj Flow Rate, veh/h	5	187	475	481	465	27	160	9	3	20	105	97
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	584	1217	1086	485	1281	1117	203	153	51	147	149	131
Arrive On Green	0.68	0.68	0.68	0.68	0.68	0.68	0.11	0.11	0.11	0.08	0.08	0.08
Sat Flow, veh/h	902	1777	1585	773	1870	1630	1853	1396	465	1853	1870	1648
Grp Volume(v), veh/h	5	187	475	481	465	27	160	0	12	20	105	97
Grp Sat Flow(s),veh/h/ln	902	1777	1585	773	1870	1630	1853	0	1861	1853	1870	1648
Q Serve(g_s), s	0.3	4.4	16.2	66.0	12.5	0.6	10.1	0.0	0.7	1.2	6.6	6.9
Cycle Q Clear(g_c), s	12.8	4.4	16.2	82.2	12.5	0.6	10.1	0.0	0.7	1.2	6.6	6.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	584	1217	1086	485	1281	1117	203	0	204	147	149	131
V/C Ratio(X)	0.01	0.15	0.44	0.99	0.36	0.02	0.79	0.00	0.06	0.14	0.71	0.74
Avail Cap(c_a), veh/h	584	1217	1086	485	1281	1117	523	0	526	233	235	207
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.6	6.7	8.5	30.8	7.9	6.1	52.1	0.0	47.9	51.4	53.9	54.0
Incr Delay (d2), s/veh	0.0	0.3	1.3	38.7	0.8	0.0	13.4	0.0	0.3	0.6	8.4	11.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	2.9	9.2	27.0	8.5	0.4	9.2	0.0	0.6	1.1	6.2	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	10.6	6.9	9.8	69.5	8.7	6.1	65.4	0.0	48.1	52.0	62.3	65.0
LnGrp LOS	B	A	A	E	A	A	E		D	D	E	E
Approach Vol, veh/h		667			973			172			222	
Approach Delay, s/veh		9.0			38.7			64.2			62.5	
Approach LOS		A			D			E			E	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	87.3	14.4	87.3	18.3
Change Period (Y+Rc), s	5.1	4.9	5.1	5.1
Max Green Setting (Gmax), s	55.9	15.1	55.9	33.9
Max Q Clear Time (g_c+I1), s	18.2	8.9	84.2	12.1
Green Ext Time (p_c), s	10.0	0.6	0.0	1.1

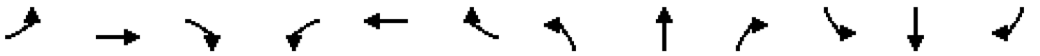
Intersection Summary	
HCM 7th Control Delay, s/veh	33.7
HCM 7th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	428	200	168	236	33	360	90	97	34	30	48
Future Volume (veh/h)	23	428	200	168	236	33	360	90	97	34	30	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.04	1.00	1.00	1.04	1.04	1.04	1.00	1.04	1.00	1.04
Ped-Bike Adj(A_pbT)	0.99		1.00	1.00		0.99	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	1870	1870	1945	1870	1870	1945	1945	1945	1870	1945	1870	1945
Adj Flow Rate, veh/h	24	451	211	177	248	35	379	95	102	36	32	51
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	560	1225	568	385	974	850	465	216	231	143	144	127
Arrive On Green	0.52	0.52	0.52	0.52	0.52	0.52	0.25	0.25	0.25	0.08	0.08	0.08
Sat Flow, veh/h	1090	2353	1092	772	1870	1633	1853	858	921	1853	1870	1648
Grp Volume(v), veh/h	24	340	322	177	248	35	379	0	197	36	32	51
Grp Sat Flow(s),veh/h/ln	1090	1777	1668	772	1870	1633	1853	0	1779	1853	1870	1648
Q Serve(g_s), s	1.2	11.3	11.5	17.7	7.3	1.1	19.3	0.0	9.3	1.8	1.6	2.9
Cycle Q Clear(g_c), s	8.6	11.3	11.5	29.2	7.3	1.1	19.3	0.0	9.3	1.8	1.6	2.9
Prop In Lane	1.00		0.65	1.00		1.00	1.00		0.52	1.00		1.00
Lane Grp Cap(c), veh/h	560	925	868	385	974	850	465	0	447	143	144	127
V/C Ratio(X)	0.04	0.37	0.37	0.46	0.25	0.04	0.81	0.00	0.44	0.25	0.22	0.40
Avail Cap(c_a), veh/h	560	925	868	385	974	850	628	0	603	280	282	249
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.6	14.2	14.2	22.9	13.2	11.7	35.2	0.0	31.5	43.4	43.3	44.0
Incr Delay (d2), s/veh	0.1	1.1	1.2	3.9	0.6	0.1	8.8	0.0	1.5	1.3	1.1	2.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.6	8.1	7.8	6.3	5.6	0.7	14.6	0.0	7.4	1.6	1.4	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	15.8	15.3	15.5	26.8	13.9	11.8	44.0	0.0	33.0	44.7	44.4	46.8
LnGrp LOS	B	B	B	C	B	B	D		C	D	D	D
Approach Vol, veh/h		686			460			576			119	
Approach Delay, s/veh		15.4			18.7			40.3			45.6	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	57.2	12.6	57.2	30.2
Change Period (Y+Rc), s	5.1	4.9	5.1	5.1
Max Green Setting (Gmax), s	35.9	15.1	35.9	33.9
Max Q Clear Time (g_c+I1), s	13.5	4.9	31.2	21.3
Green Ext Time (p_c), s	7.8	0.4	1.8	3.9

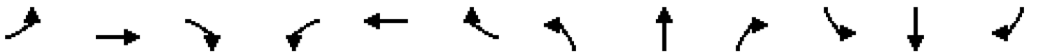
Intersection Summary	
HCM 7th Control Delay, s/veh	26.0
HCM 7th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	178	451	457	442	26	188	9	3	19	100	92
Future Volume (veh/h)	5	178	451	457	442	26	188	9	3	19	100	92
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.04	1.00	1.00	1.04	1.04	1.04	1.00	1.04	1.00	1.04
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	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	1870	1870	1945	1870	1870	1945	1945	1945	1870	1945	1870	1945
Adj Flow Rate, veh/h	5	193	490	497	480	28	204	10	3	21	109	100
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	539	1169	1042	442	1230	1072	250	194	58	151	152	134
Arrive On Green	0.66	0.66	0.66	0.66	0.66	0.66	0.14	0.14	0.14	0.08	0.08	0.08
Sat Flow, veh/h	889	1777	1585	758	1870	1630	1853	1437	431	1853	1870	1648
Grp Volume(v), veh/h	5	193	490	497	480	28	204	0	13	21	109	100
Grp Sat Flow(s),veh/h/ln	889	1777	1585	758	1870	1630	1853	0	1868	1853	1870	1648
Q Serve(g_s), s	0.3	5.0	18.4	60.5	14.2	0.7	12.8	0.0	0.7	1.3	6.8	7.1
Cycle Q Clear(g_c), s	14.5	5.0	18.4	78.9	14.2	0.7	12.8	0.0	0.7	1.3	6.8	7.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	539	1169	1042	442	1230	1072	250	0	252	151	152	134
V/C Ratio(X)	0.01	0.17	0.47	1.12	0.39	0.03	0.82	0.00	0.05	0.14	0.72	0.74
Avail Cap(c_a), veh/h	539	1169	1042	442	1230	1072	523	0	528	233	235	207
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.8	7.9	10.2	33.8	9.5	7.2	50.4	0.0	45.2	51.2	53.8	53.9
Incr Delay (d2), s/veh	0.0	0.3	1.5	80.9	0.9	0.0	12.8	0.0	0.2	0.6	8.6	11.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	3.4	10.4	34.2	9.6	0.4	11.0	0.0	0.6	1.1	6.5	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	12.8	8.2	11.7	114.7	10.4	7.2	63.2	0.0	45.4	51.8	62.3	64.9
LnGrp LOS	B	A	B	F	B	A	E		D	D	E	E
Approach Vol, veh/h		688			1005			217			230	
Approach Delay, s/veh		10.7			61.9			62.1			62.5	
Approach LOS		B			E			E			E	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	84.0	14.7	84.0	21.3
Change Period (Y+Rc), s	5.1	4.9	5.1	5.1
Max Green Setting (Gmax), s	55.9	15.1	55.9	33.9
Max Q Clear Time (g_c+I1), s	20.4	9.1	80.9	14.8
Green Ext Time (p_c), s	10.2	0.7	0.0	1.4

Intersection Summary	
HCM 7th Control Delay, s/veh	45.5
HCM 7th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	428	200	168	236	33	384	90	97	34	30	48
Future Volume (veh/h)	23	428	200	168	236	33	384	90	97	34	30	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.04	1.00	1.00	1.04	1.04	1.04	1.00	1.04	1.00	1.04
Ped-Bike Adj(A_pbT)	0.99		1.00	1.00		0.99	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	1870	1870	1945	1870	1870	1945	1945	1945	1870	1945	1870	1945
Adj Flow Rate, veh/h	24	451	211	177	248	35	404	95	102	36	32	51
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	545	1197	555	374	951	830	488	226	243	143	144	127
Arrive On Green	0.51	0.51	0.51	0.51	0.51	0.51	0.26	0.26	0.26	0.08	0.08	0.08
Sat Flow, veh/h	1090	2353	1092	772	1870	1632	1853	858	921	1853	1870	1648
Grp Volume(v), veh/h	24	340	322	177	248	35	404	0	197	36	32	51
Grp Sat Flow(s),veh/h/ln	1090	1777	1668	772	1870	1632	1853	0	1779	1853	1870	1648
Q Serve(g_s), s	1.3	11.6	11.8	18.1	7.5	1.1	20.5	0.0	9.2	1.8	1.6	2.9
Cycle Q Clear(g_c), s	8.8	11.6	11.8	29.9	7.5	1.1	20.5	0.0	9.2	1.8	1.6	2.9
Prop In Lane	1.00		0.65	1.00		1.00	1.00		0.52	1.00		1.00
Lane Grp Cap(c), veh/h	545	904	848	374	951	830	488	0	468	143	144	127
V/C Ratio(X)	0.04	0.38	0.38	0.47	0.26	0.04	0.83	0.00	0.42	0.25	0.22	0.40
Avail Cap(c_a), veh/h	545	904	848	374	951	830	628	0	603	280	282	249
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.4	14.9	15.0	24.1	13.9	12.3	34.7	0.0	30.5	43.4	43.3	44.0
Incr Delay (d2), s/veh	0.2	1.2	1.3	4.3	0.7	0.1	9.8	0.0	1.3	1.3	1.1	2.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.6	8.3	8.0	6.5	5.7	0.7	15.5	0.0	7.2	1.6	1.4	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	16.6	16.1	16.3	28.3	14.6	12.4	44.5	0.0	31.8	44.7	44.4	46.8
LnGrp LOS	B	B	B	C	B	B	D		C	D	D	D
Approach Vol, veh/h		686			460			601			119	
Approach Delay, s/veh		16.2			19.7			40.3			45.6	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	56.0	12.6	56.0	31.4
Change Period (Y+Rc), s	5.1	4.9	5.1	5.1
Max Green Setting (Gmax), s	35.9	15.1	35.9	33.9
Max Q Clear Time (g_c+I1), s	13.8	4.9	31.9	22.5
Green Ext Time (p_c), s	7.8	0.4	1.6	3.8

Intersection Summary	
HCM 7th Control Delay, s/veh	26.7
HCM 7th LOS	C

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INTERSECTION CAPACITY UTILIZATION

Azusa Avenue @ I-210 Freeway Eastbound Off-Ramp
Peak hr: AM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: Azusa Avenue
E-W St: I-210 Freeway Eastbound Off-Ramp Irwindale
Project: Brew Yard Specific Plan/1-26-4728-1
File: ICU22

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
NB Thru	1215	3200	0.380 *	8	1223	3200	0.382 *	37	18	1270	3200	0.397 *	8	1278	3200	0.399 *	0	1278	3200	0.399 *
NB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
SB Left	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
SB Thru	591	3200	0.276	36	627	3200	0.287	18	62	671	3200	0.305	36	707	3200	0.316	0	707	3200	0.316
SB Right [3]	292	0	0.000	0	292	0	0.000	9	3	304	0	0.000	0	304	0	0.000	0	304	0	0.000
EB Left	160	2880	0.056	0	160	2880	0.056	5	1	166	2880	0.058	0	166	2880	0.058	0	166	2880	0.058
EB Thru	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
EB Right	294	1600	0.184 *	0	294	1600	0.184 *	9	3	306	1600	0.191 *	0	306	1600	0.191 *	0	306	1600	0.191 *
WB Left	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
WB Thru	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
WB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.663				0.666					0.688				0.691				0.691
LOS			B				B					B				B				B

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green
3 Free Flow movement

LINSCOTT, LAW & GREENSPAN, ENGINEERS
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INTERSECTION CAPACITY UTILIZATION

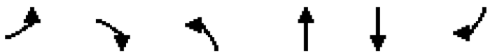
Azusa Avenue @ I-210 Freeway Eastbound Off-Ramp
Peak hr: PM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: Azusa Avenue
E-W St: I-210 Freeway Eastbound Off-Ramp Irwindale
Project: Brew Yard Specific Plan/1-26-4728-1
File: ICU22

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
NB Thru	1111	3200	0.347 *	38	1149	3200	0.359 *	34	68	1213	3200	0.379 *	38	1251	3200	0.391 *	0	1251	3200	0.391 *
NB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
SB Left	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
SB Thru	667	3200	0.301	24	691	3200	0.308	20	17	704	3200	0.316	24	728	3200	0.323	0	728	3200	0.323
SB Right [3]	295	0	0.000	0	295	0	0.000	9	3	307	0	0.000	0	307	0	0.000	0	307	0	0.000
EB Left	175	2880	0.061	0	175	2880	0.061	5	2	182	2880	0.063	0	182	2880	0.063	0	182	2880	0.063
EB Thru	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
EB Right	315	1600	0.197 *	0	315	1600	0.197 *	10	4	329	1600	0.206 *	0	329	1600	0.206 *	0	329	1600	0.206 *
WB Left	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
WB Thru	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
WB Right	0	0	0.000	0	0	0	0.000	0	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.644				0.656					0.685				0.697				0.697
LOS			B				B					B				B				B

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green
3 Free Flow movement



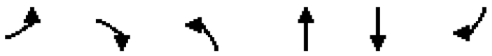
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	160	294	0	1215	591	292
Future Volume (veh/h)	160	294	0	1215	591	292
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870
Adj Flow Rate, veh/h	165	303	0	1253	609	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	0	2	2	2
Cap, veh/h	733	336	0	2437	2437	
Arrive On Green	0.21	0.21	0.00	0.69	0.69	0.00
Sat Flow, veh/h	3456	1585	0	3741	3741	0
Grp Volume(v), veh/h	165	303	0	1253	609	0
Grp Sat Flow(s),veh/h/ln	1728	1585	0	1777	1777	0
Q Serve(g_s), s	4.0	18.6	0.0	17.1	6.5	0.0
Cycle Q Clear(g_c), s	4.0	18.6	0.0	17.1	6.5	0.0
Prop In Lane	1.00	1.00	0.00			0.00
Lane Grp Cap(c), veh/h	733	336	0	2437	2437	
V/C Ratio(X)	0.23	0.90	0.00	0.51	0.25	
Avail Cap(c_a), veh/h	826	379	0	2437	2437	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	32.6	38.4	0.0	7.6	6.0	0.0
Incr Delay (d2), s/veh	0.2	22.3	0.0	0.8	0.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.0	14.2	0.0	9.6	3.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	32.7	60.7	0.0	8.4	6.2	0.0
LnGrp LOS	C	E		A	A	
Approach Vol, veh/h	468			1253	609	
Approach Delay, s/veh	50.8			8.4	6.2	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		73.7		26.3		73.7
Change Period (Y+Rc), s		5.1		5.1		5.1
Max Green Setting (Gmax), s		65.9		23.9		65.9
Max Q Clear Time (g_c+I1), s		19.1		20.6		8.5
Green Ext Time (p_c), s		15.3		0.6		5.7

Intersection Summary		
HCM 7th Control Delay, s/veh	16.3	
HCM 7th LOS	B	

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



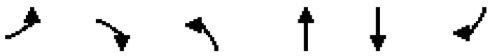
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	175	315	0	1111	667	295
Future Volume (veh/h)	175	315	0	1111	667	295
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870
Adj Flow Rate, veh/h	186	335	0	1182	710	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	0	2	2	2
Cap, veh/h	815	374	0	2353	2353	
Arrive On Green	0.24	0.24	0.00	0.66	0.66	0.00
Sat Flow, veh/h	3456	1585	0	3741	3741	0
Grp Volume(v), veh/h	186	335	0	1182	710	0
Grp Sat Flow(s),veh/h/ln	1728	1585	0	1777	1777	0
Q Serve(g_s), s	4.3	20.5	0.0	16.8	8.4	0.0
Cycle Q Clear(g_c), s	4.3	20.5	0.0	16.8	8.4	0.0
Prop In Lane	1.00	1.00	0.00			0.00
Lane Grp Cap(c), veh/h	815	374	0	2353	2353	
V/C Ratio(X)	0.23	0.90	0.00	0.50	0.30	
Avail Cap(c_a), veh/h	999	458	0	2353	2353	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.9	37.0	0.0	8.5	7.1	0.0
Incr Delay (d2), s/veh	0.1	17.5	0.0	0.8	0.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.3	14.7	0.0	9.7	5.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	31.0	54.6	0.0	9.3	7.5	0.0
LnGrp LOS	C	D		A	A	
Approach Vol, veh/h	521			1182	710	
Approach Delay, s/veh	46.1			9.3	7.5	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		71.3		28.7		71.3
Change Period (Y+Rc), s		5.1		5.1		5.1
Max Green Setting (Gmax), s		60.9		28.9		60.9
Max Q Clear Time (g_c+I1), s		18.8		22.5		10.4
Green Ext Time (p_c), s		13.6		1.1		6.8

Intersection Summary		
HCM 7th Control Delay, s/veh	16.7	
HCM 7th LOS	B	

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



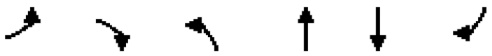
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	160	294	0	1223	627	292
Future Volume (veh/h)	160	294	0	1223	627	292
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870
Adj Flow Rate, veh/h	165	303	0	1261	646	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	0	2	2	2
Cap, veh/h	733	336	0	2437	2437	
Arrive On Green	0.21	0.21	0.00	0.69	0.69	0.00
Sat Flow, veh/h	3456	1585	0	3741	3741	0
Grp Volume(v), veh/h	165	303	0	1261	646	0
Grp Sat Flow(s),veh/h/ln	1728	1585	0	1777	1777	0
Q Serve(g_s), s	4.0	18.6	0.0	17.3	7.0	0.0
Cycle Q Clear(g_c), s	4.0	18.6	0.0	17.3	7.0	0.0
Prop In Lane	1.00	1.00	0.00			0.00
Lane Grp Cap(c), veh/h	733	336	0	2437	2437	
V/C Ratio(X)	0.23	0.90	0.00	0.52	0.27	
Avail Cap(c_a), veh/h	826	379	0	2437	2437	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	32.6	38.4	0.0	7.6	6.0	0.0
Incr Delay (d2), s/veh	0.2	22.3	0.0	0.8	0.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.0	14.2	0.0	9.7	4.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	32.7	60.7	0.0	8.4	6.3	0.0
LnGrp LOS	C	E		A	A	
Approach Vol, veh/h	468			1261	646	
Approach Delay, s/veh	50.8			8.4	6.3	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		73.7		26.3		73.7
Change Period (Y+Rc), s		5.1		5.1		5.1
Max Green Setting (Gmax), s		65.9		23.9		65.9
Max Q Clear Time (g_c+I1), s		19.3		20.6		9.0
Green Ext Time (p_c), s		15.5		0.6		6.1

Intersection Summary		
HCM 7th Control Delay, s/veh	16.2	
HCM 7th LOS	B	

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



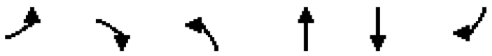
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	175	315	0	1149	691	295
Future Volume (veh/h)	175	315	0	1149	691	295
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870
Adj Flow Rate, veh/h	186	335	0	1222	735	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	0	2	2	2
Cap, veh/h	815	374	0	2353	2353	
Arrive On Green	0.24	0.24	0.00	0.66	0.66	0.00
Sat Flow, veh/h	3456	1585	0	3741	3741	0
Grp Volume(v), veh/h	186	335	0	1222	735	0
Grp Sat Flow(s),veh/h/ln	1728	1585	0	1777	1777	0
Q Serve(g_s), s	4.3	20.5	0.0	17.7	8.8	0.0
Cycle Q Clear(g_c), s	4.3	20.5	0.0	17.7	8.8	0.0
Prop In Lane	1.00	1.00	0.00			0.00
Lane Grp Cap(c), veh/h	815	374	0	2353	2353	
V/C Ratio(X)	0.23	0.90	0.00	0.52	0.31	
Avail Cap(c_a), veh/h	999	458	0	2353	2353	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.9	37.0	0.0	8.7	7.2	0.0
Incr Delay (d2), s/veh	0.1	17.5	0.0	0.8	0.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.3	14.7	0.0	10.2	5.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	31.0	54.6	0.0	9.5	7.5	0.0
LnGrp LOS	C	D		A	A	
Approach Vol, veh/h	521			1222	735	
Approach Delay, s/veh	46.1			9.5	7.5	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		71.3		28.7		71.3
Change Period (Y+Rc), s		5.1		5.1		5.1
Max Green Setting (Gmax), s		60.9		28.9		60.9
Max Q Clear Time (g_c+I1), s		19.7		22.5		10.8
Green Ext Time (p_c), s		14.2		1.1		7.2

Intersection Summary		
HCM 7th Control Delay, s/veh	16.6	
HCM 7th LOS	B	

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



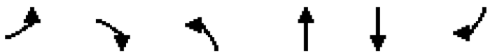
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	166	306	0	1270	671	304
Future Volume (veh/h)	166	306	0	1270	671	304
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870
Adj Flow Rate, veh/h	175	322	0	1337	706	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	0	2	2	2
Cap, veh/h	769	353	0	2400	2400	
Arrive On Green	0.22	0.22	0.00	0.68	0.68	0.00
Sat Flow, veh/h	3456	1585	0	3741	3741	0
Grp Volume(v), veh/h	175	322	0	1337	706	0
Grp Sat Flow(s),veh/h/ln	1728	1585	0	1777	1777	0
Q Serve(g_s), s	4.1	19.8	0.0	19.6	8.0	0.0
Cycle Q Clear(g_c), s	4.1	19.8	0.0	19.6	8.0	0.0
Prop In Lane	1.00	1.00	0.00			0.00
Lane Grp Cap(c), veh/h	769	353	0	2400	2400	
V/C Ratio(X)	0.23	0.91	0.00	0.56	0.29	
Avail Cap(c_a), veh/h	826	379	0	2400	2400	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	31.8	37.9	0.0	8.4	6.6	0.0
Incr Delay (d2), s/veh	0.1	25.0	0.0	0.9	0.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.1	15.2	0.0	10.9	4.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	32.0	62.9	0.0	9.4	6.9	0.0
LnGrp LOS	C	E		A	A	
Approach Vol, veh/h	497			1337	706	
Approach Delay, s/veh	52.0			9.4	6.9	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		72.6		27.4		72.6
Change Period (Y+Rc), s		5.1		5.1		5.1
Max Green Setting (Gmax), s		65.9		23.9		65.9
Max Q Clear Time (g_c+I1), s		21.6		21.8		10.0
Green Ext Time (p_c), s		16.7		0.4		6.8

Intersection Summary		
HCM 7th Control Delay, s/veh	17.0	
HCM 7th LOS	B	

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



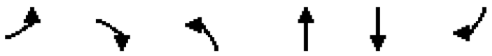
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	182	329	0	1213	704	307
Future Volume (veh/h)	182	329	0	1213	704	307
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870
Adj Flow Rate, veh/h	192	346	0	1277	741	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	0	2	2	2
Cap, veh/h	837	384	0	2330	2330	
Arrive On Green	0.24	0.24	0.00	0.66	0.66	0.00
Sat Flow, veh/h	3456	1585	0	3741	3741	0
Grp Volume(v), veh/h	192	346	0	1277	741	0
Grp Sat Flow(s),veh/h/ln	1728	1585	0	1777	1777	0
Q Serve(g_s), s	4.5	21.2	0.0	19.3	9.1	0.0
Cycle Q Clear(g_c), s	4.5	21.2	0.0	19.3	9.1	0.0
Prop In Lane	1.00	1.00	0.00			0.00
Lane Grp Cap(c), veh/h	837	384	0	2330	2330	
V/C Ratio(X)	0.23	0.90	0.00	0.55	0.32	
Avail Cap(c_a), veh/h	999	458	0	2330	2330	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.4	36.7	0.0	9.2	7.5	0.0
Incr Delay (d2), s/veh	0.1	18.6	0.0	0.9	0.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.4	15.2	0.0	11.0	5.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	30.5	55.3	0.0	10.2	7.8	0.0
LnGrp LOS	C	E		B	A	
Approach Vol, veh/h	538			1277	741	
Approach Delay, s/veh	46.5			10.2	7.8	
Approach LOS	D			B	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		70.7		29.3		70.7
Change Period (Y+Rc), s		5.1		5.1		5.1
Max Green Setting (Gmax), s		60.9		28.9		60.9
Max Q Clear Time (g_c+I1), s		21.3		23.2		11.1
Green Ext Time (p_c), s		15.0		1.1		7.2

Intersection Summary		
HCM 7th Control Delay, s/veh	17.1	
HCM 7th LOS	B	

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



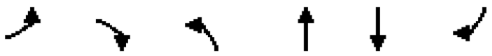
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	166	306	0	1278	707	304
Future Volume (veh/h)	166	306	0	1278	707	304
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870
Adj Flow Rate, veh/h	171	315	0	1318	729	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	0	2	2	2
Cap, veh/h	756	347	0	2414	2414	
Arrive On Green	0.22	0.22	0.00	0.68	0.68	0.00
Sat Flow, veh/h	3456	1585	0	3741	3741	0
Grp Volume(v), veh/h	171	315	0	1318	729	0
Grp Sat Flow(s),veh/h/ln	1728	1585	0	1777	1777	0
Q Serve(g_s), s	4.1	19.4	0.0	18.9	8.3	0.0
Cycle Q Clear(g_c), s	4.1	19.4	0.0	18.9	8.3	0.0
Prop In Lane	1.00	1.00	0.00			0.00
Lane Grp Cap(c), veh/h	756	347	0	2414	2414	
V/C Ratio(X)	0.23	0.91	0.00	0.55	0.30	
Avail Cap(c_a), veh/h	826	379	0	2414	2414	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	32.1	38.1	0.0	8.2	6.5	0.0
Incr Delay (d2), s/veh	0.2	24.0	0.0	0.9	0.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.1	14.8	0.0	10.5	5.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	32.3	62.1	0.0	9.1	6.8	0.0
LnGrp LOS	C	E		A	A	
Approach Vol, veh/h	486			1318	729	
Approach Delay, s/veh	51.6			9.1	6.8	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		73.0		27.0		73.0
Change Period (Y+Rc), s		5.1		5.1		5.1
Max Green Setting (Gmax), s		65.9		23.9		65.9
Max Q Clear Time (g_c+I1), s		20.9		21.4		10.3
Green Ext Time (p_c), s		16.4		0.5		7.1

Intersection Summary		
HCM 7th Control Delay, s/veh	16.6	
HCM 7th LOS	B	

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	182	329	0	1251	728	307
Future Volume (veh/h)	182	329	0	1251	728	307
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
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	1870	1870	0	1870	1870	1870
Adj Flow Rate, veh/h	192	346	0	1317	766	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	0	2	2	2
Cap, veh/h	837	384	0	2330	2330	
Arrive On Green	0.24	0.24	0.00	0.66	0.66	0.00
Sat Flow, veh/h	3456	1585	0	3741	3741	0
Grp Volume(v), veh/h	192	346	0	1317	766	0
Grp Sat Flow(s),veh/h/ln	1728	1585	0	1777	1777	0
Q Serve(g_s), s	4.5	21.2	0.0	20.3	9.5	0.0
Cycle Q Clear(g_c), s	4.5	21.2	0.0	20.3	9.5	0.0
Prop In Lane	1.00	1.00	0.00			0.00
Lane Grp Cap(c), veh/h	837	384	0	2330	2330	
V/C Ratio(X)	0.23	0.90	0.00	0.57	0.33	
Avail Cap(c_a), veh/h	999	458	0	2330	2330	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.4	36.7	0.0	9.4	7.6	0.0
Incr Delay (d2), s/veh	0.1	18.6	0.0	1.0	0.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.4	15.2	0.0	11.5	5.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	30.5	55.3	0.0	10.4	7.9	0.0
LnGrp LOS	C	E		B	A	
Approach Vol, veh/h	538			1317	766	
Approach Delay, s/veh	46.5			10.4	7.9	
Approach LOS	D			B	A	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	70.7	29.3	70.7
Change Period (Y+Rc), s	5.1	5.1	5.1
Max Green Setting (Gmax), s	60.9	28.9	60.9
Max Q Clear Time (g_c+I1), s	22.3	23.2	11.5
Green Ext Time (p_c), s	15.6	1.1	7.5

Intersection Summary	
HCM 7th Control Delay, s/veh	17.1
HCM 7th LOS	B

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

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INTERSECTION CAPACITY UTILIZATION

Azusa Avenue @ Gladstone Street
Peak hr: AM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: Azusa Avenue
E-W St: Gladstone Street
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU23

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left	98	1600	0.061 *	61	159	1600	0.099 *	3	2	103	1600	0.064 *	61	164	1600	0.103 *	0	164	1600	0.103 *
NB Thru	668	3200	0.209	0	668	3200	0.209	20	3	691	3200	0.216	0	691	3200	0.216	0	691	3200	0.216
NB Right [3]	92	1600	0.000	0	92	1600	0.000	3	0	95	1600	0.000	0	95	1600	0.000	0	95	1600	0.000
SB Left	146	2880	0.051	0	146	2880	0.051	4	0	150	2880	0.052	0	150	2880	0.052	0	150	2880	0.052
SB Thru	557	3200	0.201 *	0	557	3200	0.212 *	17	2	576	3200	0.226 *	0	576	3200	0.238 *	0	576	3200	0.238 *
SB Right	85	0	0.000	36	121	0	0.000	3	60	148	0	0.000	36	184	0	0.000	0	184	0	0.000
EB Left	111	1600	0.069 *	8	119	1600	0.074 *	3	10	124	1600	0.078 *	8	132	1600	0.083 *	0	132	1600	0.083 *
EB Thru	263	3200	0.098	14	277	3200	0.107	8	2	273	3200	0.102	14	287	3200	0.111	0	287	3200	0.111
EB Right	51	0	0.000	14	65	0	0.000	2	0	53	0	0.000	14	67	0	0.000	0	67	0	0.000
WB Left	132	1600	0.083	0	132	1600	0.083	4	0	136	1600	0.085	0	136	1600	0.085	0	136	1600	0.085
WB Thru	692	3200	0.262 *	61	753	3200	0.281 *	21	13	726	3200	0.273 *	61	787	3200	0.293 *	0	787	3200	0.293 *
WB Right	145	0	0.000	0	145	0	0.000	4	0	149	0	0.000	0	149	0	0.000	0	149	0	0.000
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.693				0.766					0.742				0.815				0.815
LOS			B				C					C				D				D

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green
3 The northbound right-turn lane has an overlapping phase with the westbound left-turn phase.

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INTERSECTION CAPACITY UTILIZATION

Azusa Avenue @ Gladstone Street
Peak hr: PM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: Azusa Avenue
E-W St: Gladstone Street
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU23

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left	59	1600	0.037	40	99	1600	0.062 *	2	6	67	1600	0.042	40	107	1600	0.067 *	0	107	1600	0.067 *
NB Thru	645	3200	0.202 *	0	645	3200	0.202	20	4	669	3200	0.209 *	0	669	3200	0.209	0	669	3200	0.209
NB Right [3]	145	1600	0.004	0	145	1600	0.004	4	0	149	1600	0.004	0	149	1600	0.004	0	149	1600	0.004
SB Left	199	2880	0.069 *	0	199	2880	0.069	6	0	205	2880	0.071 *	0	205	2880	0.071	0	205	2880	0.071
SB Thru	629	3200	0.213	0	629	3200	0.221 *	19	3	651	3200	0.225	0	651	3200	0.233 *	0	651	3200	0.233 *
SB Right	53	0	0.000	24	77	0	0.000	2	14	69	0	0.000	24	93	0	0.000	0	93	0	0.000
EB Left	203	1600	0.127	38	241	1600	0.151	6	57	266	1600	0.166	38	304	1600	0.190	0	304	1600	0.190
EB Thru	592	3200	0.210 *	64	656	3200	0.250 *	18	16	626	3200	0.224 *	64	690	3200	0.264 *	0	690	3200	0.264 *
EB Right	80	0	0.000	64	144	0	0.000	2	8	90	0	0.000	64	154	0	0.000	0	154	0	0.000
WB Left	138	1600	0.086 *	0	138	1600	0.086 *	4	0	142	1600	0.089 *	0	142	1600	0.089 *	0	142	1600	0.089 *
WB Thru	245	3200	0.101	40	285	3200	0.114	7	6	258	3200	0.106	40	298	3200	0.118	0	298	3200	0.118
WB Right	79	0	0.000	0	79	0	0.000	2	0	81	0	0.000	0	81	0	0.000	0	81	0	0.000
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.667				0.719					0.693				0.752				0.752
LOS			B				C					B				C				C

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green
3 The northbound right-turn lane has an overlapping phase with the westbound left-turn phase.

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INTERSECTION CAPACITY UTILIZATION

Azusa Avenue @ Arrow Highway
Peak hr: AM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: Azusa Avenue
E-W St: Arrow Highway
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU24

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left	172	2880	0.060 *	2	174	2880	0.060 *	5	4	181	2880	0.063 *	2	183	2880	0.064 *	0	183	2880	0.064 *
NB Thru	408	3200	0.145	61	469	3200	0.164	12	2	422	3200	0.150	61	483	3200	0.169	0	483	3200	0.169
NB Right	56	0	0.000	0	56	0	0.000	2	0	58	0	0.000	0	58	0	0.000	0	58	0	0.000
SB Left	94	2880	0.033	0	94	2880	0.033	3	1	98	2880	0.034	0	98	2880	0.034	0	98	2880	0.034
SB Thru	381	3200	0.192 *	14	395	3200	0.196 *	12	2	395	3200	0.198 *	14	409	3200	0.203 *	0	409	3200	0.203 *
SB Right	232	0	0.000	0	232	0	0.000	7	0	239	0	0.000	0	239	0	0.000	0	239	0	0.000
EB Left	246	2880	0.085 *	0	246	2880	0.085 *	7	0	253	2880	0.088 *	0	253	2880	0.088 *	0	253	2880	0.088 *
EB Thru	497	3200	0.155	18	515	3200	0.161	15	27	539	3200	0.168	18	557	3200	0.174	0	557	3200	0.174
EB Right [3]	72	1600	0.000	3	75	1600	0.000	2	0	74	1600	0.000	3	77	1600	0.000	0	77	1600	0.000
WB Left	62	1600	0.039	0	62	1600	0.039	2	1	65	1600	0.041	0	65	1600	0.041	0	65	1600	0.041
WB Thru	834	3200	0.261 *	65	899	3200	0.281 *	25	104	963	3200	0.301 *	65	1028	3200	0.321 *	0	1028	3200	0.321 *
WB Right	90	1600	0.056	0	90	1600	0.056	3	3	96	1600	0.060	0	96	1600	0.060	0	96	1600	0.060
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.697				0.723					0.750				0.775				0.775
LOS			B				C					C				C				C

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green
3 The eastbound right-turn lane has an overlapping phase with the northbound left-turn phase.

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INTERSECTION CAPACITY UTILIZATION

Azusa Avenue @ Arrow Highway
Peak hr: PM
Annual Growth: 0.50%
Applied Growth: 3.04%

N-S St: Azusa Avenue
E-W St: Arrow Highway
Project: Irwindale Brew Yard Specific Plan/1-26-4728-1
File: ICU24

Date: 11/19/2024
Existing Year: 2024
Projection Year: 2030

	2024 EXISTING TRAFFIC			2024 EXISTING WITH PROJECT				2030 FUTURE PRE-PROJECT					2030 FUTURE WITH PROJECT				2030 FUTURE W/ PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Amb. Grow. Volume	Added Rel. Proj. Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
NB Left	183	2880	0.064	2	185	2880	0.064	6	2	191	2880	0.066	2	193	2880	0.067	0	193	2880	0.067
NB Thru	566	3200	0.231 *	40	606	3200	0.244 *	17	9	592	3200	0.241 *	40	632	3200	0.253 *	0	632	3200	0.253 *
NB Right	174	0	0.000	0	174	0	0.000	5	0	179	0	0.000	0	179	0	0.000	0	179	0	0.000
SB Left	173	2880	0.060 *	0	173	2880	0.060 *	5	2	180	2880	0.063 *	0	180	2880	0.063 *	0	180	2880	0.063 *
SB Thru	540	3200	0.201	64	604	3200	0.221	16	9	565	3200	0.209	64	629	3200	0.229	0	629	3200	0.229
SB Right	102	0	0.000	0	102	0	0.000	3	0	105	0	0.000	0	105	0	0.000	0	105	0	0.000
EB Left	281	2880	0.098	0	281	2880	0.098	9	0	290	2880	0.101	0	290	2880	0.101	0	290	2880	0.101
EB Thru	908	3200	0.284 *	69	977	3200	0.305 *	28	118	1054	3200	0.329 *	69	1123	3200	0.351 *	0	1123	3200	0.351 *
EB Right [3]	134	1600	0.020	3	137	1600	0.021	4	4	142	1600	0.022	3	145	1600	0.024	0	145	1600	0.024
WB Left	164	1600	0.103 *	0	164	1600	0.103 *	5	1	170	1600	0.106 *	0	170	1600	0.106 *	0	170	1600	0.106 *
WB Thru	446	3200	0.139	44	490	3200	0.153	14	50	510	3200	0.159	44	554	3200	0.173	0	554	3200	0.173
WB Right	91	1600	0.057	0	91	1600	0.057	3	3	97	1600	0.061	0	97	1600	0.061	0	97	1600	0.061
Yellow Allowance			0.100 *				0.100 *					0.100 *				0.100 *				0.100 *
ICU			0.778				0.812					0.839				0.873				0.873
LOS			C				D					D				D				D

** Key conflicting movement as a part of ICU*
1 Counts conducted by: Counts Unlimited
2 Capacity expressed in veh/hour of green
3 The eastbound right-turn lane has an overlapping phase with the northbound left-turn phase.