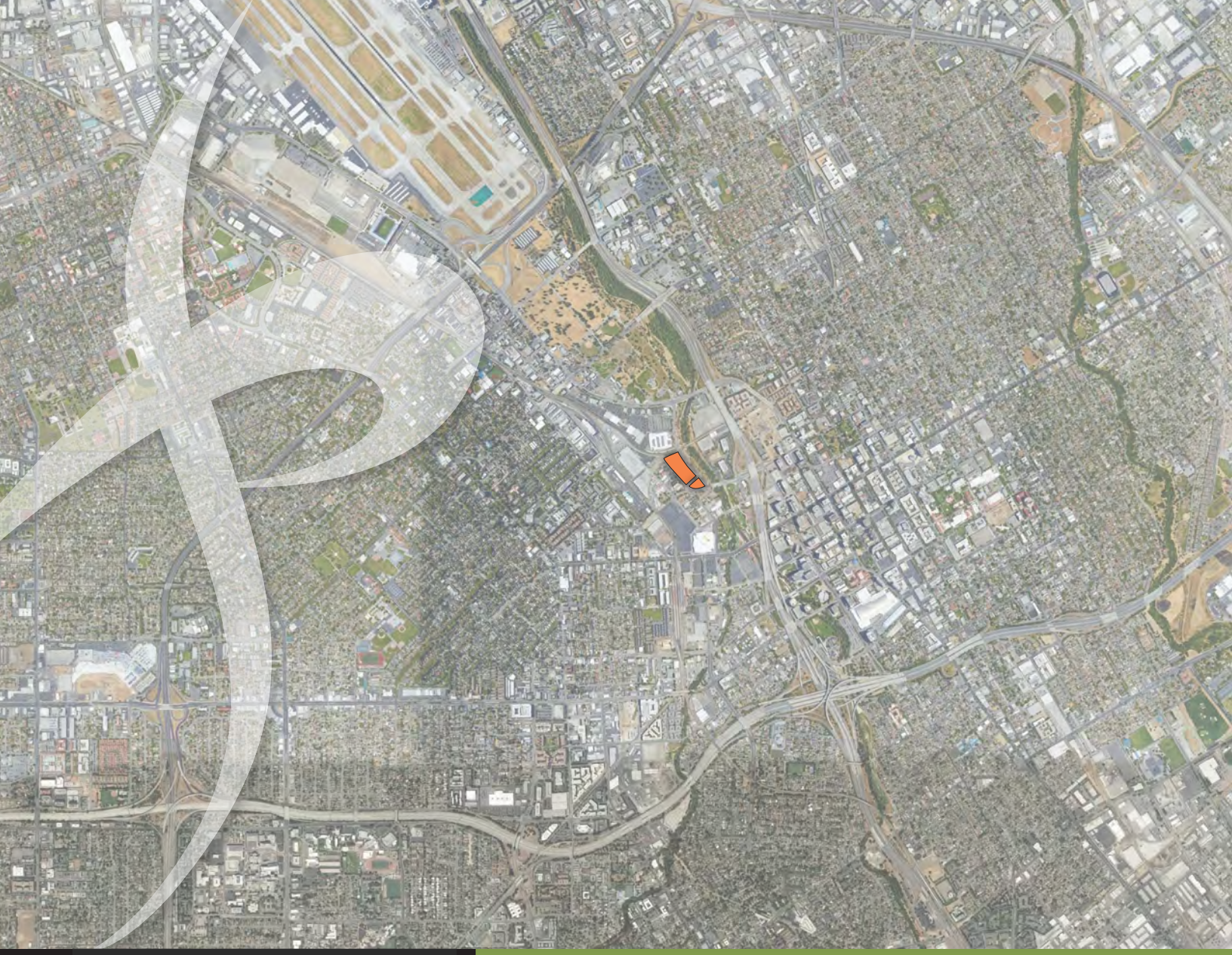

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April 2018

Traffic Operations Analysis

440 W. Julian Street

Prepared for:
TMG-VOP Julian LLC

440 W. Julian Street
Traffic Operations Analysis

Prepared for:
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April 2018

SJ17-1775

FEHR PEERS

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1. Introduction

This report presents the results of a traffic operations analysis (TOA) conducted for the proposed office development located in downtown San Jose at 440 W. Julian Street. The site is included in the Diridon Station Area Plan and impacts of the development to the surrounding transportation system were evaluated as part of the San Jose Downtown Strategy 2000 Environmental Impact Report (EIR) and the Diridon Station Area Plan EIR. The purpose of this analysis is to assess the effects of traffic generated by the development on traffic operations (queuing) at nearby intersections and project driveways and to recommend improvements to provide adequate vehicular access. The site location is shown on **Figure 1.**

Project Description

The Project includes 1,023,000 square feet of office space in three buildings on a site bounded by Union Pacific Railroad tracks on the north, Autumn Parkway on the east, West Julian Street on the south, and North Autumn Street on the west. Existing uses on the site include car repair shops, a tile store, and parking lots.

Approximately 1,742 parking spaces will be provided in a four-level underground parking garage. The parking supply can be increased to approximately 2,267 parking spaces through a valet parking operation. The garage will have entrances/exits on Howard Street and North Autumn Street. Vehicular access to the entrance/exit on Howard Street will only be provided by Autumn Parkway, not Autumn Street. The site plan is shown on **Figure 2.**

The Project will make 287 self-parked stalls available to the public for SAP event parking for weekday events on an after-hours basis (6:30 pm to 1:30 am) and for Saturday and Sunday events (10:00 am to 1:30 am).

Scope of Study/Report Overview

This traffic operations analysis evaluates queuing at the study intersections during the peak one-hour periods during the morning and evening commute hours, known and the AM and PM peak hours, when traffic volumes on the surrounding streets are highest. The study locations (intersections and site driveways) are:

- Autumn Parkway and Coleman Avenue
- Autumn Parkway and Howard Street
- Autumn Parkway and Julian Street
- Autumn Street and Julian Street

- Autumn Street and Santa Clara Street
- Project driveway on Howard Street
- Project driveway on Autumn Street

The chapters in this report contain the following items that constitute the Scope of the Study:

Chapter 1. Introduction includes the study purpose, the project description, the study intersections, and an overview of the report.

Chapter 2. Existing Conditions provides descriptions of the transportation system near the site including the roadways, transit service, bicycle facilities, and pedestrian facilities.

Chapter 3. Project Traffic describes the process used to estimate the amount of traffic generated by the Project and assign it to the driveways and nearby intersections, and presents the results.

Chapter 4. Queuing Analysis presents the results of the queuing analysis for the study intersections.

Chapter 5. Site Access, On-Site Circulation, and Parking includes an assessment of the site plan regarding access for all modes, an evaluation of vehicle queuing at the site driveways, and a comparison of the proposed parking supply to City code requirements.

Chapter 6. Conclusions and Recommendations summarizes the results of the traffic operations analysis and recommendations for improvements.

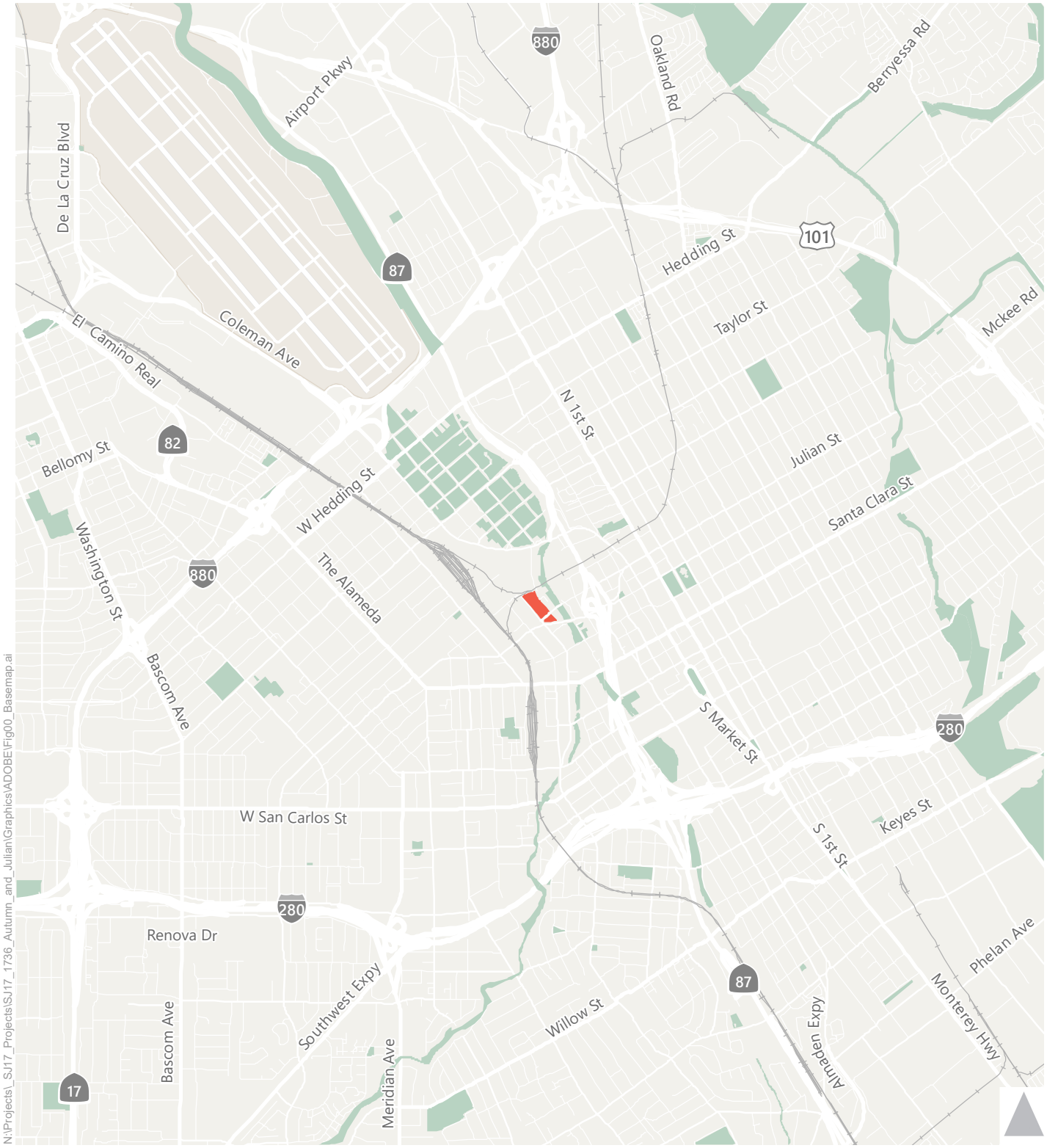


Figure 1

Site Location Map

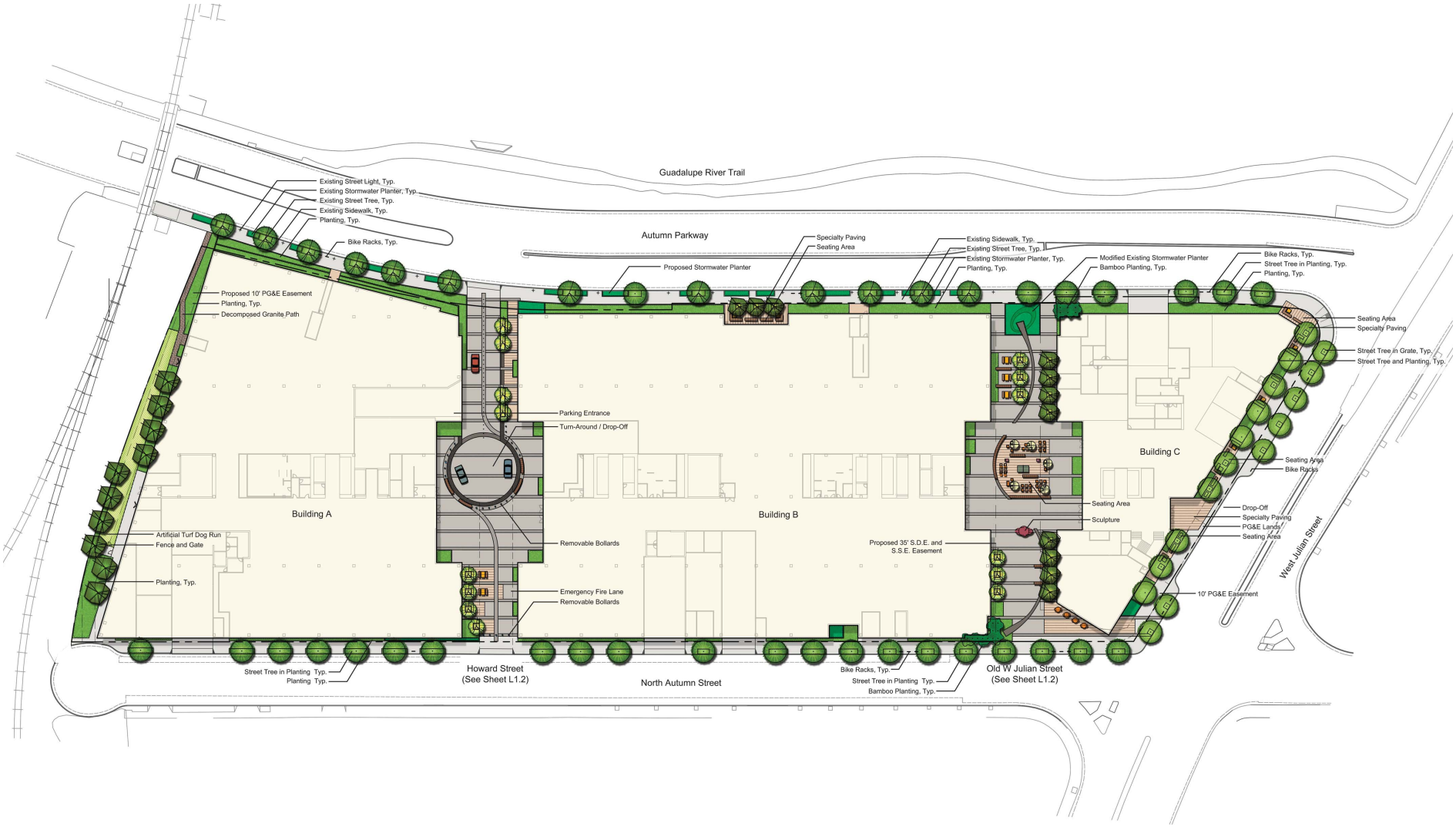


Figure 2

Site Plan

2. Existing Conditions

The transportation system in the vicinity of 440 W. Julian Street is truly multi-modal and includes freeways, other major roadways, passenger rail service, light rail transit, bus service, bicycle facilities, and pedestrian facilities.

Roadway Facilities

Regional access is provided by State Route 87. Local access is provided by Julian Street, Autumn Parkway, Autumn Street, and Coleman Avenue

Roadway Descriptions

State Route 87 is a six-lane north-south freeway located just to the east of the site that extends from US 101 in the north to SR 85 in the south. One of the lanes in each direction is a designated high-occupancy vehicle (HOV) lane and is restricted to vehicles with two or more people, motorcycles, and clean-air vehicles during the morning and evening peak periods. SR 87 has a full interchange with Julian Street (northbound and southbound on and off ramps). Traffic from the larger region will primarily use SR 87 and the Julian Street interchange to reach the site.

Julian Street is an east-west roadway that extends from The Alameda to Market Street. It is four-lanes wide throughout most of the study area; it narrows to two lanes between Montgomery Street and The Alameda. East of Market Street it is one-way westbound and forms a couplet with St. James Street, which is one-way eastbound.

Autumn Parkway is a new four-lane minor arterial roadway that extends between Coleman Avenue and Julian Street.

Autumn Street is a two-lane two-way street that forms the western edge of the Project site. It has a cul-de-sac at its northern end at the railroad tracks adjacent to the site. It extends southward to Santa Clara Street. It is one-way northbound between Park Avenue and Santa Clara Street.

Coleman Avenue is a four-lane arterial located to the north of the site that extends in a northerly direction from Market Street in downtown San Jose. It has an interchange with I-880 and continues to US 101 as De La Cruz Boulevard.

Observations of Roadway Operations

Traffic operations near the site were observed on October 24th (Tuesday) and October 25th (Wednesday), 2017 during the AM and PM peak periods. During the AM peak period, excessive vehicle queuing was observed on the westbound and northbound approaches at the W. Autumn Street/Santa Clara Street intersection. In the PM peak period, excessive vehicle queuing was observed on eastbound W. Julian Street that extended between Autumn Parkway and Autumn Street, mainly because of the queuing of vehicles waiting to enter the southbound SR 87 on-ramp. Westbound vehicle queuing on W. Julian Street between Montgomery Street and Autumn Street during the PM peak hour caused delay at the Autumn Street/Julian Street intersection. At Autumn Parkway/Coleman Avenue, a queue in the westbound left-turn movement was observed.

Passenger Rail Services

Rail and transit services and facilities near the Project site are shown in **Figure 3. Table 1** summarizes hours of operation and service frequencies for rail and transit services. The Diridon Station is a major stop for Caltrain, Altamont Corridor Express (ACE), and Amtrak's Capitol Corridor. It will also be a stop for the future BART extension to San Jose and Santa Clara, as well as California High Speed Rail.

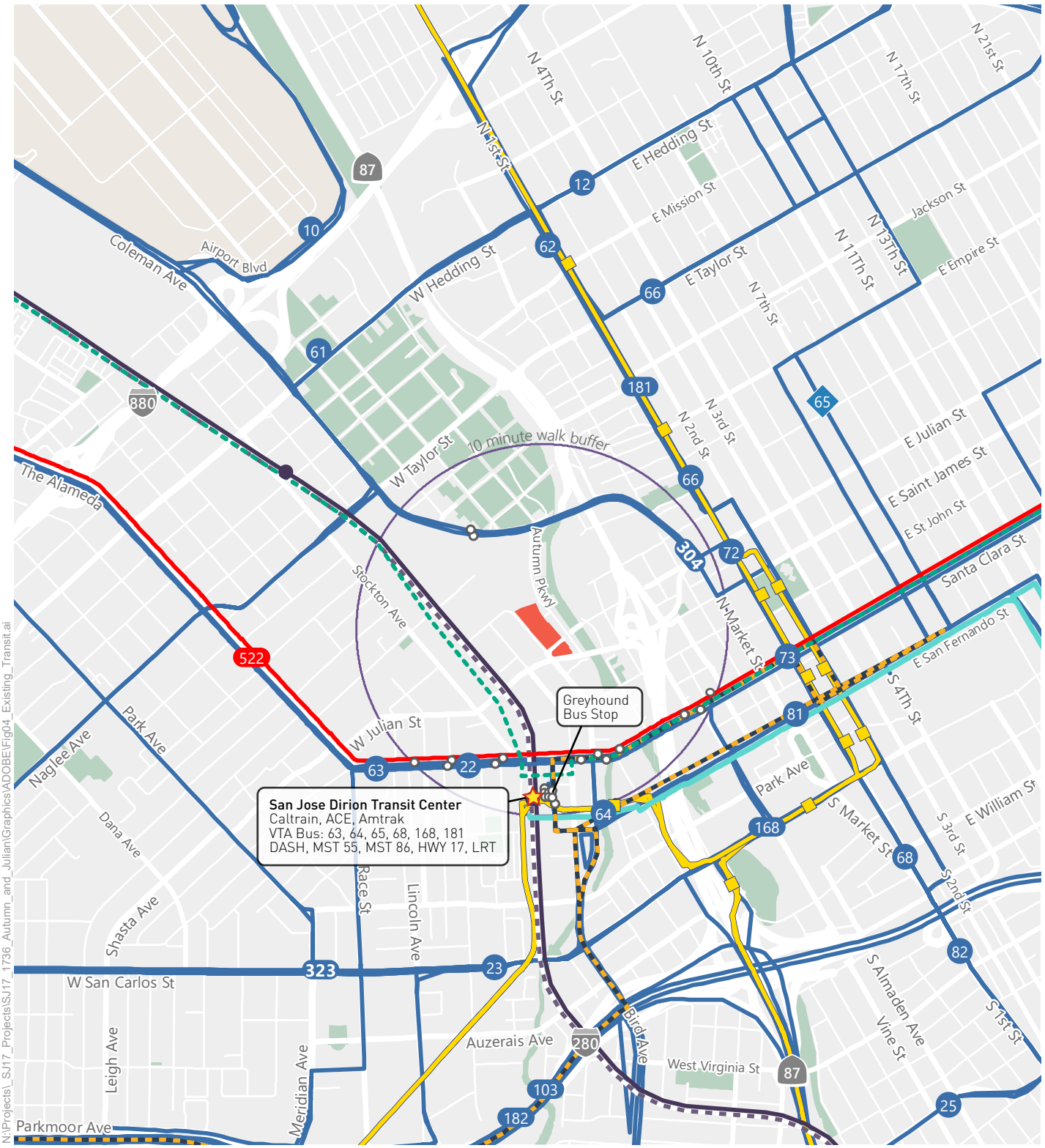


Figure 3

Existing Transit Facilities

Caltrain

Caltrain is a commuter heavy rail service that runs between downtown San Francisco (4th and King Streets) and downtown San Jose (Diridon Station), with a limited number of commute period trains running farther south to City of Gilroy. The service map for Caltrain is shown in **Figure 4.** There are 92 trains daily serving Diridon Station. During commute periods, Caltrain offers express service ("Baby Bullet") between downtown San Jose and San Francisco, which stops at a limited number of stations and allows a trip between San Francisco and San Jose to be made in one hour.

Caltrain accounts for a majority of the passenger rail ridership at Diridon Station. In 2017, approximately 4,600 passengers boarded Caltrain on an average weekday, and about 300 out of the 4,600 passengers boarded with bikes. In terms of access mode, eighteen percent of the Caltrain riders walk and sixteen percent of the Caltrain riders bike or use bike share (Caltrain, 2016).

The *Caltrain Modernization Program* will electrify the Caltrain system and, in turn, improve the performance, operating efficiency, capacity, safety, and reliability of Caltrain's rail service. Electrification will support increases in ridership and is scheduled to be complete by 2019.

Figure 4 Caltrain System Map

Altamont Corridor Express (ACE)

The Altamont Corridor Express (ACE) provides weekday train service between San Jose and Stockton during peak hours. There are eight trains daily with four trains running westbound in the morning and four trains running eastbound in the evening. The daily ridership at Diridon Station for ACE was approximately 370 boardings in 2016.

Amtrak Capitol Corridor

The Capitol Corridor is a passenger train system operated by Amtrak that provides service to sixteen stations in eight Northern California counties, from San Jose in Santa Clara County to Colfax in Placer County. On weekdays, seven eastbound and seven westbound trains serve Diridon Station, a total of fourteen trains per day. The average daily ridership for Amtrak Capitol Corridor was approximately 250 boardings and 230 alightings in 2015 and 2016. About seventeen percent of the ACE and Amtrak riders walk to Diridon Station, while sixteen percent bike or use bike share to access the station.

Bay Area Rapid Transit District (BART)

BART operates train service throughout the San Francisco Bay Area as shown in **Figure 5.** The system currently extends from Millbrae to San Francisco on the peninsula, San Francisco to Oakland, and from Oakland to Richmond, Pittsburg, Dublin, and Fremont in the East Bay. Altogether BART connects 45 stations with 104 miles of tracks. The 10-mile extension from the Warm Springs/South Fremont Station to Berryessa is slated to be operational in 2018. Planning and design work for the future Silicon Valley extension to Downtown San Jose and Santa Clara is also currently underway.

Figure 5 Bay Area Rapid Transit

California High Speed Rail

California High Speed Rail (CHSR) will be the first statewide high-speed rail system. The proposed system map is shown in **Figure 6.** The planning, designing, building and operation of CHSR is administered by the California High Speed Rail Authority. The system will operate between San Francisco and Los Angeles with speeds capable of over 200 miles per hour (mph) and a travel time under three hours by 2029. The network will eventually extend to Sacramento and San Diego, consisting of 800 miles and up to 24 stations. The construction started in 2015 and is currently undergoing in the Central Valley. San Jose Diridon Station will be a stop on CHSR to serve San Jose, Santa Clara County and surrounding areas.

Figure 6 California High-Speed Rail Map

Table 1: Existing Transit Services

Route	From	To	Weekdays		Saturdays		Sundays	
			Operating Hours[1]	Peak Headway[2] (minutes)	Operating Hours[1]	Headway[2] (minutes)	Operating Hours[1]	Headway[2] (minutes)
Caltrain								
NB[3]	San Jose Diridon (Gilroy)	San Francisco	4:30 a.m. – 12:05 a.m.	15	7:00 a.m. – 12:15 p.m.	20 to 120	8:10 a.m. - 11:50 p.m.	20 to 120
SB[3]	San Francisco	San Jose Diridon (Gilroy)	4:55 a.m. – 1:40 a.m.	10	8:05 a.m. – 1:45 a.m.	90 to 120	8:05 a.m. – 11:20 p.m.	90 to 120
Altamont Corridor Express (ACE)								
WB[3]	Stockton	San Jose	4:20 a.m. – 9:17 a.m.	60	-	-	-	-
EB[3]	San Jose	Stockton	3:35 p.m. – 8:50 p.m.	60	-	-	-	-
Amtrak Capitol Corridor								
WB[3]	Sacramento	San Jose	4:30 a.m. – 12:28 a.m.	40	6:10 a.m. – 11:55 p.m.	120	6:10 a.m. – 11:55 p.m.	120
EB	San Jose	Sacramento	6:40 a.m. – 12:08 a.m.	140	8:10 a.m. – 12:18 a.m.	120	8:10 a.m. – 12:18 a.m.	120
Santa Clara Valley Transportation Authority (VTA)								
22	Palo Alto Transit Center	Eastridge Transit Center	24 Hours	15	24 Hours	15 to 60	24 Hours	15 to 60
63	Almaden Expwy. & Camden	San Jose State University	6:13 a.m. – 10:24 p.m.	30	7:51 a.m. – 7:38 p.m.	60	8:51 a.m. – 5:40 p.m.	60
64	Almaden LRT Station	McKee & White	5:22 a.m. – 11:23 p.m.	15	6:26 a.m. – 11:04 p.m.	30 to 60	7:10 a.m. – 9:25 p.m.	30 to 60
65	Kooser & Blossom Hill	Hedding &13th	5:45 a.m. – 7:54 p.m.	45	-	-	-	-
68	Gilroy Transit Center	San Jose Diridon Transit Center	4:00 a.m. – 1:25 a.m.	15	5:50 a.m. – 1:30 a.m.	20 to 60	5:45 a.m. – 1:20 a.m.	20 to 60
168	Gilroy Transit Center	San Jose Diridon Transit Center	5:30 a.m. – 8:55 a.m.; 3:30 p.m. – 6:55 p.m.	15	-	-	-	-
181	Fremont BART Station	San Jose Diridon Transit Center	5:25 a.m. – 12:40 a.m.	15	6:40 a.m. – 12:45 a.m.	20 to 40	7:25 a.m. – 12:40 a.m.	20 to 40

Table 1: Existing Transit Services

Route	From	To	Weekdays		Saturdays		Sundays	
			Operating Hours[1]	Peak Headway[2] (minutes)	Operating Hours[1]	Headway[2] (minutes)	Operating Hours[1]	Headway[2] (minutes)
201 (DASH)	Downtown San Jose	San Jose Diridon Transit Center	6:40 a.m. – 9:30 p.m.	5 to 10	-	-	-	-
522	Palo Alto Transit Center	Eastridge Transit Center	4:40 a.m. – 11:25 p.m.	15	7:45 a.m. – 11:15 p.m.	20 to 35	8:30 a.m. – 7:35 p.m.	15
902 (Light Rail)	Mountain View	Winchester	4:40 a.m. – 12:45 a.m.	15	6:00 a.m. – 12:45 a.m.	30	6:00 a.m. – 12:45 a.m.	30
Santa Cruz METRO								
Highway 17 Express	Santa Cruz & Scotts Valley	San Jose	4:40 a.m. – 11:40 p.m.	15	6:50 a.m. – 10:55 p.m.	60	6:50 a.m. – 10:55 p.m.	60
Monterey-Salinas Transit								
55	Monterey	San Jose	8:20 a.m. – 5:20 p.m.	-	9:55 a.m. – 9:15 p.m.	120	9:55 a.m. – 9:15 p.m.	120
86	King City	San Jose/SJ Airport	4:35 a.m. – 11:20 p.m.	-	5:00 a.m. – 9:50 p.m.	120	5:00 a.m. – 9:50 p.m.	120

1. Operating hours rounded to the nearest 5 minute interval.
2. Headways are defined as the time interval between two transit vehicles traveling in the same direction over the same route.
3. NB: northbound. SB: southbound. WB: westbound. EB: Eastbound.

Sources: AC Transit, BART, VTA, Santa Cruz METRO, MST, September 2017.

Bus and Light Rail Transit (LRT) Service

Santa Clara Valley Transportation Authority (VTA)

The Santa Clara Valley Transportation Authority (VTA) operates light rail transit (LRT) and several bus routes in the vicinity of the Project site. LRT Route 902 (Downtown Mountain View to Winchester) has two stations within quarter-mile walking distance from the Project site: Diridon Station and San Fernando Station. Bus routes with stops within a fifteen-minute walking distance of the site include 22, 63, and 522 with stops at SAP Center, as well as 64, 65, 68, 168, 181, and the Downtown Area Shuttle (DASH) that stop at Diridon Station. Detailed service information for VTA LRT and buses is presented in **Table 1.** VTA also provides Access Paratransit to eligible individuals with disabilities who are prevented from using regular transit services.

Santa Cruz Metro

Santa Cruz Metropolitan Transit District (Santa Cruz METRO) is the bus service provider in Santa Cruz County. It operates Highway 17 Express, the regional express service traveling between Santa Cruz Metro Center and San Fernando Street/5th Street in San Jose that stops at Diridon Station. Highway 17 Express is operated by Santa Cruz METRO as a partnership with Amtrak Capitol Corridor. Detailed service information for Highway 17 Express is in **Table 1.**

Monterey-Salinas Transit

Monterey-Salinas Transit (MST) is the transit provider in Monterey County and Southern Santa Cruz County with a service area of 280 square miles. MST Routes 55 and 86 are the regional bus services that stop at Diridon Station. Route 55 operates between San Jose and Monterey. Route 86 provides service between San Jose and King City. Detailed service information for MST buses is in **Table 1.**

Inter-City Bus

The inter-city bus service at Diridon Station includes Amtrak Thruway, California Shuttle Bus, Greyhound, Megabus, and Bolt Bus. The 2016 estimate of daily ridership for the inter-city buses was approximately 430 boardings.

Private Shuttles

Several employers in the area operate commute shuttles between Diridon Station and employment centers, including Apple, PayPal, eBay, Qualcomm and others. The shuttles are vans or small buses that use the passenger pick-up/drop-off area in front of the station.

Pedestrian and Bicycle Facilities

Existing Pedestrian Facilities

Pedestrian facilities near the Project site include sidewalks, crosswalks, curb ramps, pedestrian signals, and off-street paths that provide safe and convenient routes for pedestrians to access destinations such as downtown San Jose, SAP Center, San Jose Convention Center and Guadalupe River Park. **Figure 7** illustrates the highlights of existing pedestrian facilities near the Project site within ten-minute walking distance.

The Guadalupe River Trail is located just to the east of the Project site. It is part of the major trail system along creek and rivers in San Jose. With over nine miles of trail extending on either side of the Guadalupe River, it provides support for recreational and commuting trips on bike or foot. The closest access points from the Project site to the trail are the proposed pedestrian crossing on Autumn Parkway at its intersection with Howard Street and the trail entrance on Julian Street via the Autumn Parkway/Julian Street signalized intersection.

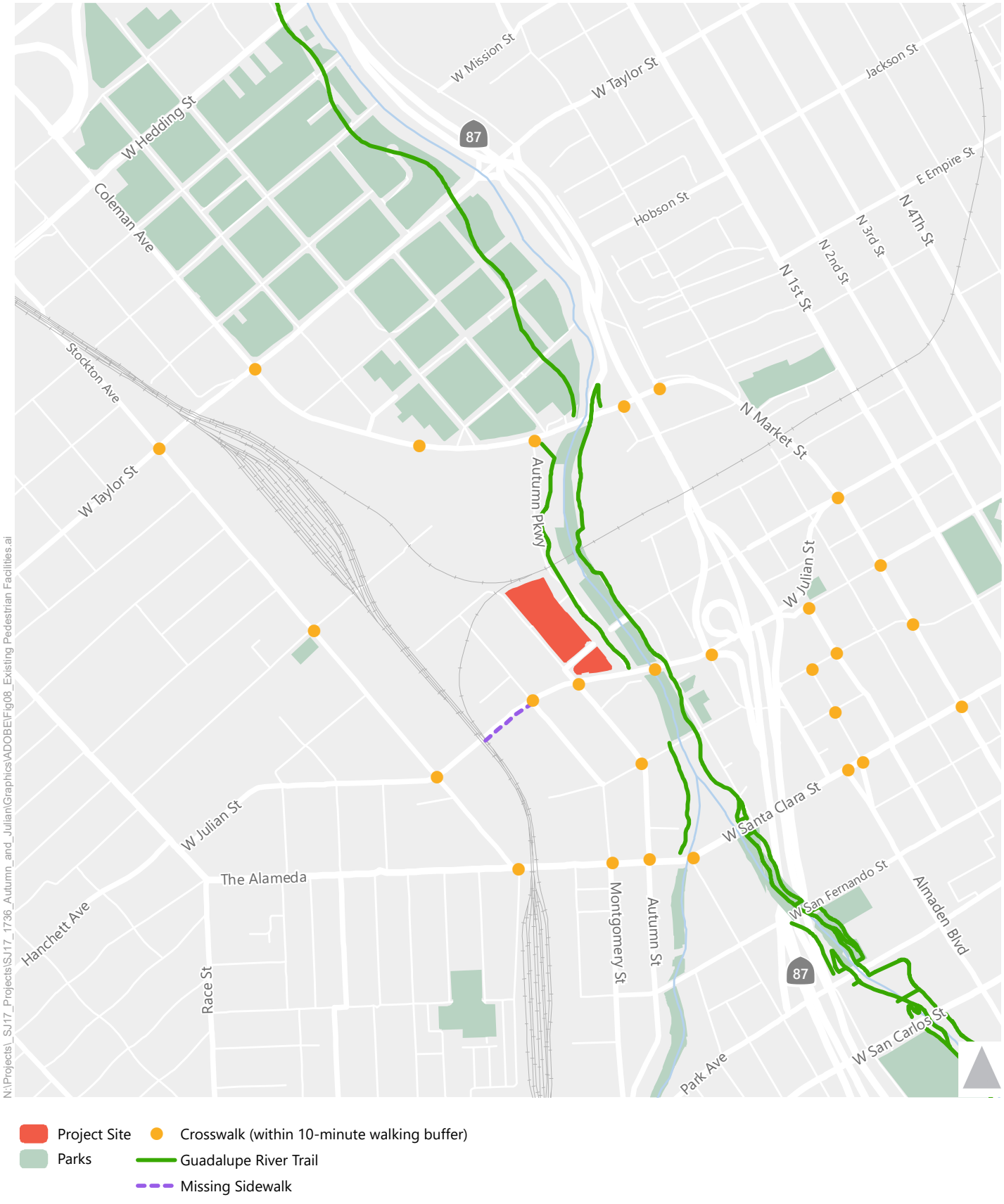
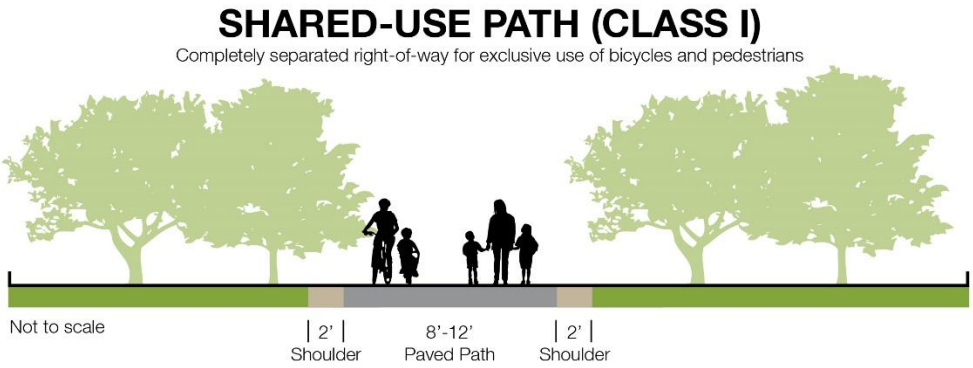


Figure 7

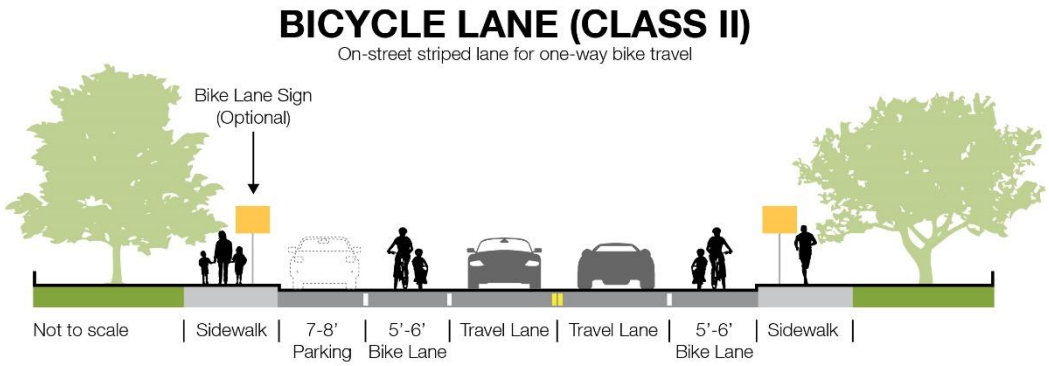
Existing Pedestrian Facilities

Existing Bicycle Facilities

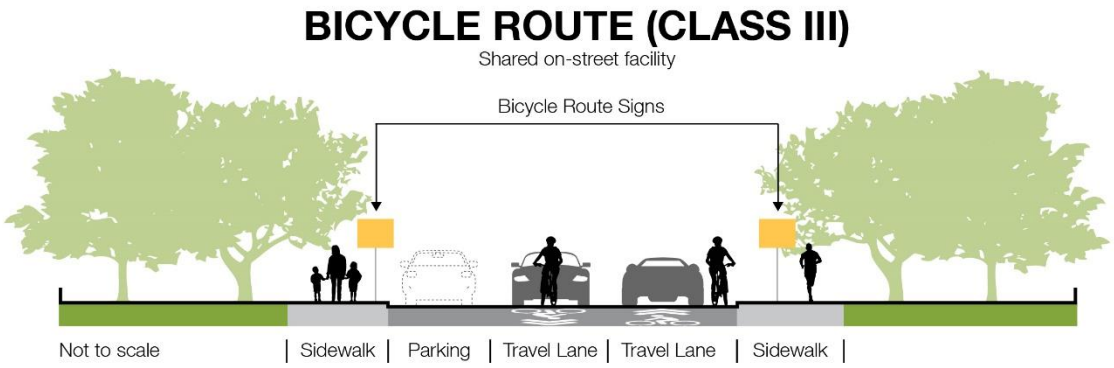
There are four distinct types of bikeway facilities, as described below and shown in the accompanying figures:



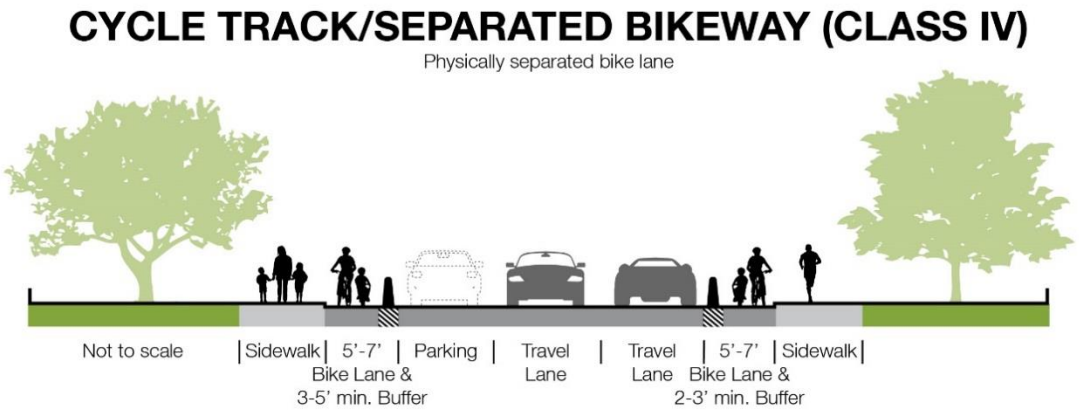
Class I Bikeways (Shared-Use Paths) provide a completely separate right-of-way and are designated for the exclusive use of bicycles and pedestrians.



Class II Bikeways (Bicycle Lanes) are dedicated lanes for bicyclists generally adjacent to the outer vehicle travel lanes. These lanes are typically five (5) feet wide and have special lane markings, pavement legends, and signage.



Class III Bikeways (Bicycle Routes) are designated by signs or pavement markings for shared use with motor vehicles, but have no separated bicycle right-of-way or lane striping. Bike routes serve either to: a) provide a connection to other bicycle facilities where dedicated facilities are infeasible, or b) designate preferred routes through high-demand corridors



Class IV Bikeways (cycle tracks or "separated" bikeways) provide a right-of-way designated exclusively for bicycle travel within a roadway and are protected from vehicle traffic by physical barriers, including, but not limited to, grade separation, flexible posts, and inflexible vertical barriers such as raised curbs or parked cars.

The Guadalupe River Trail is a Class I bike path that serves recreational and local bicycle and walking trips with north-south connectivity along an off-roadway facility. It is located 90 feet east of the site. Class II bike lanes are provided on Stockton Avenue between The Alameda - Santa Clara Street and Emory Street, Julian Street between Stockton Avenue and The Alameda, Santa Clara Street between Almaden Boulevard and Stockton Avenue, San Fernando Street east of Cahill Street, Park Avenue except for between Race Street and Sunol Street, Almaden Boulevard and Notre Dame Avenue between St. John Street and Woz Way-Balbach Street, and Coleman Avenue between Santa Teresa Street and Taylor Street. Class III bike routes are designated on The Alameda west of Stockton Avenue, Cahill Street between Santa Clara Street and San Fernando Street, and Autumn Street south of St. John Street. Class IV cycle track is built on 4th Street between San Fernando Street and San Carlos Street. The detailed existing bicycle facilities in the vicinity is shown in **Figure 8**.

Bike Share

Bikesharing is a membership-based system for short-term bike rentals where people can rent and return a bicycle at any station in the service area. These systems are typically designated for short, quick trips, often providing last-mile connections. As shown in **Figure 8**, there are several bikeshare stations surrounding the Project site. The closest station to the Project site is located at SAP Center on Autumn Street, a six-minute walking distance. The majority of the existing nearby bikeshare stations are located in the downtown core. Continuing until the end of 2018, new bikes and stations will be installed to expand the service area beyond downtown San Jose. The closest proposed new station will be on Almaden Boulevard and St. John Street which is a five-minute walk from the Project site.

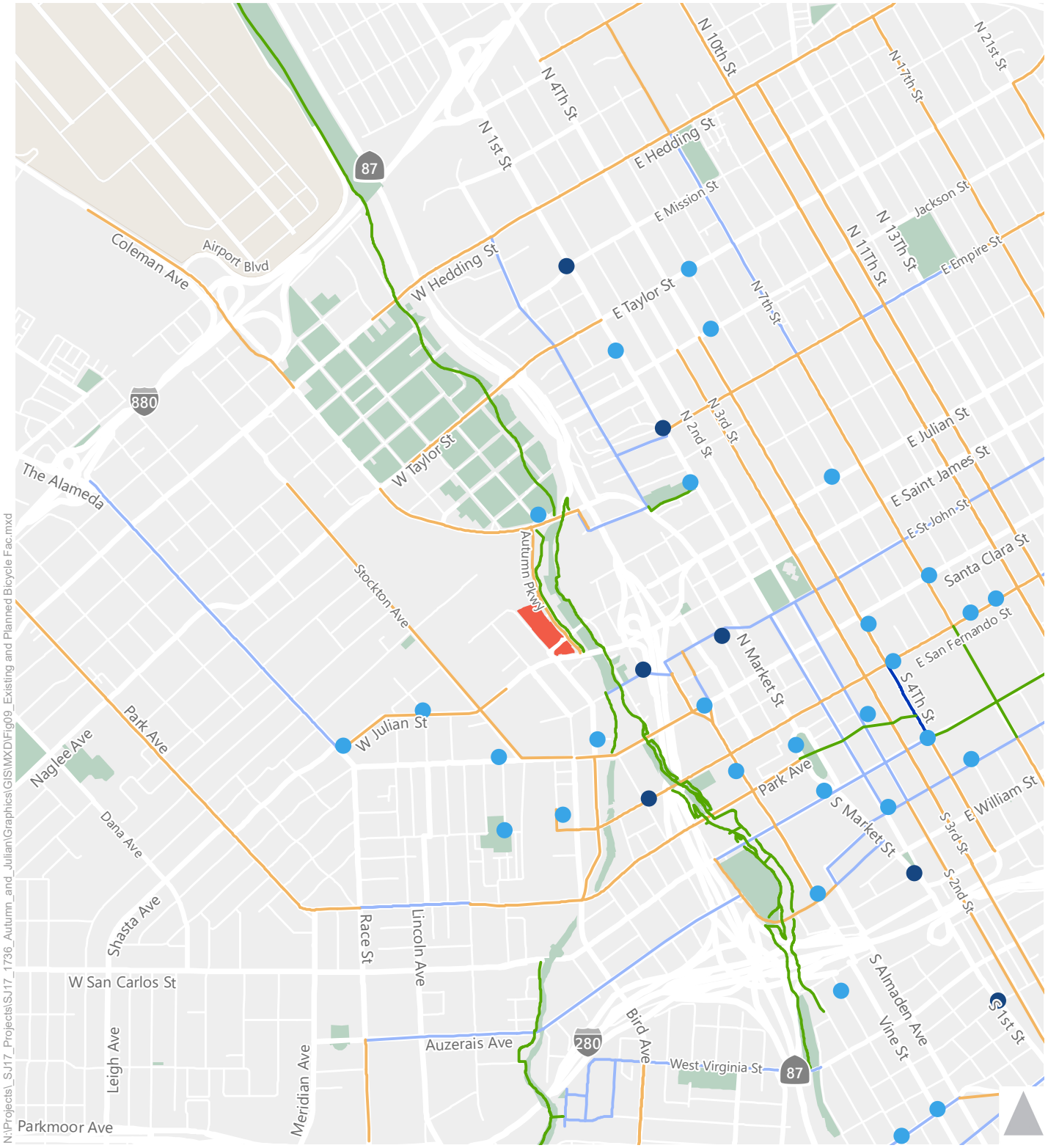


Figure 8

Existing and Planned Bicycle Facilities

3. Project Traffic

Trip Generation

The amount of traffic generated by a development is referred to as its vehicle trip generation. It is presented as the number of inbound and outbound vehicles during a typical weekday and during the one-hour periods during the morning and evening commute times, when traffic volumes on the roadway network are at their highest, referred to as the AM and PM peak hours.

The amount of net-new traffic generated is based on numerous variables: the type of use, the building size, the proximity to train stations and major bus routes, the amount of nearby bicycle infrastructure, the proximity of complementary uses (e.g., residential near office), the employee density, the amount of and cost of parking, the implementation of Transportation Demand Management (TDM) measures, and the amount traffic generated by existing uses on the site.

The amount of traffic generated by 440 W. Julian Street was estimated using a combination of City of San Jose trip generation rates for offices, site context trip reductions using the MXD method contained in Fehr & Peers MainStreet trip reduction estimation tool, Transportation Demand Management (TDM) trip reductions, and trip credits for the existing uses on the site derived from a driveway count on Autumn Street. The results are shown in **Table 2.**

Table 2: Trip Generation Estimates

Land Use	Size	Units	Daily		AM Peak Hour				PM Peak Hour			
			Rate[2]	Trips	Rate[2]	In	Out	Total	Rate[2]	In	Out	Total
General Office Building	1,023	ksf[1]	11	11,253	1.54	1,386	189	1,575	1.54	268	1,307	1,575
MXD Reduction				*-1,913*	*-*	*-347*	*-47*	*-394*	*-*	*-54*	*-261*	*-315*
TDM Reduction			*-10%*	*-1,125*	*-10%*	*-139*	*-19*	*-158*	*-10%*	*-27*	*-131*	*-158*
Existing Use Reduction				*-20*	*-*	*-1*	*-1*	*-2*	*-*	*-3*	*-5*	*-8*
Net-Added Traffic				**8,195**		**899**	**122**	**1,021**		**184**	**910**	**1,094**

1. Ksf = 1000 square feet
2. City of San Jose *Traffic Impact Analysis Handbook*, 2009

Source: Fehr & Peers, 2018.

Fehr & Peers' MainStreet tool was applied to estimate the trip reductions associated with the site's location and the surrounding land uses, proximity to Diridon station, and nearby attractions and destinations. The MainStreet trip reductions were verified using information from the California Household Travel Survey regarding mode share for home-based work trips in the area.

The project will have a robust TDM plan to reduce vehicle trip generation and parking demand of the site in support of the reduced parking supply. The site will be required to achieve a minimum 10 percent to meet the City's climate action plan goals (per City staff) so a 10 percent TDM reduction was applied as a conservative estimate.

The amount of traffic generated by the existing uses on site was based on driveway counts for the on-site car repair establishment. (The other existing uses generate little traffic and were not included.)

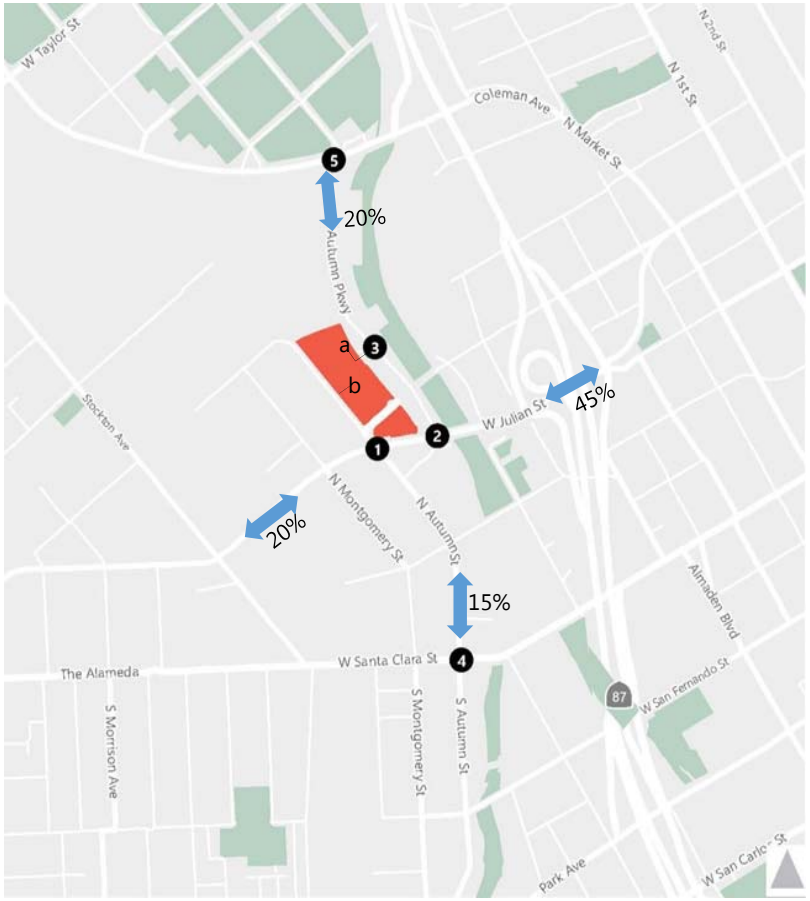
Trip Distribution

The amount of traffic approaching and departing the site from various directions is primarily based on the relative locations of residential areas. The directions of approach and departure are based on information from the transportation impact analysis conducted for the Diridon Station Area Plan and are:

- 20% to/from the north on Autumn Parkway
- 45% to/from the east on W. Julian Street
- 15% to/from the south on N. Autumn Street
- 20% to/from the west on W. Julian Street

Trip Assignment

The trip assignment for AM and PM peak hour Project trips, based on the trip generation estimates and the trip distribution pattern, is shown on **Figure 9.**



LEGEND

- # Study Intersection
- AM (PM) Peak Hour Traffic Volume
- Lane Configuration
- Trip Distribution
- Signalized

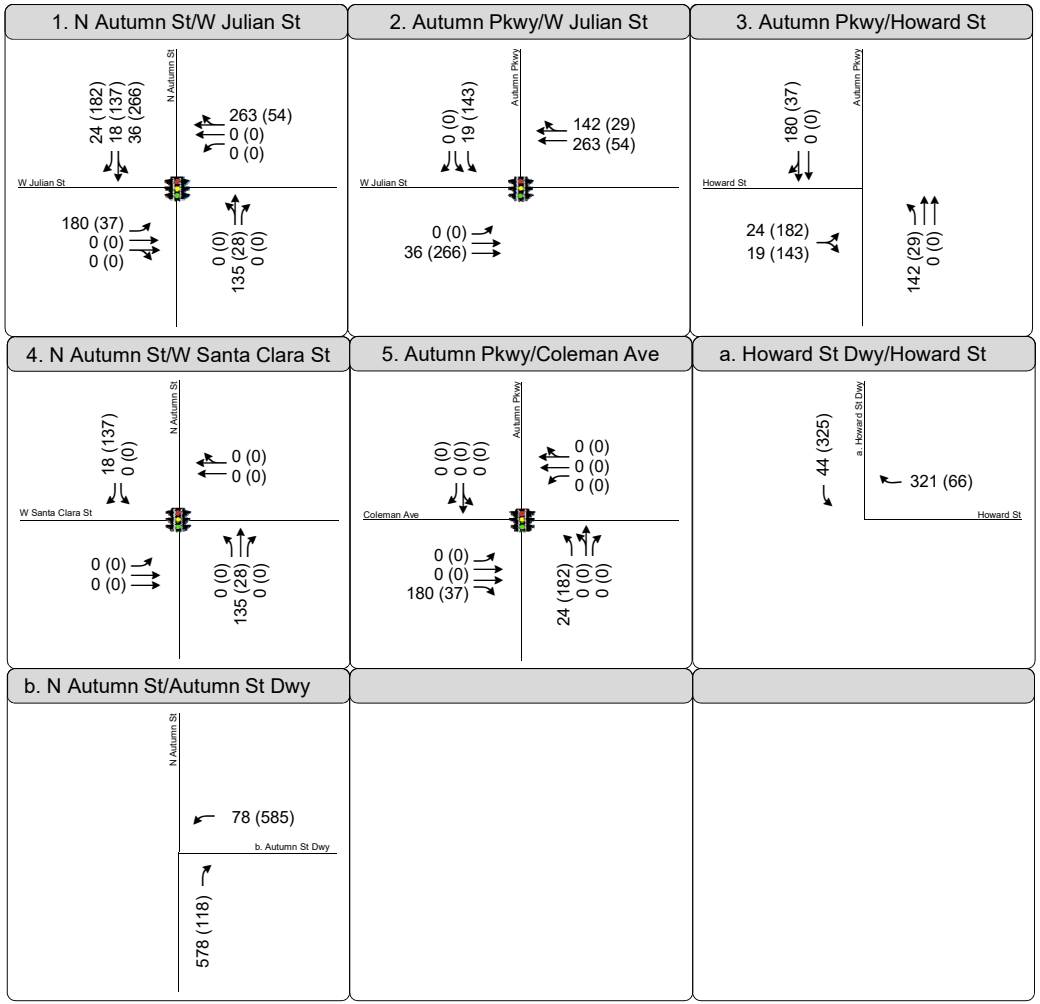


Figure 9

Project Trip Assignment

4. Queuing Analysis

An analysis was conducted to evaluate vehicle queuing for select intersection movements during the weekday AM and PM peak hours. The analysis was conducted for the following scenarios:

- **Scenario 1: Existing Conditions** – Existing volumes obtained from counts plus existing lane configurations and traffic signal timings
- **Scenario 2: Existing with Project Conditions** – Existing volumes plus traffic generated by 440 W. Julian Street plus relocated median break on Autumn Parkway (to Howard Street) to be constructed by the Project
- **Scenario 3: Background Conditions** – Existing volumes plus traffic generated by approved but not yet constructed developments projects in the City's Approved Trip Inventory (ATI) with existing lane configurations and traffic signal timings
- **Scenario 4: Background with Project Conditions** – Background volumes plus traffic generated by 440 W. Julian Street plus the relocated median break on Autumn Parkway to be constructed by the Project

A peak hour volume traffic signal warrant analysis was conducted for the new intersection of Howard Street and Autumn Parkway to determine whether the installation of traffic signals should be considered. The results are included in **Appendix A**.

Analysis Method

The queuing analysis was conducted using the Synchro analysis software package, which is based on methods in the 2010 *Highway Capacity Manual*. Synchro estimates average and 95th percentile vehicle queues. The 95th percentile queues were used to assess the adequacy of the left-turn lane storage lengths and effects of queuing between selected intersections.

Intersection Volumes and Forecasts

Traffic counts for the intersection of Santa Clara Street and Autumn Street were conducted in October 2016 and were obtained from the City of San Jose. Traffic counts for the other three existing study intersections were conducted in October 2017 to obtain existing turning movement volumes during the AM and PM peak hours. The resulting peak hour traffic volumes are shown in **Figure 10.** The count data is included in **Appendix B**.

Traffic forecasts for approved but not yet constructed developments in the area were obtained from the City's Approved Trip Inventory (ATI). These forecasts were added to the existing volumes to obtain traffic forecasts for Background Conditions as shown in **Figure 11.** The trip assignments in **Figure 9** were added to the volumes on **Figure 10** and **Figure 11** to obtain traffic forecasts for Existing plus Project and Background plus Project Conditions, as shown in **Figure 12** and **Figure 13**, respectively.

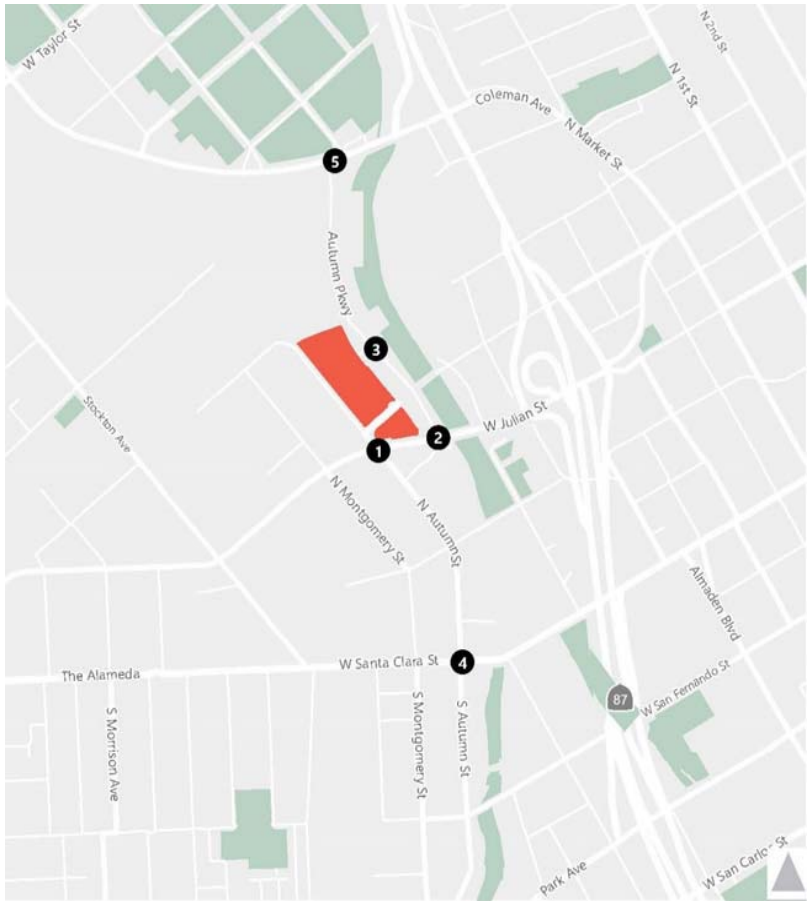
Lane Configurations and Traffic Control Devices

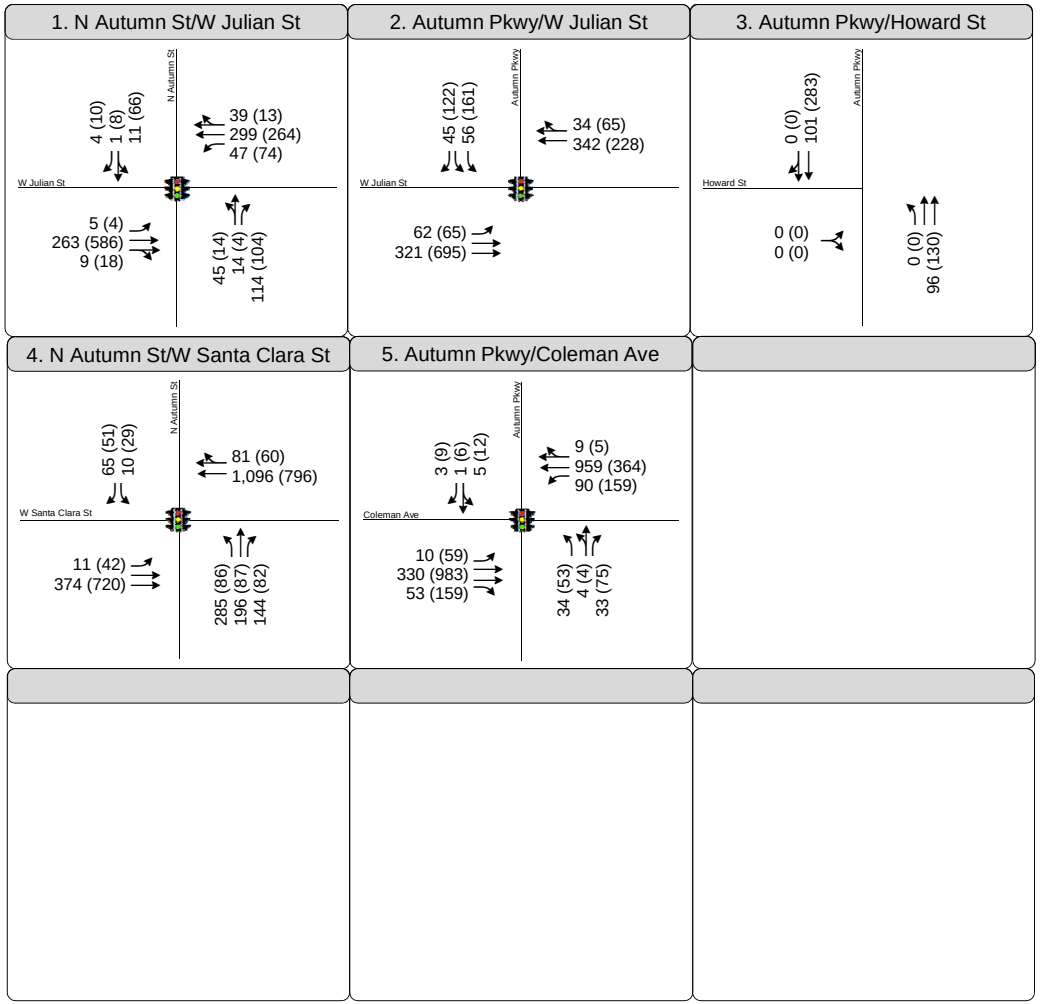
Existing intersection lane configurations and traffic control devices (stop signs or traffic signals) were used in the analysis for Existing Conditions and Background Conditions. The lane configurations and traffic control devices are included in **Figure 10** through **Figure 13**.

As part of the project, the median break on Autumn Parkway will be relocated to Howard Street. A peak hour traffic signal warrant analysis[1] was conducted for the Howard Street/Autumn Parkway intersection using the Existing plus Project and Background plus Project volumes. The results show that under the Existing plus Project and Background plus Project conditions, the Peak Hour Signal Warrants are not met for this intersection.

In the future, Autumn Parkway will be extended to Santa Clara Street. When that occurs, traffic on Autumn Parkway will increase, including Project traffic approaching from the site from the south which will be diverted from Autumn Street. The Peak Hour Traffic Signal Warrant for the intersection of Howard Street and Autumn Parkway is projected to be met under these conditions.

[1] This analysis is intended to examine the general correlation between the planned level of future development and the need to install new traffic signals. It estimates future development-generated traffic compared against a sub-set of the standard traffic signal warrants recommended in the Federal Highway Administration Manual on Uniform Traffic Control Devices and associated State guidelines. This analysis should not serve as the only basis for deciding whether and when to install a signal. To reach such a decision, the full set of warrants should be investigated based on field-measured, rather than forecast, traffic data and a thorough study of traffic and roadway conditions by an experienced engineer. Furthermore, the decision to install a signal should not be based solely upon the warrants, since the installation of signals can lead to certain types of collisions. The responsible state or local agency should undertake regular monitoring of actual traffic conditions and accident data, and timely re-evaluation of the full set of warrants in order to prioritize and program intersections for signalization.



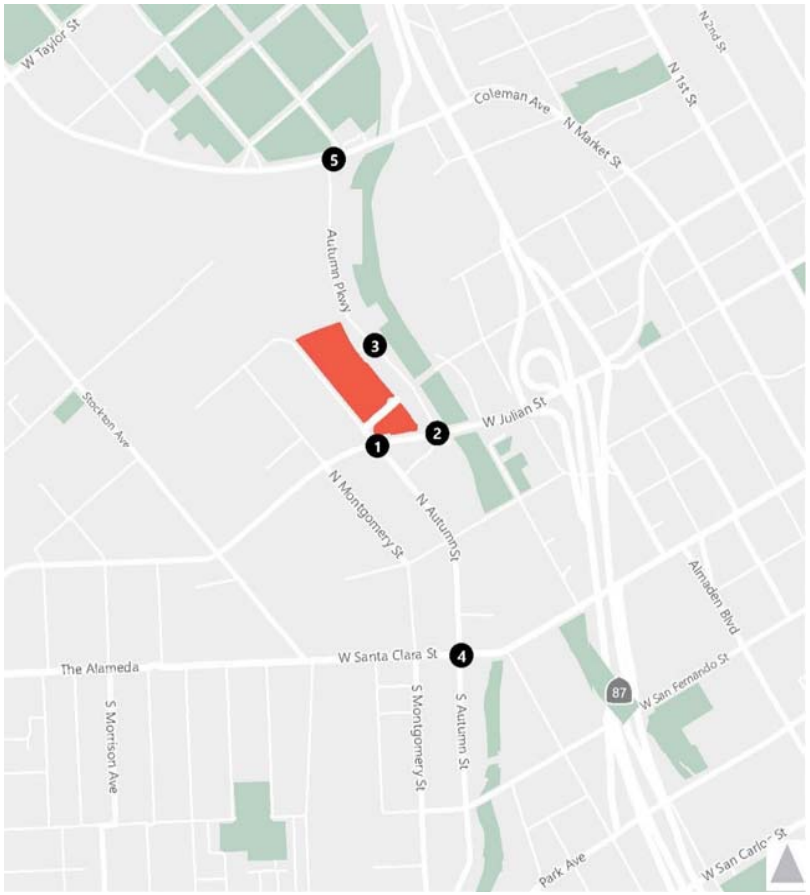


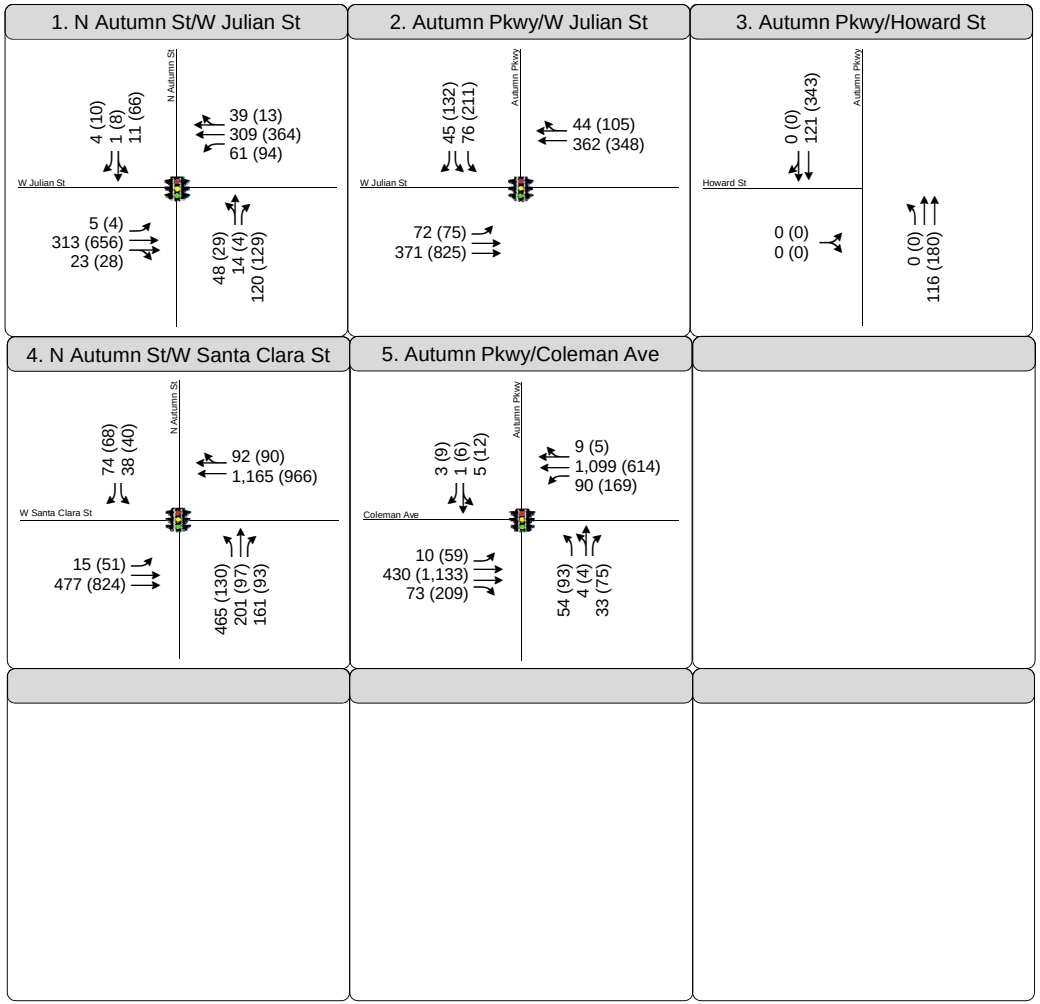
LEGEND

# Study Intersection	Signalized
AM (PM) Peak Hour Traffic Volume	
Lane Configuration	

Figure 10

Existing Intersection Volumes, Lane Configurations and Traffic Control Devices



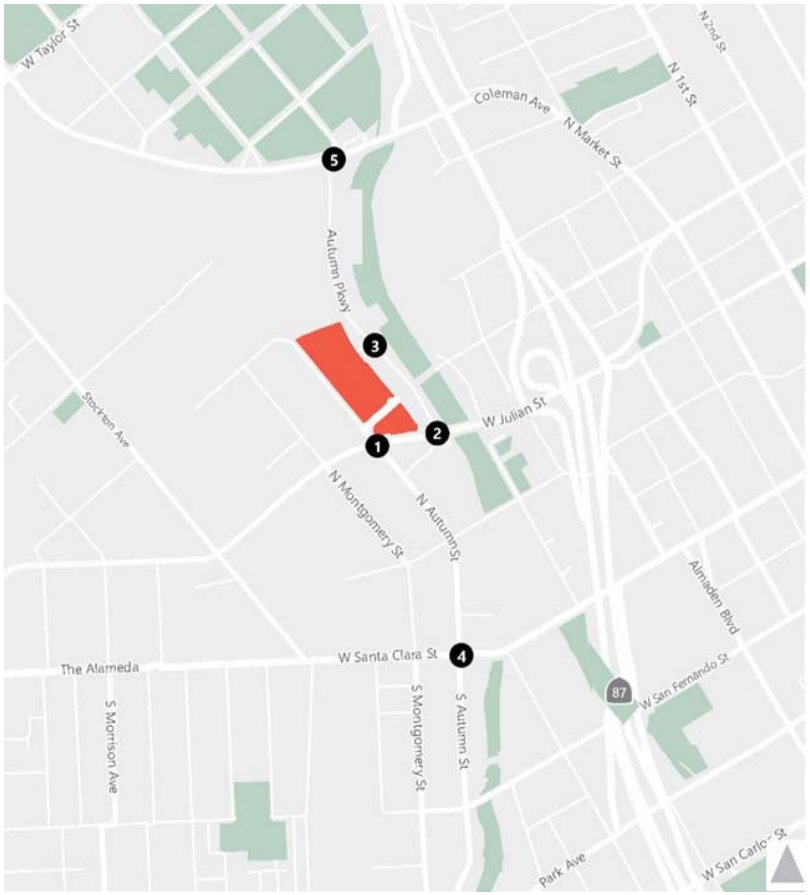


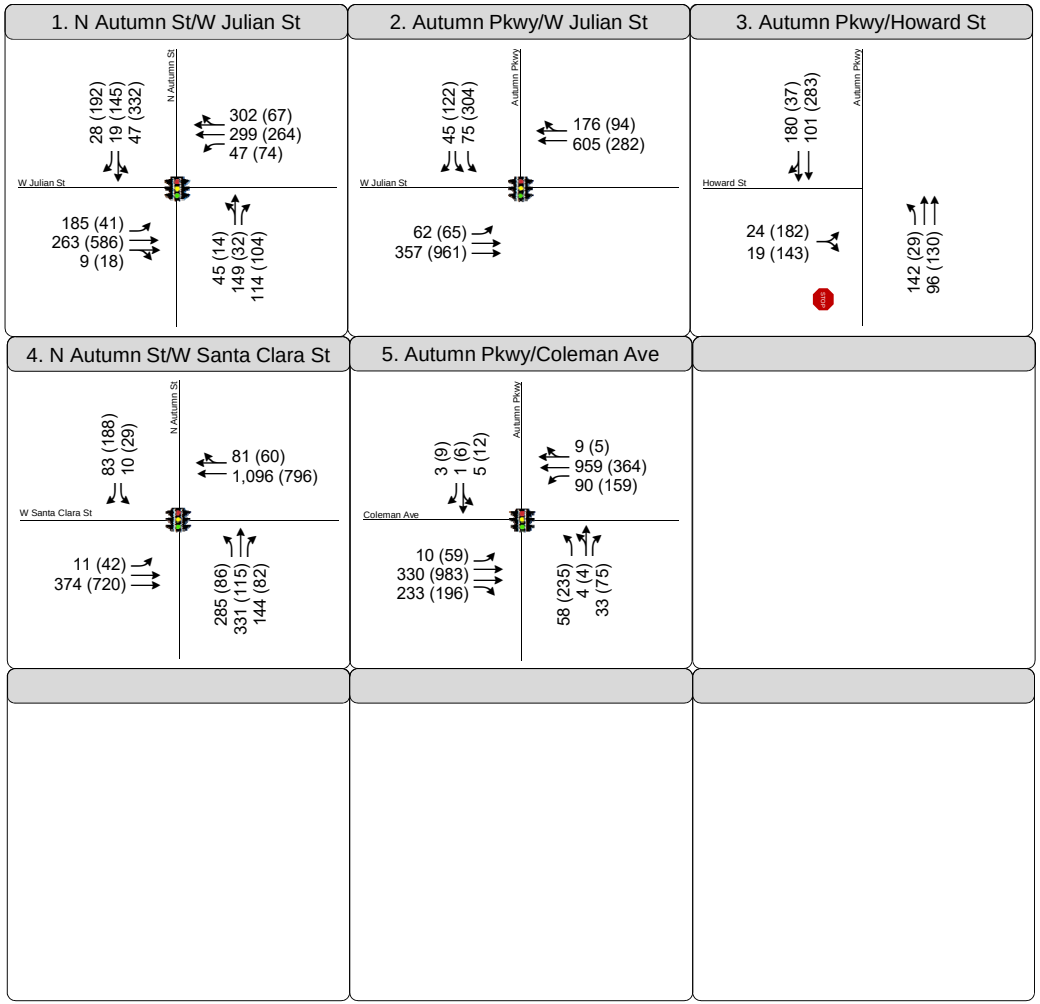
LEGEND

# Study Intersection	Signalized
AM (PM) Peak Hour Traffic Volume	
Lane Configuration	

Figure 11

Background Intersection Volumes, Lane Configurations, and Traffic Control Devices



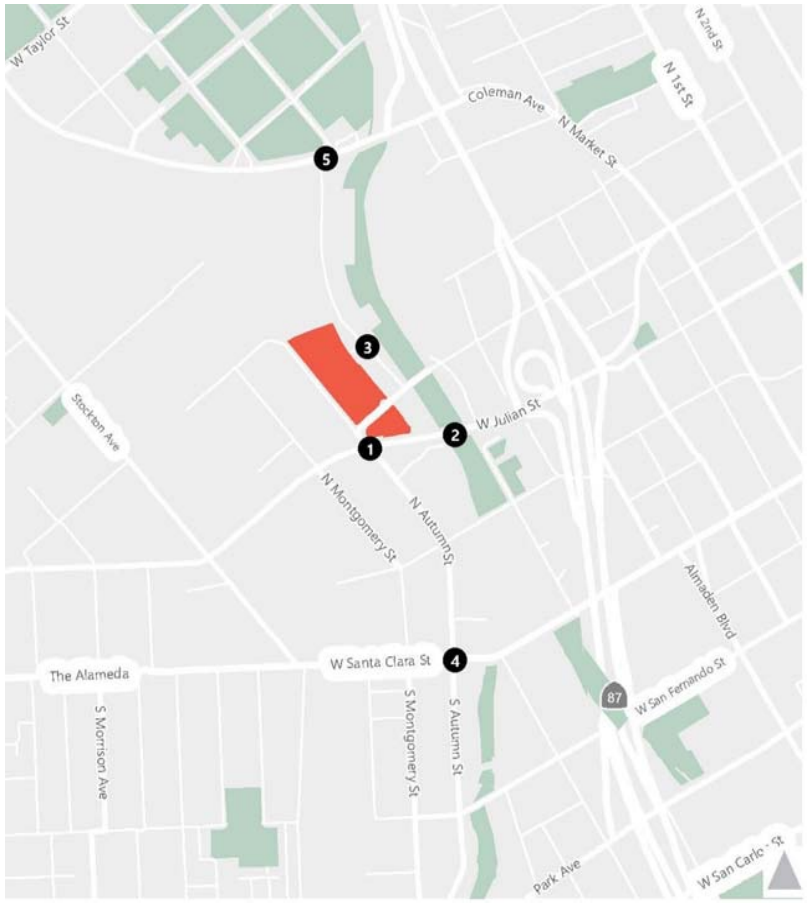


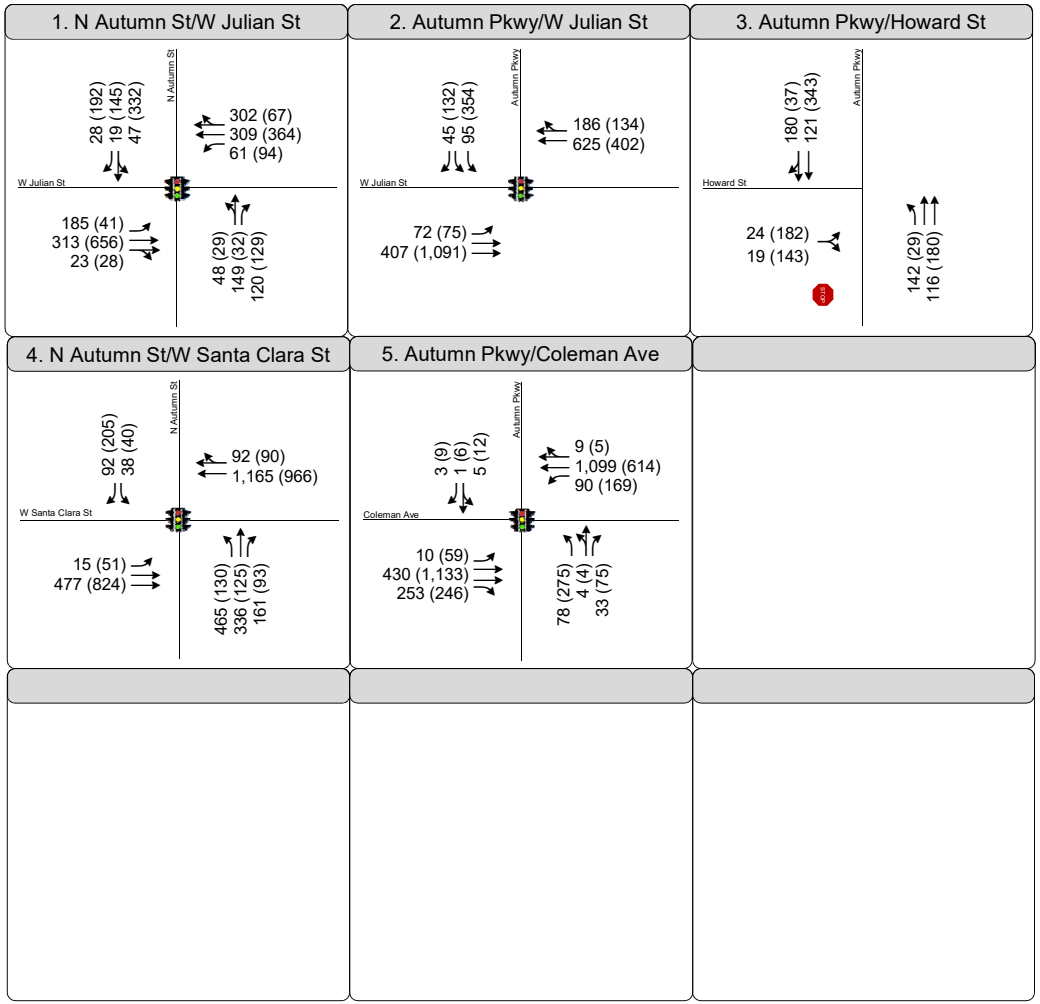
LEGEND

#	Study Intersection	STOP	Stop Sign
AM (PM)	Peak Hour Traffic Volume		Signalized
	Lane Configuration		

Figure 12

Existing Plus Project Intersection Volumes, Lane Configurations, and Traffic Control Devices





LEGEND

#	Study Intersection	STOP	Stop Sign
AM (PM)	Peak Hour Traffic Volume		Signalized
	Lane Configuration		

Figure 13

Background Plus Project Intersection Volumes, Lane Configurations, and Traffic Control Devices

Queuing Analysis Results

A queuing analysis was conducted to assess how traffic generated by the Project would affect existing and projected vehicle queues on the roadway system near the site. The analysis locations selected by City staff are:

1. Northbound left-turn queue on Autumn Parkway at Howard Street
2. Eastbound and westbound queuing on Julian Street between Autumn Parkway and Autumn Street
3. Eastbound left-turn queue on Julian Street at Autumn Street
4. Eastbound left-turn queue on Julian Street at Autumn Parkway
5. Southbound and eastbound left-turn queues at the intersection of Autumn Street and Santa Clara Street
6. Westbound left-turn queue on Coleman Avenue at Autumn Parkway

Project traffic approaching the site on Coleman Avenue would primarily come from the west, not the east as traffic approaching the site from the east would use Julian Street. Therefore very little Project traffic would be added to Location 6 (the westbound left-turn queue on Coleman Avenue at Autumn Parkway) so this location was not evaluated. The results of the queuing analysis are summarized in **Table 3** and **Table 4** and included in **Appendix C**.

The Project is projected to add a substantial amount of traffic to eastbound Julian Street between Autumn Parkway and Autumn Street during the PM peak hour that will cause the vehicle queue to exceed the storage length under both Existing and Background Conditions. The storage area cannot be expanded so queue spillback may occur. More vehicles leaving the Project site may opt to use the Howard Street exit (to southbound Autumn Parkway and eastbound Julian Street) as opposed to the Autumn Street exit (to southbound Autumn Street and eastbound Julian Street) which would reduce the queue length. Installing a traffic signal at the intersection of Autumn Parkway and Howard Street would facilitate vehicles using the Howard Street driveway.

Vehicles approaching the Project site from the west on Julian Street would turn left onto Autumn Street and use the Autumn Street entrance. The resulting queue during the AM peak hour is projected to exceed the left-turn pocket storage length by approximately 80 feet (three car lengths) under both Existing and Background plus Project Conditions. This intersection can be redesigned to remove the pork-chop islands to reduce pedestrian crossing distances (see **Figure 16** for conceptual design). With this redesign, the left-turn storage length could be lengthened to 200 feet. This redesign would eliminate the westbound right-turn lane on Julian Street at Montgomery Street.

Table 3: Existing and Existing Plus Project Intersection 95th Percentile Queues

Movement	Storage Length (feet)	AM		PM	
		Existing Peak Hour Queue (feet)	Existing Plus Project Peak Hour Queue (feet)	Existing Peak Hour Queue (feet)	Existing Plus Project Peak Hour Queue (feet)
Autumn Parkway and Howard Street					
Northbound Left	335[1]	-	72	-	30
Julian Street between Autumn Parkway and Autumn Street					
Eastbound Through[2]	295	93	106	219	**365**
Julian Street between Autumn Parkway and Autumn Street					
Westbound Through[2]	295	88	128	70	82
Julian Street and Autumn Street					
Eastbound Left	120	12	**203**	11	52
Julian Street and Autumn Parkway					
Eastbound Left	110	82	83	86	91
Autumn Street and Santa Clara Street					
Eastbound Left	65	29	29	**72**	**72**
Southbound Left	105	28	27	56	56

Notes:
Bold text indicates the queue extends out of the available pocket storage.
1. The Project would extend the northbound left-turn lane on Autumn Parkway at Howard Street to 335 feet.
2. Through movement length was determined by measuring the distance from the stop bar to the upstream intersection. Driveways are not included as an upstream intersection. Obstruction of driveways may occur.
Source: Fehr & Peers, 2018.

Table 4: Background and Background Plus Project Intersection 95th Percentile Queues

Movement	Storage Length (feet)	AM		PM	
		Background Peak Hour Queue (feet)	Background Plus Project Peak Hour Queue (feet)	Background Peak Hour Queue (feet)	Background Plus Project Peak Hour Queue (feet)
Autumn Parkway and Howard Street					
Northbound Left	335[1]	-	73	-	31
Julian Street between Autumn Parkway and Autumn Street					
Eastbound Through[2]	295	110	123	280	**452**
Julian Street between Autumn Parkway and Autumn Street					
Westbound Through[2]	295	90	132	94	112
Julian Street and Autumn Street					
Eastbound Left	120	12	**204**	12	55
Julian Street and Autumn Parkway					
Eastbound Left	110	94	94	99	103
Autumn Street and Santa Clara Street					
Eastbound Left	65	35	35	**83**	**83**
Southbound Left	105	68	68	70	70

Notes:
Bold text indicates the queue extends out of the available pocket storage.
1. The Project would extend the northbound left-turn lane on Autumn Parkway at Howard Street to 335 feet.
2. Through movement length was determined by measuring the distance from the stop bar to the upstream intersection. Driveways are not included as an upstream intersection. Obstruction of driveways may occur.
Source: Fehr & Peers, 2018.

5. Site Access, On-Site Circulation, and Parking

The site plan (in **Figure 2**) was reviewed to evaluate site access and on-site circulation for pedestrians, bicycles, vehicles (employees and visitors), emergency vehicles, delivery vehicles, and Transportation Network Companies (TNCs). The assessment included specific issues identified by City staff:

- Identification of emergency vehicle access (EVA) driveways
- Extending the loading zone along W. Julian Street
- Relocating the loading zone on N. Autumn Street from the N. Autumn Street/Julian Street project frontage to the westernmost proposed office building near the terminus on N. Autumn Street
- Future bicycle accommodations (bikeshare pod on-site)
- Potential pedestrian improvements/better transit access including removal of pork chop islands at N. Autumn Street/W. Julian Street

Annotated Site Plans

An annotated site plan showing the access routes for pedestrians and bicyclists, the locations of the ramps for vehicle access to the underground parking garage, and passenger pick-up/drop-off areas for Transportation Network Companies (TNCs) is shown on **Figure 14.** A plan showing the basement level parking layout is shown on **Figure 15.** These plans are used in the site access and on-site circulation discussion below.

Site Access and On-Site Circulation

Pedestrians

The project will add pedestrian traffic to the area primarily generated by office employees including those who reside nearby and walk to and from work, those who use passenger rail service, LRT, and buses to commute to work and walk and from to and from Diridon Station and other transit stops, and those that walk to and from other destinations in the area such as cafes and restaurants. These pedestrians would use

the building entrances shown on **Figure 14** and located on W. Julian Street (2), Old W. Julian Street (6), N. Autumn Street (2), and Howard Street (2). **Figure 14** also shows the pedestrian routes from the surrounding area to/from the entrances. A crosswalk will be provided at the Howard Street/Autumn Parkway intersection to provide a pedestrian connection to the east side of Autumn Parkway and to Guadalupe River Park and trail. Pedestrians can also cross Autumn Parkway at its signalized intersection with W. Julian Street.

The most direct route to/from Diridon Station will be via Autumn Street and its signalized intersection with W. Julian Street. There are "pork chop" islands on the northwest and southeast corners of this intersection. The islands on the southeast corner facilitate high-speed northbound right-turning vehicle movements which can negatively affect the pedestrian environment. Removing the pork chop islands improves the multi-modal environment by eliminating uncontrolled pedestrian/vehicle conflict points, decreasing the total pedestrian crossing distance, providing a larger refuge area on the intersection corners for pedestrians waiting to cross, and increasing their visibility. A conceptual plan showing a potential redesign of the intersection to remove the islands and slow vehicle speeds is shown on **Figure 16.** Further engineering studies and design would be required to determine the feasibility of this concept.

Bicycles

Bicyclists can use Guadalupe River Trail and the bike lanes on Autumn Parkway to travel to and from the site in the north-south direction. Bike lanes on Santa Clara Street west of Almaden Boulevard provide some east-west bicycle connectivity. However, most bicyclists approaching/departing the site in the east-west direction would be required to share the road. Each building has a bicycle storage room to support bicycle travel to/from the site. These rooms have access from Old W. Julian Street and Howard Street. Potential future on-site bikeshare pod locations include the east end of Old W. Julian Street and the west end of Howard Street.

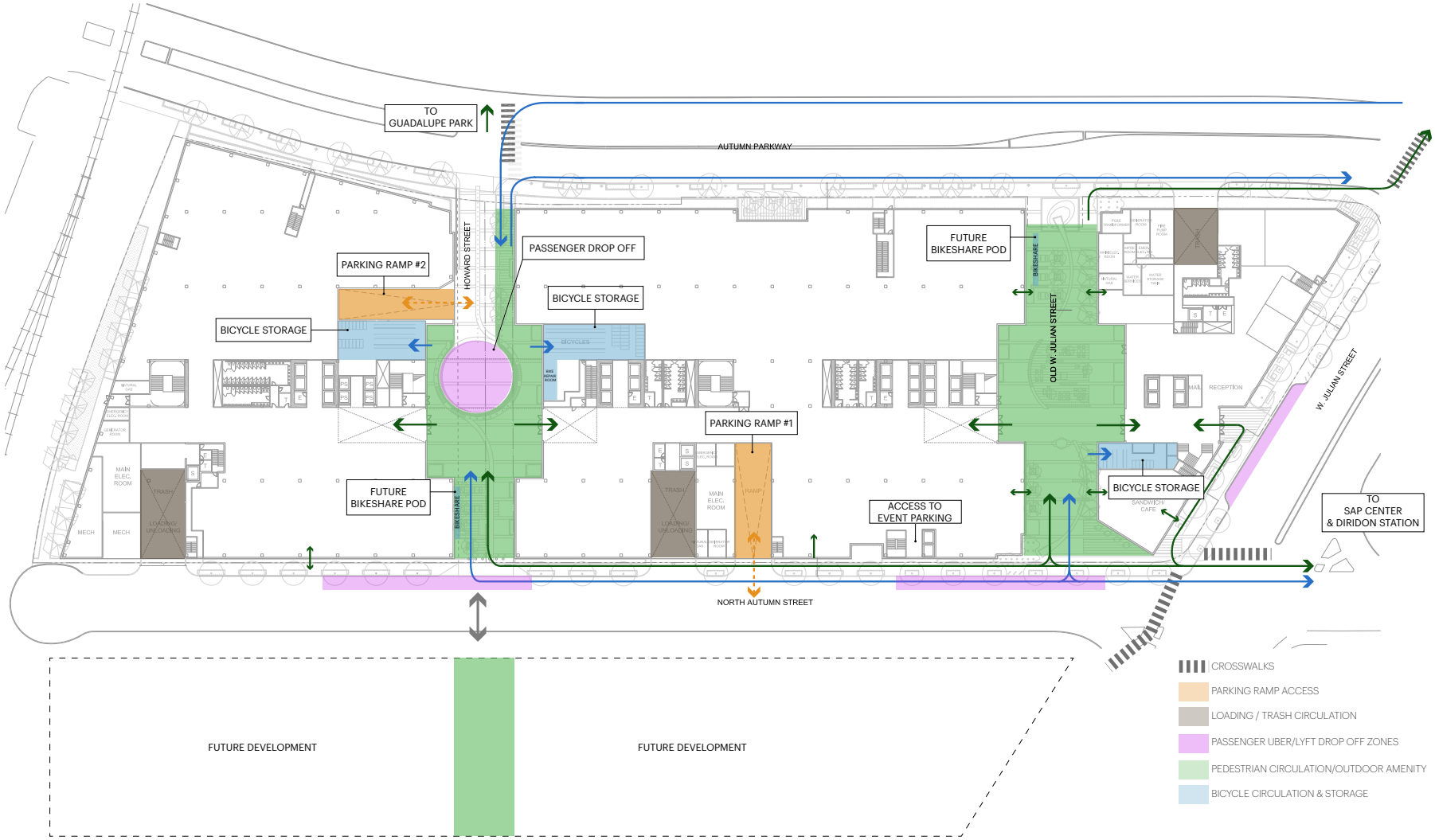


Figure 14

Site Access and On-site Circulation

Source: Kohn Pedersen Fox Associates PC

VALET ASSIST - SHORT SPAN

B1 PARKING PLAN

1" = 30'-0"

SUMMATION CHART

LEVEL	ACCESSIBLE (9'-0" x 18'-0")	AMBULATORY (10'-0" x 18'-0")	CLEAN AIR* (8'-6" x 17'-0")	UNI-STALL (8'-6" x 17'-0")	TANDEM (8'-6" x 17'-0")	VALET (8'-6" x 17'-0")	TOTAL
B1 LEVEL	37	3	44	288 (Event)	0	94	478
B2 LEVEL	0	0	48	411	11	126	596
B3 LEVEL	0	0	48	411	11	126	596
B4 LEVEL	0	0	48	404	18	127	597
TOTAL	37	3	188	1514	52	473	2,267

TOTAL 1742 SELF PARK SPACES

* Cal Green Any combination of Carpool/Vanpool/EV

REQUIRED PARKING

1,023,000 Gross Floor Area (GFA)
1,023,000 (GFA) x 85% = 869,550sf floor area
Base Parking Ratio 4/1,000 sf floor area
Reduction in Parking Ratio 50% per 20.90.220.A.1
869,550sf floor area / 1,000 x 2 = 1,740 stalls

Figure 15

Basement Level (Level B1) Parking Layout

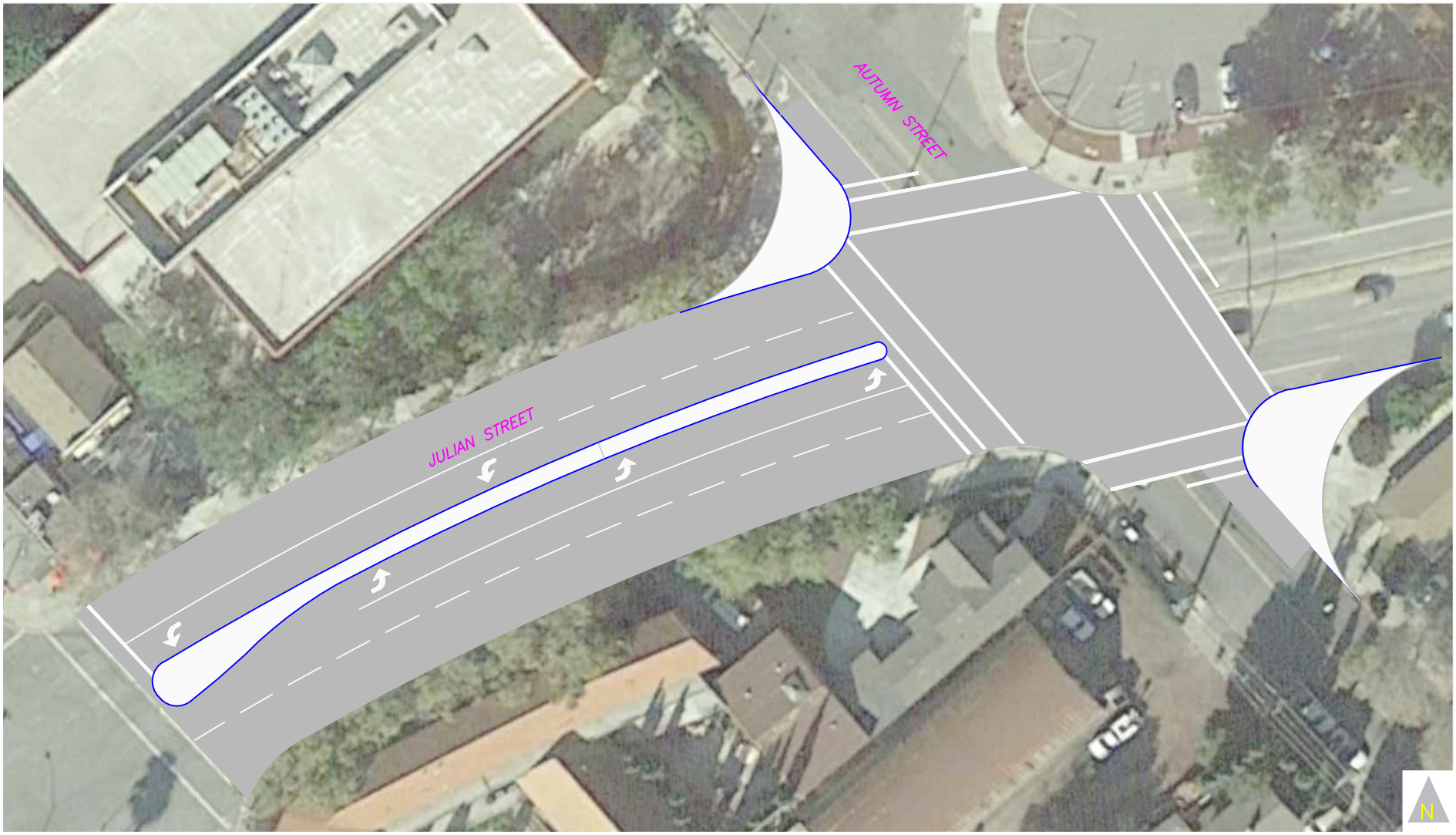


Figure 16

Conceptual Layout
Julian Street & Autumn Street

Vehicles

There will be two access points to the underground parking garage: (1) on Howard Street, with access to Autumn Parkway, with one inbound lane that expands to two lanes at the revenue collection point and two exiting lanes that converge into one outbound lane, and (2) on N. Autumn Street with one inbound, one outbound, and one reversible lane. The amount of traffic projected to enter these access points and the projected inbound queue lengths during the AM peak hour (the time period with the highest number of inbound vehicles) are presented in **Table 5.** The queue length spreadsheets used to make these calculations are included in **Appendix D.**

Howard Street Driveway

Access to the Howard Street driveway will be via the intersection of Howard Street and Autumn Parkway. The ramp is 160 feet in length measured from the gate arm to Howard Street. The queue length (measured from the gate arm) will vary depending on the gate equipment type (proximity card readers or Radio-Frequency Identifications - RFIDs). The driveway queue length with two inbound lanes and proximity card readers is 50 feet (with 95% confidence interval). With RFID's higher service rate, the estimate queue length is 25 feet.

Queue length estimates were also created for future conditions with the Autumn Parkway extension. Traffic approaching from the south on Autumn Street would be redirected to Autumn Parkway increasing the amount of Project traffic accessing the site via Howard Street. As a result the queue length estimates with two inbound lanes and 95% confidence interval are 75 feet with proximity card readers and 50 feet with RFID.

N. Autumn Street Driveway

The N. Autumn Street driveway is located approximately 490 feet north of the N. Autumn Street/W. Julian Street intersection. The ramp is 140 feet in length measured from the gate arm to Autumn Street. The queue length estimate for the N. Autumn Street driveway during AM period with two inbound lanes using proximity card readers' service rate is 100 feet, and the queue length estimate for RFID use is 50 feet.

Table 5: Driveway Queuing During AM Peak Hour

	N. Autumn St.	Howard St.
Proximity Card		
Service Rate (veh/hr/ln)	600	
Number of Lanes	2	2
Inbound Volume (veh)	578	321
95% Queue Length (feet/ln)	100	50
Autumn Parkway Extension - Inbound Volume (veh)	-	457
Autumn Parkway Extension - 95% Queue Length (feet/ln)	-	75
RFID		
Service Rate (veh/hr/ln)	800	
Number of Lanes	2	2
Inbound Volume (veh)	578	321
95% Queue Length (feet/ln)	50	25
Autumn Parkway Extension - Inbound Volume (veh)	-	457
Autumn Parkway Extension - 95% Queue Length (feet/ln)	-	50

Source: Fehr & Peers, 2018.

Emergency Vehicles

Emergency vehicles will use Autumn Parkway, W. Julian Street, and N. Autumn Street to access the site. Emergency vehicles will also be able to use the entire length of Howard Street by removing the bollards on its western end.

Delivery and Trash Vehicles

Each buildings has a delivery vehicle loading area as shown on **Figure 14.** Buildings A and B have loading zones on Autumn Street. The loading zone for Building C is located on W. Julian Street. Deliveries are routinely scheduled for off-peak hours to not interfere with intersection operations during peak commute times.

The two larger buildings (Buildings A and B) will each have a trash compactor to reduce the volume of generated trash. Roll-off collection vehicles of 34-feet in length will be used to remove the full compactors and return empty compactors. The trash removal company estimates that the two larger buildings will generate four wet and four dry load pick-ups per week. The smaller building (Building C) will not have a

compactor and will use front-loaded vehicles with one wet and one dry load pick-up per week. Front-loaded vehicle will be used for glass pick-ups at each building. Trash pick-up activities for the site are scheduled between 2:00 and 4:00 am.

Transportation Network Companies (TNCs)

Transportation Network Companies (TNCs) - also known as ride-hailing companies - such as Uber and Lyft, are becoming more popular modes of transportation. Their use reduces the amount of parking needed at a development. However, they require curb space for passenger loading and unloading. TNCs will be encouraged to pick-up and drop-off passengers on N. Autumn Street due to its low traffic volumes. Other pick-up/drop-off areas will be in the Howard Street court and in the pull-out area on W. Julian Street (see **Figure 14**.)

Parking

The proposed parking supply is approximately 1,750 spaces, which can be increased to approximately 2,264 parking spaces through a valet parking operation. Per Table 20-190 (Parking Space required by Land Use) in the City's zoning ordinance, the parking requirement for business and administrative office space is 1 space per 250 square feet (sf) of floor area where floor area is defined as 85 percent of total gross floor area. If the office space is used for research and development, the requirement is 1 space per 300 sf of floor area. Therefore 440 W. Julian Street is required to provide between 2,833 and 3,400 spaces. Reductions of up to 50 percent may be granted for sites within 2,000 feet of a proposed or existing rail station or bus rapid transit station that implement least three TDM measures and satisfy all parking requirements. The site is located 3,000 feet (a 10 to 15-minute walk) from the Diridon Station, a major station on the Caltrain, ACE, and Capitol Corridor rail lines. Plus, it is located adjacent to the Guadalupe River Trail, part of the City's extensive off-road bicycle network and will have numerous TDM measures. The parking supply will be sufficient when these factors are accounted for.

The bicycle parking requirement is one space per 4,000 sf of floor area or 213 spaces with 20 percent (43) Class I (long term spaces) and 80 percent (170) Class II (short term) spaces. **Figure 14** shows the proposed bicycle parking supply per building. The Class I spaces will be provided in the bicycle storage area in each building, The Class 2 spaces will be provided in bike racks. The proposed parking supply meets the City's requirements.

6. Conclusions and Recommendations

The results of the traffic operations analysis for the proposed office development at 440 W. Julian Street are:

- The traffic and parking demand will be reduced due to the site's proximity to Diridon Station, Guadalupe River Park trail, and downtown San Jose and due to its Transportation Demand Management (TDM) plan.
- The intersection of Howard Street and Autumn Parkway is not projected to meet warrants for traffic signal installation until traffic volumes increase on Autumn Parkway, such as when it is extended to Santa Clara Street. Traffic signal warrant analyses should be conducted periodically to determine when traffic signals should be installed.
- The Project will cause the vehicle queue to exceed the storage length on eastbound Julian Street between Autumn Parkway and Autumn Street under both Existing and Background Conditions during the PM peak hour. The storage area cannot be expanded so queue spillback may occur. More vehicles leaving the Project site may opt to use Howard Street (to southbound Autumn Parkway and eastbound Julian Street) as opposed to the Autumn Street (to southbound Autumn Street and eastbound Julian Street) which would reduce the queue length.
- The queue in the eastbound left-turn pocket on Julian Street at Autumn Street is projected to exceed the pocket storage length by approximately 80 feet (three car lengths) under Background plus Project Conditions during the AM peak hour. This intersection can be redesigned to remove the pork-chop islands and to lengthen the left-turn storage length to 200 feet to accommodate the maximum queue.
- The queues for inbound vehicle at the driveways are projected to be 100 feet or less (extending from the gate arms) depending on the type of gate control equipment. These queues will be accommodated on the ramps into the garage and will not extend onto public streets.
- The site has been designed to accommodate pedestrian and bicycle access and with ample passenger drop-off areas to accommodate TNCs.
- The vehicle parking supply will be adequate given the site's location and TDM plan.
- The bicycle parking supply meets City requirements.

Appendix A:
Peak Hour Traffic Signal Warrant Study

FEHR PEERS

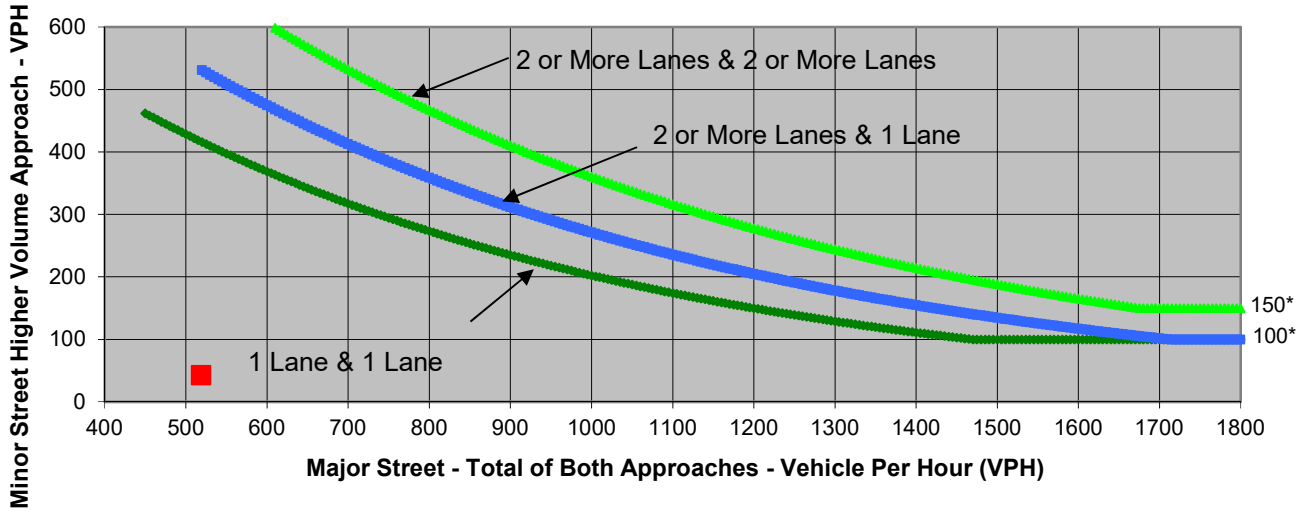
Major Street	Autumn Parkway	Project	440 W. Julian St.
Minor Street	Howard Street	Scenario	Existing Plus Project Conditions
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	142	0	24	0
Through	96	101	0	0
Right	0	180	19	0
Total	238	281	43	0

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Autumn Parkway	Howard Street	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**519**	**43**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Autumn Parkway	Project	440 W. Julian St.
Minor Street	Howard Street	Scenario	Existing Plus Project Conditions
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	142	0	24	0
Through	96	101	0	0
Right	0	180	19	0
Total	238	281	43	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	89.3
Approach with Worst Case Delay	WB
Total Vehicles on Approach	0

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Existing Plus Project Conditions	**0**	**43**	**562**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

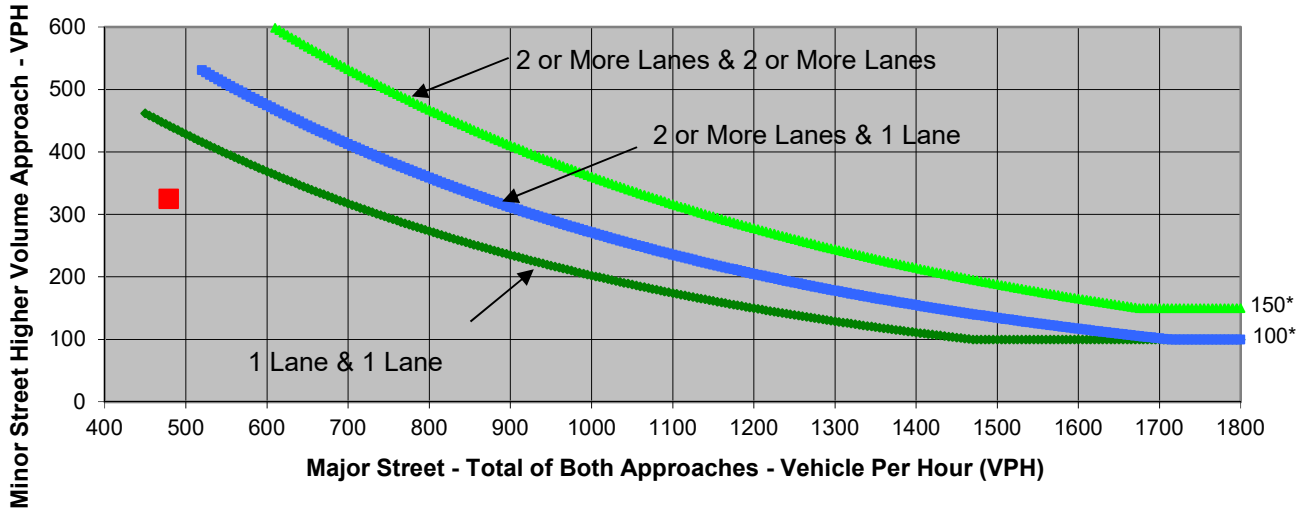
Major Street	Autumn Parkway	Project	440 W. Julian St.
Minor Street	Howard Street	Scenario	Existing Plus Project Conditions
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	29	0	182	0
Through	130	283	0	0
Right	0	37	143	0
Total	159	320	325	0

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Autumn Parkway	Howard Street	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**479**	**325**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Autumn Parkway	Project	440 W. Julian St.
Minor Street	Howard Street	Scenario	Existing Plus Project Conditions
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	29	0	182	0
Through	130	283	0	0
Right	0	37	143	0
Total	159	320	325	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	89.3
Approach with Worst Case Delay	WB
Total Vehicles on Approach	0

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Existing Plus Project Conditions	**0**	**325**	**804**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

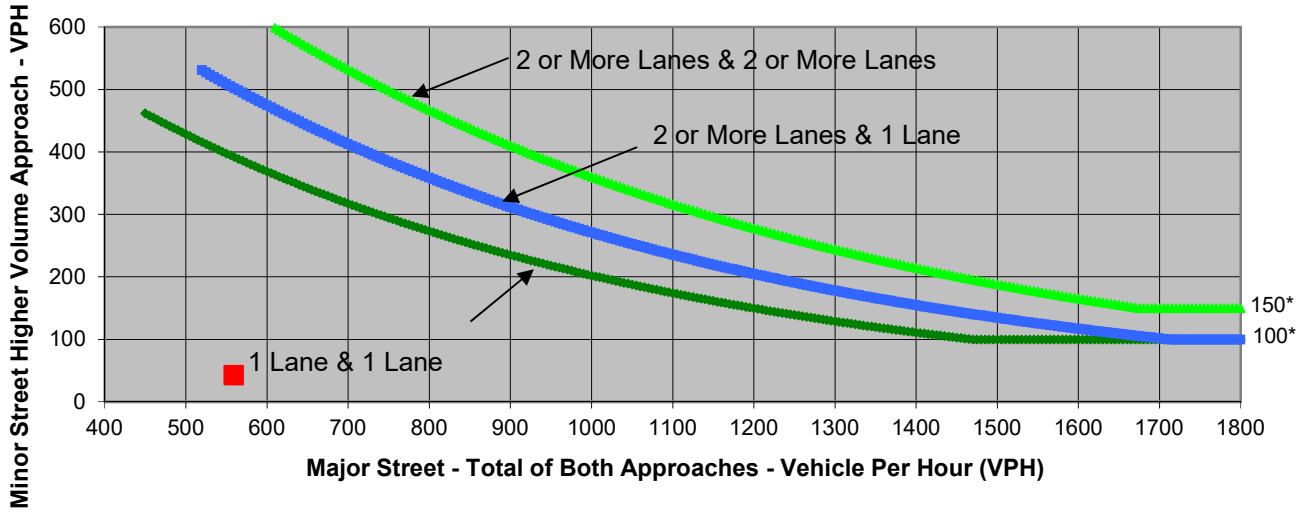
Major Street	Autumn Parkway	Project	440 W. Julian St.
Minor Street	Howard Street	Scenario	Background Plus Project Conditions
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	142	0	24	0
Through	116	121	0	0
Right	0	180	19	0
Total	258	301	43	0

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Autumn Parkway	Howard Street	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**559**	**43**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Major Street	Autumn Parkway	Project	440 W. Julian St.
Minor Street	Howard Street	Scenario	Background Plus Project Conditions
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	142	0	24	0
Through	116	121	0	0
Right	0	180	19	0
Total	258	301	43	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	89.3
Approach with Worst Case Delay	WB
Total Vehicles on Approach	0

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Background Plus Project Condition	**0**	**43**	**602**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Not Met**	**Not Met**
Warrant Met	**NO**		

FEHR PEERS

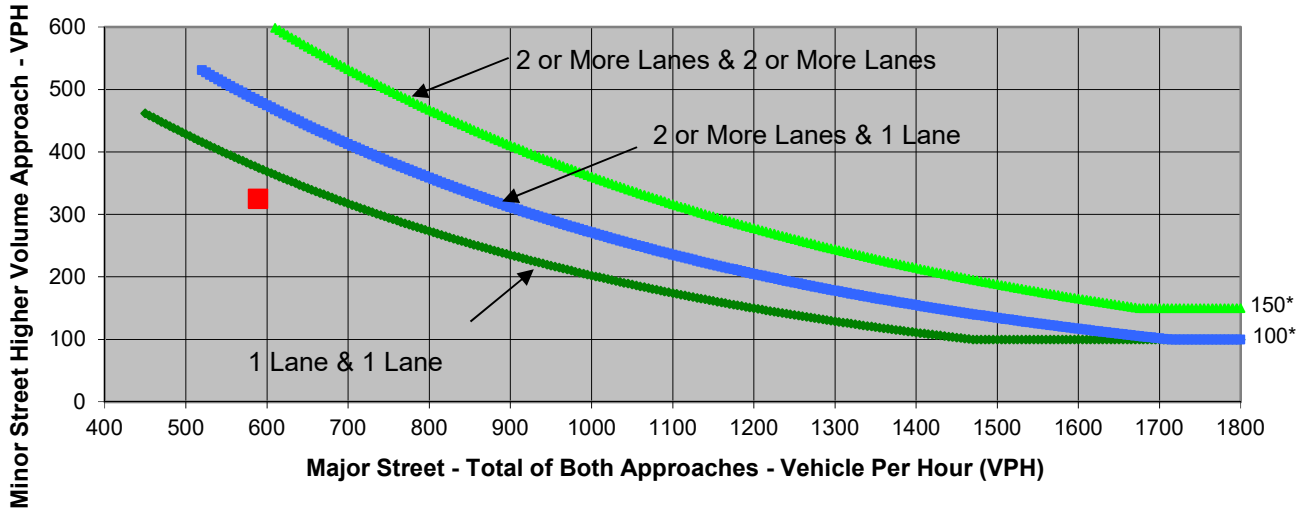
Major Street	Autumn Parkway	Project	440 W. Julian St.
Minor Street	Howard Street	Scenario	Background Plus Project Conditions
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	29	0	182	0
Through	180	343	0	0
Right	0	37	143	0
Total	209	380	325	0

Major Street Direction

x	North/South
	East/West



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2014

	Major Street	Minor Street	Warrant Met
	Autumn Parkway	Howard Street	
Number of Approach Lanes	**2**	**1**	**NO**
Traffic Volume (VPH) *	**589**	**325**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Project	440 W. Julian St.
Major Street	Autumn Parkway
Minor Street	Howard Street
Scenario	Background Plus Project Conditions
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	29	0	182	0
Through	180	343	0	0
Right	0	37	143	0
Total	209	380	325	0

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	89.3
Approach with Worst Case Delay	WB
Total Vehicles on Approach	0

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Background Plus Project Condition	**0**	**325**	**914**
Limiting Value	**4**	**100**	**650**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

Appendix B:
Existing Traffic Counts

Traffic Data Service

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File Name : 1AM FINAL
Site Code : 00000001
Start Date : 10/5/2017
Page No : 1

Groups Printed- Lights - Buses - Trucks

	N AUTUMN ST Southbound					W JULIAN ST Westbound					N AUTUMN ST Northbound					W JULIAN ST Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	5	1	6	17	82	5	0	104	14	9	4	0	27	0	45	4	0	49	186
07:15 AM	1	0	4	1	6	27	72	11	0	110	12	4	4	1	21	0	57	4	1	62	199
07:30 AM	0	0	2	1	3	10	66	14	0	90	17	5	9	1	32	1	44	2	0	47	172
07:45 AM	1	0	4	1	6	11	101	8	0	120	25	1	13	0	39	2	82	1	0	85	250
Total	2	0	15	4	21	65	321	38	0	424	68	19	30	2	119	3	228	11	1	243	807
08:00 AM	1	1	2	1	5	9	73	11	0	93	37	4	15	0	56	4	71	1	1	77	231
08:15 AM	2	0	3	0	5	9	59	14	0	82	35	4	8	0	47	2	66	1	0	69	203
08:30 AM	0	1	6	0	7	13	37	9	1	60	34	4	15	0	53	1	72	3	1	77	197
08:45 AM	4	2	9	1	16	6	62	9	3	80	32	3	11	2	48	1	71	1	3	76	220
Total	7	4	20	2	33	37	231	43	4	315	138	15	49	2	204	8	280	6	5	299	851
Grand Total	9	4	35	6	54	102	552	81	4	739	206	34	79	4	323	11	508	17	6	542	1658
Apprch %	16.7	7.4	64.8	11.1		13.8	74.7	11	0.5		63.8	10.5	24.5	1.2		2	93.7	3.1	1.1		
Total %	0.5	0.2	2.1	0.4	3.3	6.2	33.3	4.9	0.2	44.6	12.4	2.1	4.8	0.2	19.5	0.7	30.6	1	0.4	32.7	
Lights	8	4	35	6	53	101	533	76	4	714	198	34	75	4	311	8	476	17	6	507	1585
% Lights	88.9	100	100	100	98.1	99	96.6	93.8	100	96.6	96.1	100	94.9	100	96.3	72.7	93.7	100	100	93.5	95.6
Buses	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	6	0	0	7	8
% Buses	0	0	0	0	0	0	0	1.2	0	0.1	0	0	0	0	0	9.1	1.2	0	0	1.3	0.5
Trucks	1	0	0	0	1	1	19	4	0	24	8	0	4	0	12	2	26	0	0	28	65
% Trucks	11.1	0	0	0	1.9	1	3.4	4.9	0	3.2	3.9	0	5.1	0	3.7	18.2	5.1	0	0	5.2	3.9

	N AUTUMN ST Southbound				W JULIAN ST Westbound				N AUTUMN ST Northbound				W JULIAN ST Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	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	1	0	4	5	11	**101**	8	**120**	25	1	13	39	2	**82**	1	**85**	**249**
08:00 AM	1	**1**	2	4	9	73	11	93	**37**	**4**	**15**	**56**	**4**	71	1	76	229
08:15 AM	**2**	0	3	5	9	59	**14**	82	35	4	8	47	2	66	1	69	203
08:30 AM	0	1	**6**	**7**	**13**	37	9	59	34	4	15	53	1	72	**3**	76	195
Total Volume	4	2	15	21	42	270	42	354	131	13	51	195	9	291	6	306	876
% App. Total	19	9.5	71.4		11.9	76.3	11.9		67.2	6.7	26.2		2.9	95.1	2		
PHF	.500	.500	.625	.750	.808	.668	.750	.738	.885	.813	.850	.871	.563	.887	.500	.900	.880

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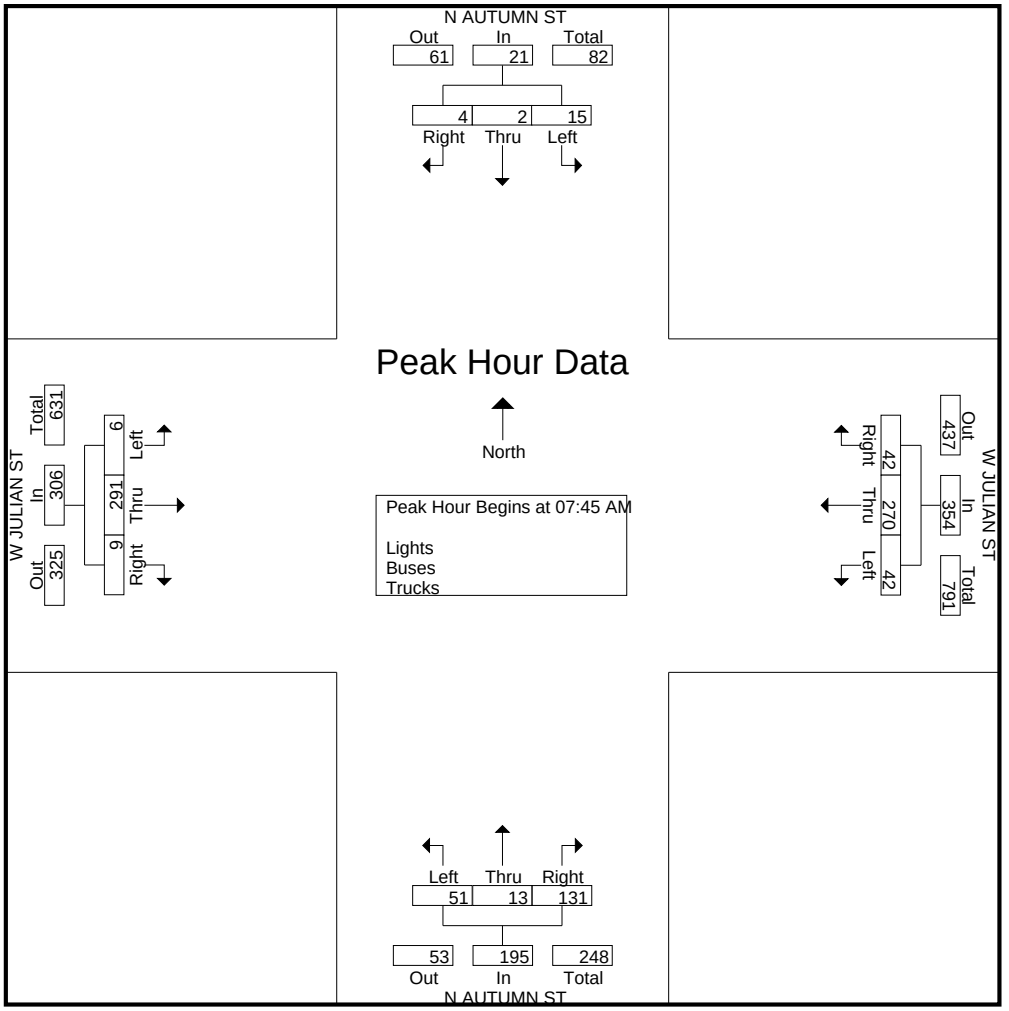

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Groups Printed- Bikes

	N AUTUMN ST Southbound					W JULIAN ST Westbound					N AUTUMN ST Northbound					W JULIAN ST Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	3
07:30 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	1	0	0	1	4
07:45 AM	0	0	0	0	0	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0	2
Total	0	0	0	0	0	1	0	0	0	1	7	0	0	0	7	0	2	0	0	2	10
08:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	3
08:15 AM	0	0	0	0	0	1	1	0	0	2	2	0	0	0	2	0	0	1	0	1	5
08:30 AM	0	0	0	0	0	0	1	0	0	1	1	1	0	0	2	0	0	0	0	0	3
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
Total	0	0	0	0	0	1	3	0	0	4	3	1	0	0	4	0	3	2	0	5	13
Grand Total	0	0	0	0	0	2	3	0	0	5	10	1	0	0	11	0	5	2	0	7	23
Apprch %	0	0	0	0		40	60	0	0		90.9	9.1	0	0		0	71.4	28.6	0		
Total %	0	0	0	0	0	8.7	13	0	0	21.7	43.5	4.3	0	0	47.8	0	21.7	8.7	0	30.4	

	N AUTUMN ST Southbound				W JULIAN ST Westbound				N AUTUMN ST Northbound				W JULIAN ST Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	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	0	0	0	0	0	0	0	**3**	0	0	**3**	0	**1**	0	1	4
07:45 AM	0	0	0	0	**1**	0	0	1	1	0	0	1	0	0	0	0	2
08:00 AM	0	0	0	0	0	**1**	0	1	0	0	0	0	0	1	**1**	**2**	3
08:15 AM	0	0	0	0	1	1	0	**2**	2	0	0	2	0	0	1	1	**5**
Total Volume	0	0	0	0	2	2	0	4	6	0	0	6	0	2	2	4	14
% App. Total	0	0	0		50	50	0		100	0	0		0	50	50		
PHF	.000	.000	.000	.000	.500	.500	.000	.500	.500	.000	.000	.500	.000	.500	.500	.500	.700

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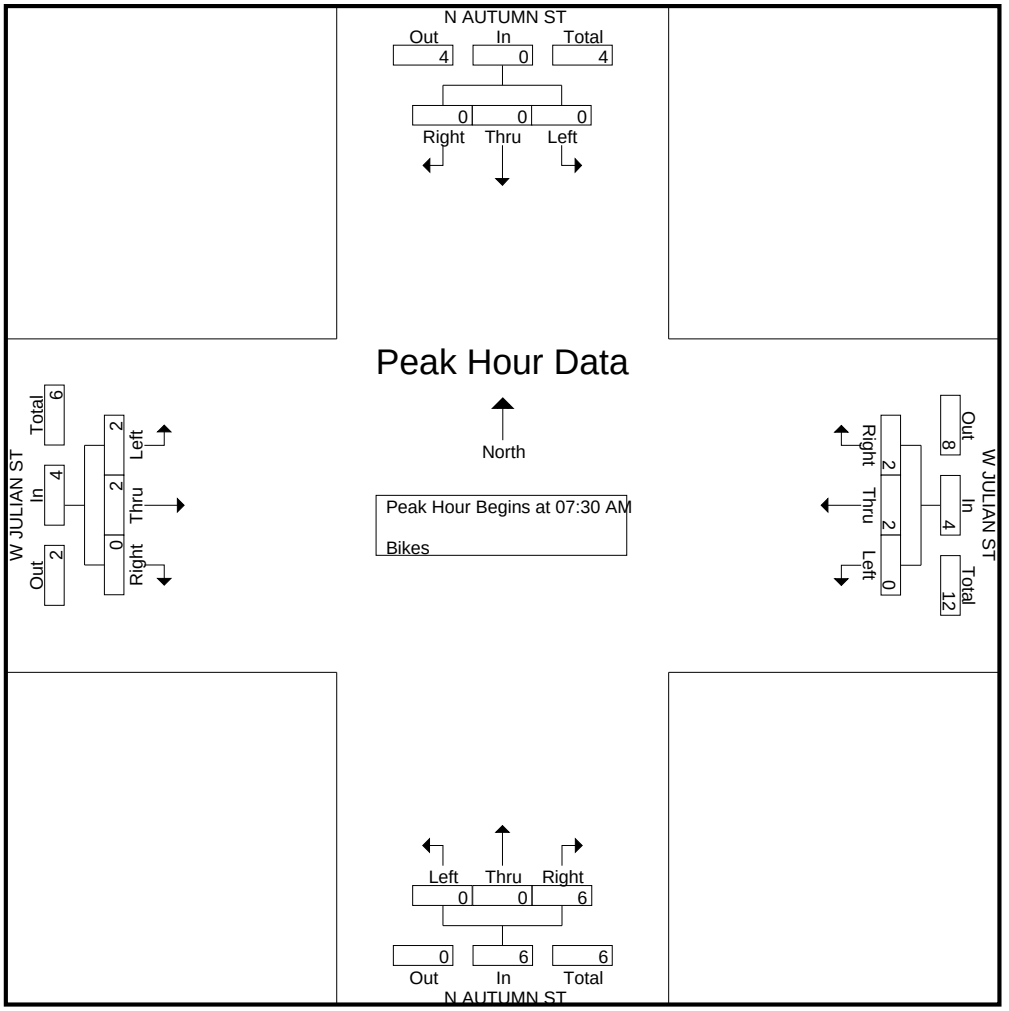

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Groups Printed- Lights - Buses - Trucks

	N AUTUMN ST Southbound					W JULIAN ST Westbound					N AUTUMN ST Northbound					W JULIAN ST Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	3	2	10	4	19	10	49	6	3	68	21	0	6	1	28	3	144	4	1	152	267
04:15 PM	5	6	12	2	25	8	57	13	0	78	29	0	3	1	33	2	117	3	0	122	258
04:30 PM	5	3	13	0	21	4	50	14	1	69	29	0	3	1	33	3	135	4	1	143	266
04:45 PM	4	3	24	2	33	3	63	20	1	87	27	0	5	1	33	2	140	0	2	144	297
Total	17	14	59	8	98	25	219	53	5	302	106	0	17	4	127	10	536	11	4	561	1088
05:00 PM	2	2	21	2	27	3	69	22	4	98	30	0	3	1	34	6	155	2	0	163	322
05:15 PM	3	2	7	2	14	5	72	19	5	101	29	2	6	0	37	6	143	1	2	152	304
05:30 PM	1	1	14	1	17	2	60	13	3	78	18	2	0	4	24	4	148	1	2	155	274
05:45 PM	4	2	6	1	13	4	57	10	2	73	27	1	5	2	35	0	155	1	1	157	278
Total	10	7	48	6	71	14	258	64	14	350	104	5	14	7	130	16	601	5	5	627	1178
Grand Total	27	21	107	14	169	39	477	117	19	652	210	5	31	11	257	26	1137	16	9	1188	2266
Apprch %	16	12.4	63.3	8.3		6	73.2	17.9	2.9		81.7	1.9	12.1	4.3		2.2	95.7	1.3	0.8		
Total %	1.2	0.9	4.7	0.6	7.5	1.7	21.1	5.2	0.8	28.8	9.3	0.2	1.4	0.5	11.3	1.1	50.2	0.7	0.4	52.4	
Lights	27	20	105	14	166	38	467	114	19	638	205	5	29	11	250	26	1126	16	9	1177	2231
% Lights	100	95.2	98.1	100	98.2	97.4	97.9	97.4	100	97.9	97.6	100	93.5	100	97.3	100	99	100	100	99.1	98.5
Buses	0	0	0	0	0	0	1	3	0	4	3	0	0	0	3	0	0	0	0	0	7
% Buses	0	0	0	0	0	0	0.2	2.6	0	0.6	1.4	0	0	0	1.2	0	0	0	0	0	0.3
Trucks	0	1	2	0	3	1	9	0	0	10	2	0	2	0	4	0	11	0	0	11	28
% Trucks	0	4.8	1.9	0	1.8	2.6	1.9	0	0	1.5	1	0	6.5	0	1.6	0	1	0	0	0.9	1.2

	N AUTUMN ST Southbound				W JULIAN ST Westbound				N AUTUMN ST Northbound				W JULIAN ST Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	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	**4**	**3**	**24**	**31**	3	63	20	86	27	0	5	32	2	140	0	142	291
05:00 PM	2	2	21	25	3	69	**22**	94	**30**	0	3	33	**6**	**155**	**2**	**163**	**315**
05:15 PM	3	2	7	12	**5**	**72**	19	**96**	29	**2**	**6**	**37**	6	143	1	150	295
05:30 PM	1	1	14	16	2	60	13	75	18	2	0	20	4	148	1	153	264
Total Volume	10	8	66	84	13	264	74	351	104	4	14	122	18	586	4	608	1165
% App. Total	11.9	9.5	78.6		3.7	75.2	21.1		85.2	3.3	11.5		3	96.4	0.7		
PHF	.625	.667	.688	.677	.650	.917	.841	.914	.867	.500	.583	.824	.750	.945	.500	.933	.925

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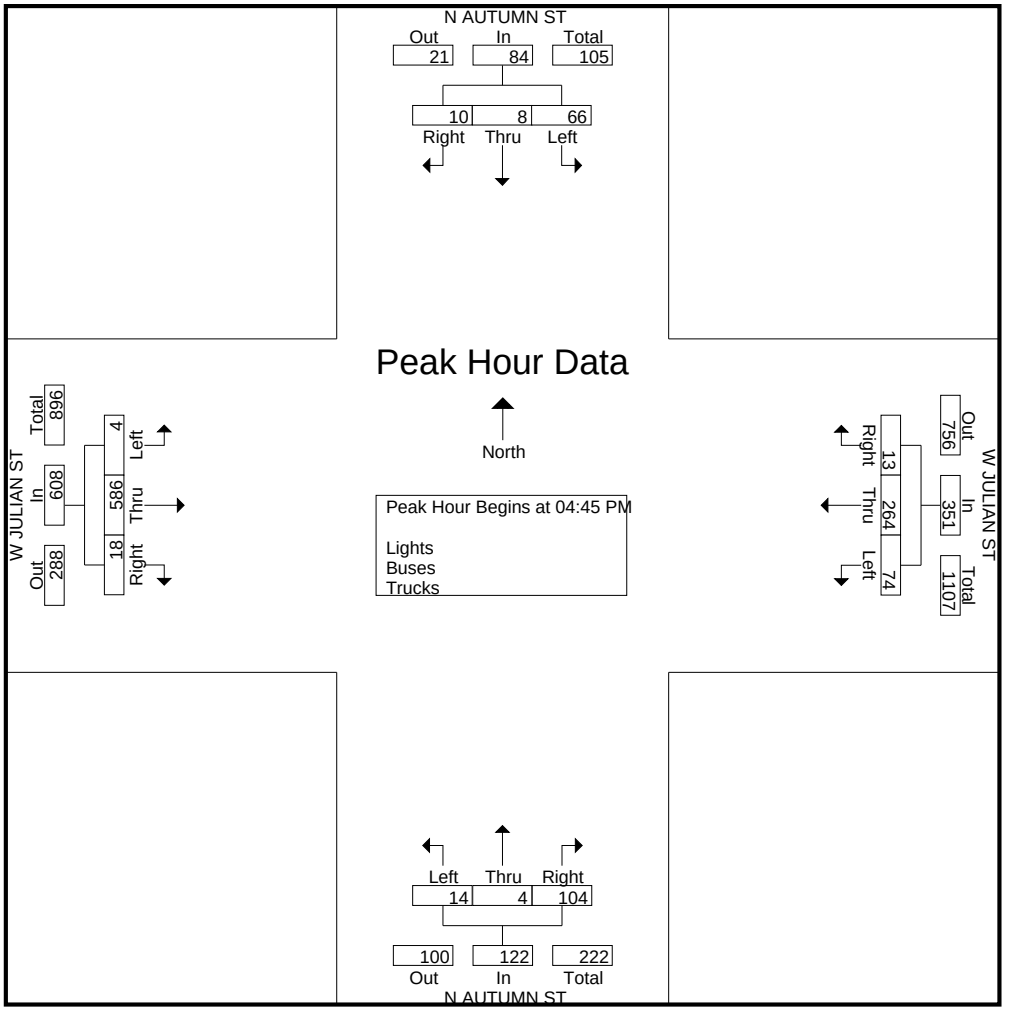

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Groups Printed- Bikes

	N AUTUMN ST Southbound					W JULIAN ST Westbound					N AUTUMN ST Northbound					W JULIAN ST Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	1	2	0	3	0	0	0	0	0	0	0	0	0	0	3
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
04:30 PM	0	1	0	0	1	0	1	1	0	2	0	0	0	0	0	0	1	0	0	1	4
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	2	3	0	5	0	0	0	0	0	0	2	0	0	2	8
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
05:15 PM	0	0	0	0	0	0	1	2	0	3	0	0	0	0	0	0	1	0	0	1	4
05:30 PM	0	1	0	0	1	0	4	4	0	8	1	0	1	0	2	0	0	0	0	0	11
05:45 PM	0	0	0	0	0	0	3	5	0	8	1	0	0	0	1	0	2	0	0	2	11
Total	0	1	0	0	1	0	8	11	0	19	2	0	1	0	3	0	4	0	0	4	27
Grand Total	0	2	0	0	2	0	10	14	0	24	2	0	1	0	3	0	6	0	0	6	35
Apprch %	0	100	0	0		0	41.7	58.3	0		66.7	0	33.3	0		0	100	0	0		
Total %	0	5.7	0	0	5.7	0	28.6	40	0	68.6	5.7	0	2.9	0	8.6	0	17.1	0	0	17.1	

	N AUTUMN ST Southbound				W JULIAN ST Westbound				N AUTUMN ST Northbound				W JULIAN ST Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	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	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
05:15 PM	0	0	0	0	0	1	2	3	0	0	0	0	0	1	0	1	4
05:30 PM	0	**1**	0	**1**	0	**4**	4	**8**	**1**	0	**1**	**2**	0	0	0	0	**11**
05:45 PM	0	0	0	0	0	3	**5**	8	1	0	0	1	0	**2**	0	**2**	11
Total Volume	0	1	0	1	0	8	11	19	2	0	1	3	0	4	0	4	27
% App. Total	0	100	0		0	42.1	57.9		66.7	0	33.3		0	100	0		
PHF	.000	.250	.000	.250	.000	.500	.550	.594	.500	.000	.250	.375	.000	.500	.000	.500	.614

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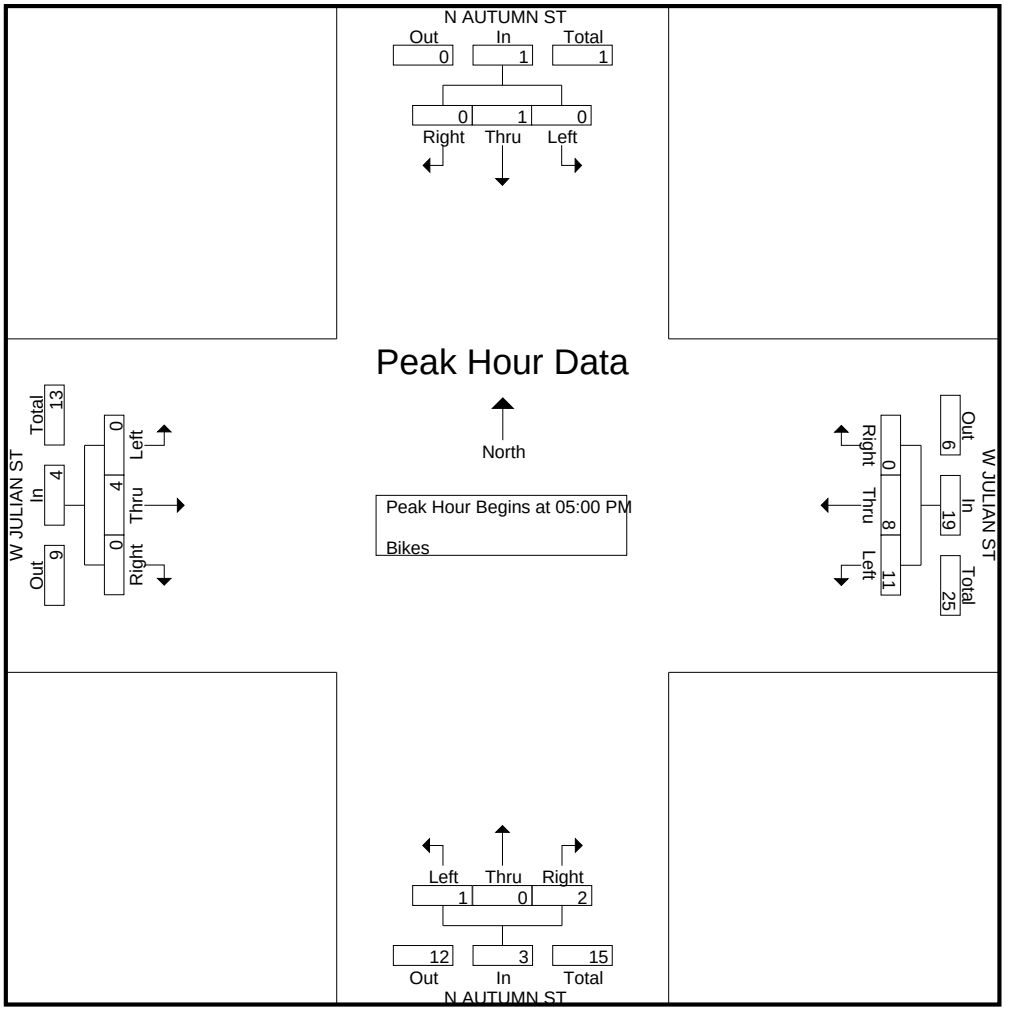

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Groups Printed- Lights - Buses - Trucks

	AUTUMN PKWY Southbound					W JULIAN ST Westbound					Northbound					W JULIAN ST Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	9	0	5	1	15	9	96	0	3	108	0	0	0	0	0	0	62	5	0	67	190
07:15 AM	13	0	10	2	25	12	96	0	0	108	0	0	0	0	0	0	66	7	0	73	206
07:30 AM	11	0	13	2	26	5	80	0	1	86	0	0	0	0	0	0	58	6	0	64	176
07:45 AM	9	0	16	0	25	9	109	0	0	118	0	0	0	0	0	0	95	15	0	110	253
Total	42	0	44	5	91	35	381	0	4	420	0	0	0	0	0	0	281	33	0	314	825
08:00 AM	9	0	14	1	24	10	86	0	1	97	0	0	0	0	0	0	93	20	0	113	234
08:15 AM	16	0	13	0	29	10	67	0	1	78	0	0	0	0	0	0	75	21	1	97	204
08:30 AM	5	0	17	2	24	7	49	0	1	57	0	0	0	0	0	0	95	15	0	110	191
08:45 AM	18	0	13	0	31	13	60	0	0	73	0	0	0	0	0	0	98	14	1	113	217
Total	48	0	57	3	108	40	262	0	3	305	0	0	0	0	0	0	361	70	2	433	846
Grand Total	90	0	101	8	199	75	643	0	7	725	0	0	0	0	0	0	642	103	2	747	1671
Apprch %	45.2	0	50.8	4		10.3	88.7	0	1		0	0	0	0		0	85.9	13.8	0.3		
Total %	5.4	0	6	0.5	11.9	4.5	38.5	0	0.4	43.4	0	0	0	0	0	0	38.4	6.2	0.1	44.7	
Lights	85	0	97	8	190	74	622	0	7	703	0	0	0	0	0	0	603	100	2	705	1598
% Lights	94.4	0	96	100	95.5	98.7	96.7	0	100	97	0	0	0	0	0	0	93.9	97.1	100	94.4	95.6
Buses	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	8	0	0	8	9
% Buses	0	0	0	0	0	0	0.2	0	0	0.1	0	0	0	0	0	0	1.2	0	0	1.1	0.5
Trucks	5	0	4	0	9	1	20	0	0	21	0	0	0	0	0	0	31	3	0	34	64
% Trucks	5.6	0	4	0	4.5	1.3	3.1	0	0	2.9	0	0	0	0	0	0	4.8	2.9	0	4.6	3.8

	AUTUMN PKWY Southbound				W JULIAN ST Westbound				Northbound				W JULIAN ST Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	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	9	0	16	25	9	**109**	0	**118**	0	0	0	0	0	**95**	15	110	**253**
08:00 AM	9	0	14	23	**10**	86	0	96	0	0	0	0	0	93	20	**113**	232
08:15 AM	**16**	0	13	**29**	10	67	0	77	0	0	0	0	0	75	**21**	96	202
08:30 AM	5	0	**17**	22	7	49	0	56	0	0	0	0	0	95	15	110	188
Total Volume	39	0	60	99	36	311	0	347	0	0	0	0	0	358	71	429	875
% App. Total	39.4	0	60.6		10.4	89.6	0		0	0	0		0	83.4	16.6		
PHF	.609	.000	.882	.853	.900	.713	.000	.735	.000	.000	.000	.000	.000	.942	.845	.949	.865

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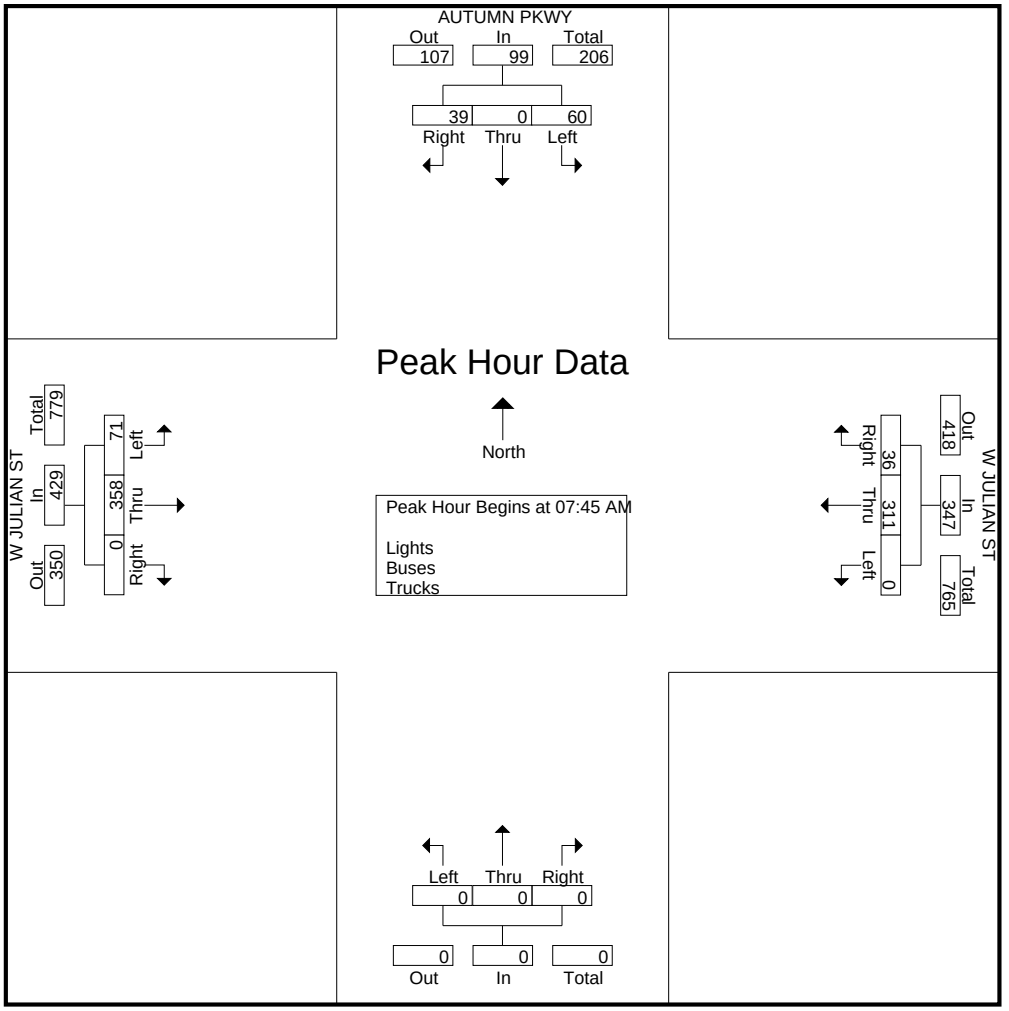

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Groups Printed- Bikes

	AUTUMN PKWY Southbound					W JULIAN ST Westbound					Northbound					W JULIAN ST Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	1	1	0	2	4
07:15 AM	0	0	0	0	0	5	0	0	0	5	0	0	0	0	0	0	0	3	0	3	8
07:30 AM	2	0	1	0	3	1	1	0	0	2	0	0	0	0	0	0	1	4	0	5	10
07:45 AM	1	0	0	0	1	4	1	0	0	5	0	0	0	0	0	0	1	4	0	5	11
Total	3	0	1	0	4	12	2	0	0	14	0	0	0	0	0	0	3	12	0	15	33
08:00 AM	0	0	1	0	1	5	3	0	0	8	0	0	0	0	0	0	1	5	1	7	16
08:15 AM	2	0	0	0	2	7	2	0	0	9	0	0	0	0	0	0	0	2	0	2	13
08:30 AM	0	0	0	0	0	5	1	0	0	6	0	0	0	0	0	0	0	2	0	2	8
08:45 AM	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	3	0	3	6
Total	2	0	1	0	3	20	6	0	0	26	0	0	0	0	0	0	1	12	1	14	43
Grand Total	5	0	2	0	7	32	8	0	0	40	0	0	0	0	0	0	4	24	1	29	76
Apprch %	71.4	0	28.6	0		80	20	0	0		0	0	0	0		0	13.8	82.8	3.4		
Total %	6.6	0	2.6	0	9.2	42.1	10.5	0	0	52.6	0	0	0	0	0	0	5.3	31.6	1.3	38.2	

	AUTUMN PKWY Southbound				W JULIAN ST Westbound				Northbound				W JULIAN ST Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	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	**2**	0	**1**	**3**	1	1	0	2	0	0	0	0	0	**1**	4	5	10
07:45 AM	1	0	0	1	4	1	0	5	0	0	0	0	0	1	4	5	11
08:00 AM	0	0	1	1	5	**3**	0	8	0	0	0	0	0	1	**5**	**6**	**15**
08:15 AM	2	0	0	2	**7**	2	0	**9**	0	0	0	0	0	0	2	2	13
Total Volume	5	0	2	7	17	7	0	24	0	0	0	0	0	3	15	18	49
% App. Total	71.4	0	28.6		70.8	29.2	0		0	0	0		0	16.7	83.3		
PHF	.625	.000	.500	.583	.607	.583	.000	.667	.000	.000	.000	.000	.000	.750	.750	.750	.817

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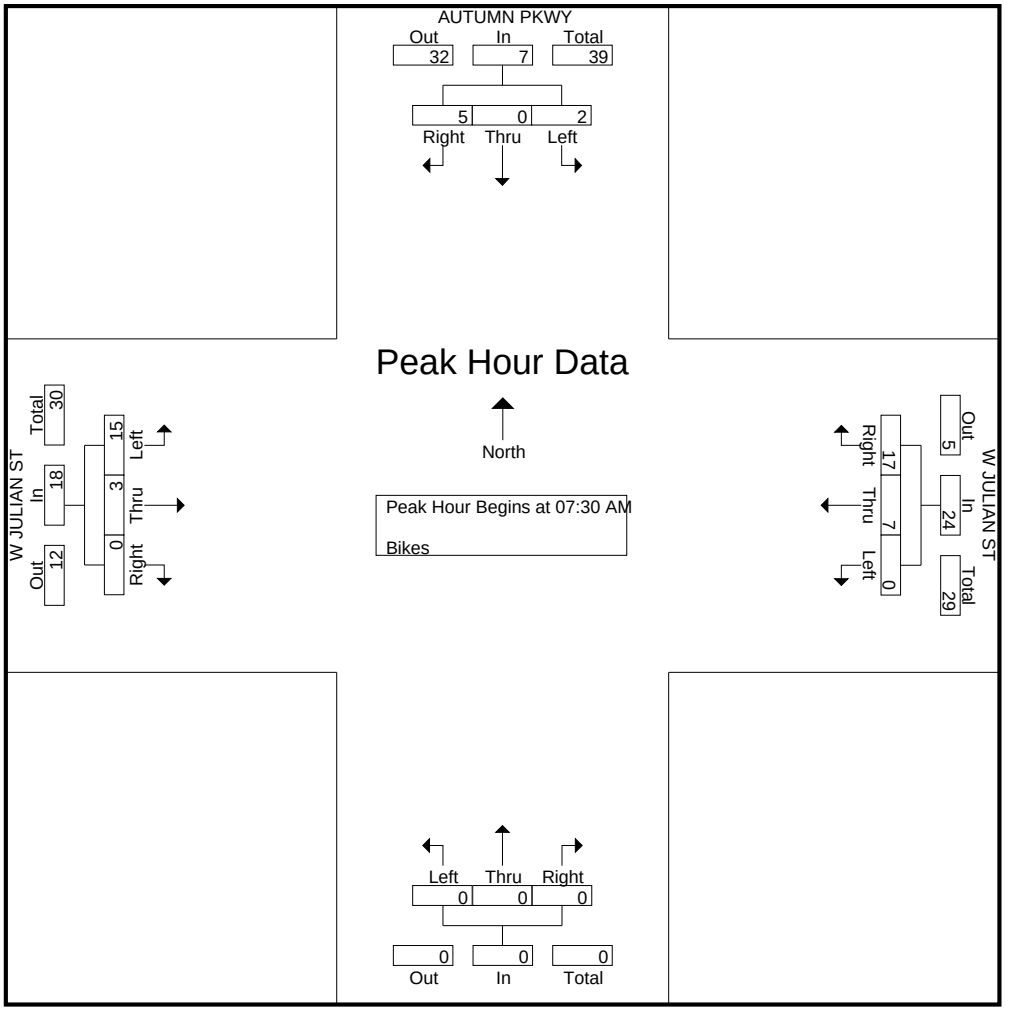

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Groups Printed- Lights - Buses - Trucks

	AUTUMN PKWY Southbound					W JULIAN ST Westbound					Northbound					W JULIAN ST Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	13	0	40	3	56	13	52	0	0	65	0	0	0	0	0	0	163	11	0	174	295
04:15 PM	20	0	34	1	55	14	61	0	1	76	0	0	0	0	0	0	147	8	0	155	286
04:30 PM	17	0	27	0	44	15	52	0	1	68	0	0	0	0	0	0	163	19	0	182	294
04:45 PM	27	0	39	0	66	18	57	0	3	78	0	0	0	0	0	0	172	15	0	187	331
Total	77	0	140	4	221	60	222	0	5	287	0	0	0	0	0	0	645	53	0	698	1206
05:00 PM	37	0	31	2	70	18	56	0	1	75	0	0	0	0	0	0	178	19	0	197	342
05:15 PM	32	0	49	2	83	14	64	0	0	78	0	0	0	0	0	0	179	16	3	198	359
05:30 PM	26	0	42	0	68	15	51	0	0	66	0	0	0	0	0	0	166	15	3	184	318
05:45 PM	17	0	32	0	49	18	48	0	4	70	0	0	0	0	0	0	174	13	1	188	307
Total	112	0	154	4	270	65	219	0	5	289	0	0	0	0	0	0	697	63	7	767	1326
Grand Total	189	0	294	8	491	125	441	0	10	576	0	0	0	0	0	0	1342	116	7	1465	2532
Apprch %	38.5	0	59.9	1.6		21.7	76.6	0	1.7		0	0	0	0		0	91.6	7.9	0.5		
Total %	7.5	0	11.6	0.3	19.4	4.9	17.4	0	0.4	22.7	0	0	0	0	0	0	53	4.6	0.3	57.9	
Lights	189	0	293	8	490	124	425	0	10	559	0	0	0	0	0	0	1324	115	7	1446	2495
% Lights	100	0	99.7	100	99.8	99.2	96.4	0	100	97	0	0	0	0	0	0	98.7	99.1	100	98.7	98.5
Buses	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	1	0	0	1	6
% Buses	0	0	0	0	0	0	1.1	0	0	0.9	0	0	0	0	0	0	0.1	0	0	0.1	0.2
Trucks	0	0	1	0	1	1	11	0	0	12	0	0	0	0	0	0	17	1	0	18	31
% Trucks	0	0	0.3	0	0.2	0.8	2.5	0	0	2.1	0	0	0	0	0	0	1.3	0.9	0	1.2	1.2

	AUTUMN PKWY Southbound				W JULIAN ST Westbound				Northbound				W JULIAN ST Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	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	27	0	39	66	**18**	57	0	75	0	0	0	0	0	172	15	187	328
05:00 PM	**37**	0	31	68	18	56	0	74	0	0	0	0	0	178	**19**	**197**	339
05:15 PM	32	0	**49**	**81**	14	**64**	0	**78**	0	0	0	0	0	**179**	16	195	**354**
05:30 PM	26	0	42	68	15	51	0	66	0	0	0	0	0	166	15	181	315
Total Volume	122	0	161	283	65	228	0	293	0	0	0	0	0	695	65	760	1336
% App. Total	43.1	0	56.9		22.2	77.8	0		0	0	0		0	91.4	8.6		
PHF	.824	.000	.821	.873	.903	.891	.000	.939	.000	.000	.000	.000	.000	.971	.855	.964	.944

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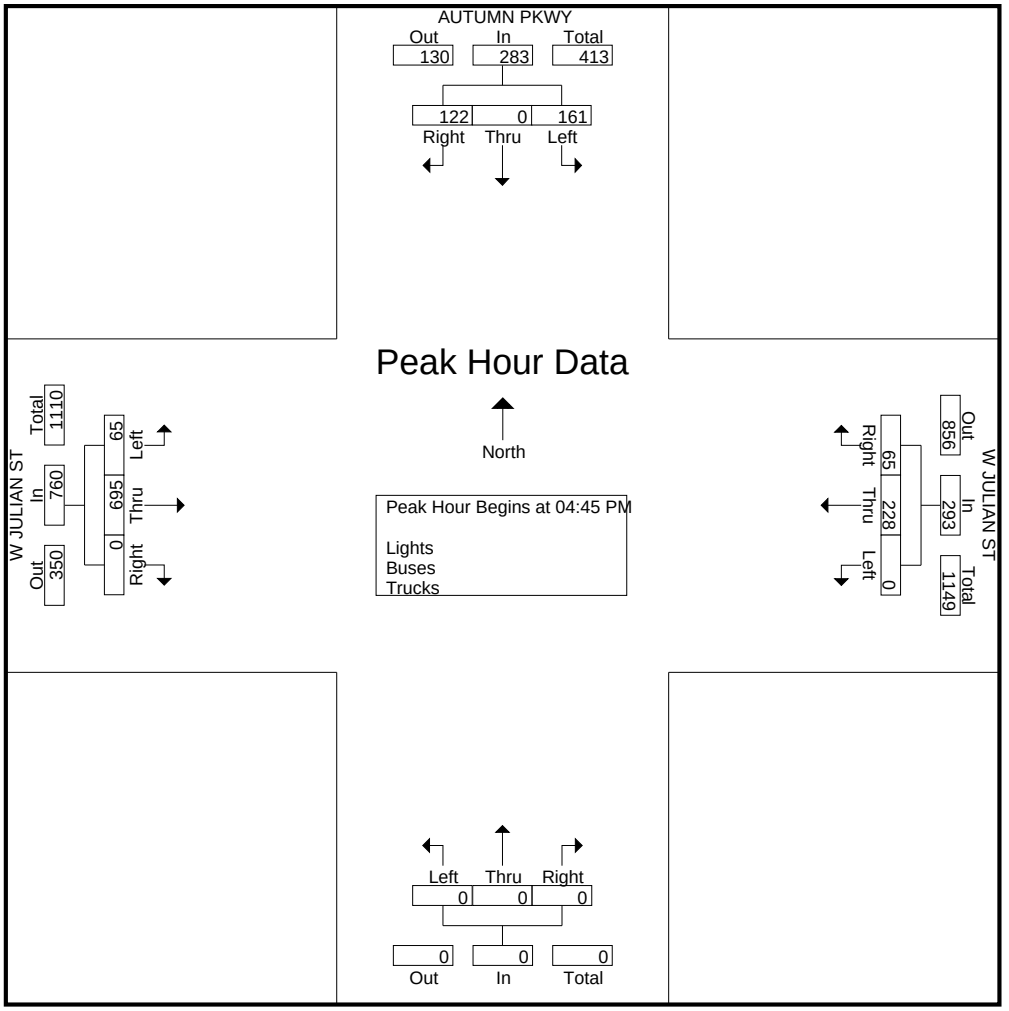

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Groups Printed- Bikes

	AUTUMN PKWY Southbound					W JULIAN ST Westbound					Northbound					W JULIAN ST Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
04:15 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	1	0	1	0	2	1	1	0	0	2	0	0	0	0	0	0	0	1	0	1	5
04:45 PM	0	0	2	0	2	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0	5
Total	5	0	4	0	9	3	2	0	0	5	0	0	0	0	0	0	0	1	0	1	15
05:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	1	0	2	4
05:15 PM	4	0	0	0	4	3	2	0	0	5	0	0	0	0	0	0	0	0	0	0	9
05:30 PM	7	0	0	0	7	2	1	0	0	3	0	0	0	0	0	0	0	1	0	1	11
05:45 PM	7	0	0	0	7	0	3	0	0	3	0	0	0	0	0	0	0	2	0	2	12
Total	18	0	0	0	18	5	8	0	0	13	0	0	0	0	0	0	1	4	0	5	36
Grand Total	23	0	4	0	27	8	10	0	0	18	0	0	0	0	0	0	1	5	0	6	51
Apprch %	85.2	0	14.8	0		44.4	55.6	0	0		0	0	0	0		0	16.7	83.3	0		
Total %	45.1	0	7.8	0	52.9	15.7	19.6	0	0	35.3	0	0	0	0	0	0	2	9.8	0	11.8	

	AUTUMN PKWY Southbound				W JULIAN ST Westbound				Northbound				W JULIAN ST Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	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	0	0	0	0	0	2	0	2	0	0	0	0	0	**1**	1	**2**	4
05:15 PM	4	0	0	4	**3**	2	0	**5**	0	0	0	0	0	0	0	0	9
05:30 PM	**7**	0	0	**7**	2	1	0	3	0	0	0	0	0	0	1	1	11
05:45 PM	7	0	0	7	0	**3**	0	3	0	0	0	0	0	0	**2**	2	**12**
Total Volume	18	0	0	18	5	8	0	13	0	0	0	0	0	1	4	5	36
% App. Total	100	0	0		38.5	61.5	0		0	0	0		0	20	80		
PHF	.643	.000	.000	.643	.417	.667	.000	.650	.000	.000	.000	.000	.000	.250	.500	.625	.750

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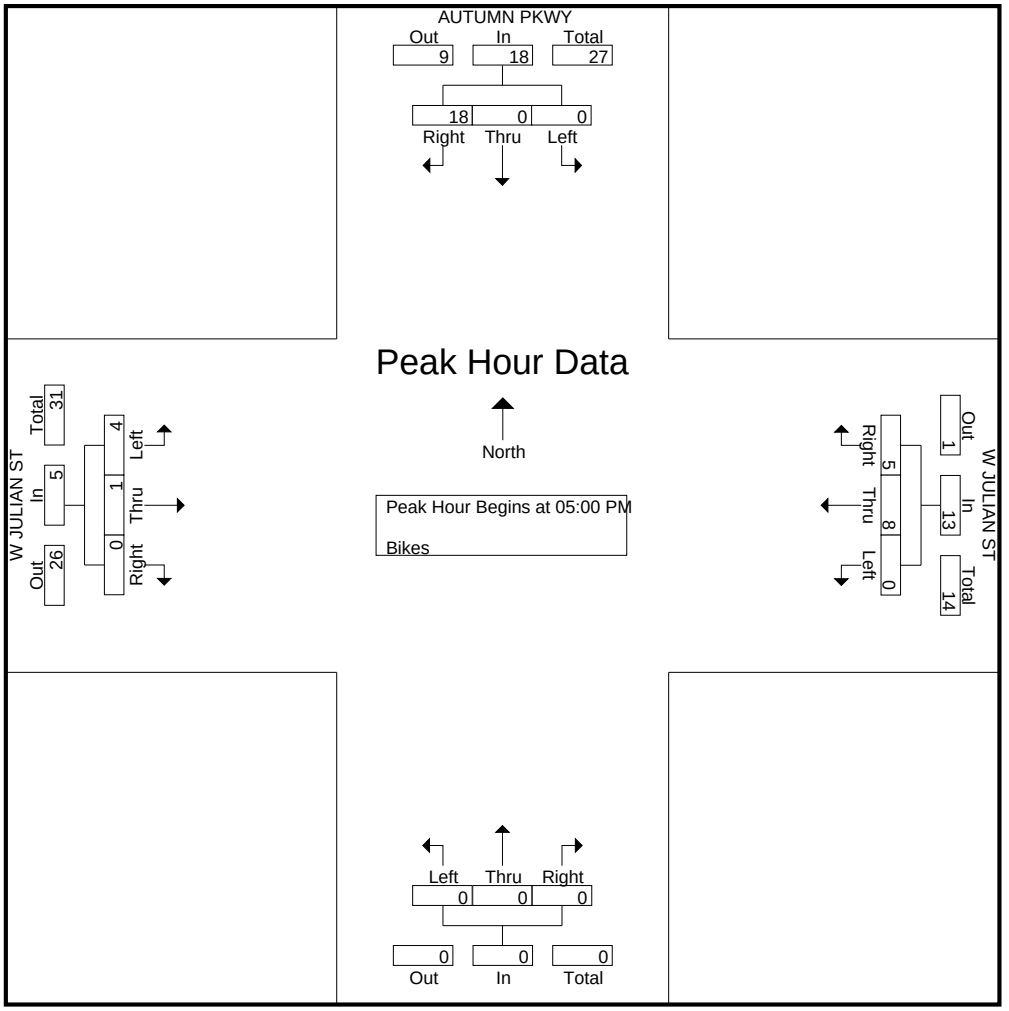

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Groups Printed- Lights - Buses - Trucks

	N AUTUMN ST Southbound					HOWARD ST Westbound					N AUTUMN ST Northbound					Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
07:15 AM	0	1	0	0	1	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	4
07:30 AM	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	5
07:45 AM	0	1	0	0	1	0	0	0	2	2	0	1	0	0	1	0	0	0	0	0	4
Total	0	4	0	0	4	0	0	0	2	2	0	8	1	0	9	0	0	0	0	0	15
08:00 AM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3
08:15 AM	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	5
08:30 AM	0	3	0	0	3	0	0	0	1	1	1	2	0	1	4	0	0	0	0	0	8
08:45 AM	0	4	0	0	4	0	0	1	0	1	0	4	0	3	7	0	0	0	0	0	12
Total	0	11	0	0	11	0	0	1	1	2	1	10	0	4	15	0	0	0	0	0	28
Grand Total	0	15	0	0	15	0	0	1	3	4	1	18	1	4	24	0	0	0	0	0	43
Apprch %	0	100	0	0		0	0	25	75		4.2	75	4.2	16.7		0	0	0	0		
Total %	0	34.9	0	0	34.9	0	0	2.3	7	9.3	2.3	41.9	2.3	9.3	55.8	0	0	0	0	0	
Lights	0	14	0	0	14	0	0	1	3	4	1	17	1	4	23	0	0	0	0	0	41
% Lights	0	93.3	0	0	93.3	0	0	100	100	100	100	94.4	100	100	95.8	0	0	0	0	0	95.3
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trucks	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
% Trucks	0	6.7	0	0	6.7	0	0	0	0	0	0	5.6	0	0	4.2	0	0	0	0	0	4.7

	N AUTUMN ST Southbound				HOWARD ST Westbound				N AUTUMN ST Northbound				Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	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 08:00 AM																	
08:00 AM	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	3
08:15 AM	0	3	0	3	0	0	0	0	0	2	0	2	0	0	0	0	5
08:30 AM	0	3	0	3	0	0	0	0	**1**	2	0	3	0	0	0	0	6
08:45 AM	0	**4**	0	**4**	0	0	**1**	**1**	0	**4**	0	**4**	0	0	0	0	**9**
Total Volume	0	11	0	11	0	0	1	1	1	10	0	11	0	0	0	0	23
% App. Total	0	100	0		0	0	100		9.1	90.9	0		0	0	0		
PHF	.000	.688	.000	.688	.000	.000	.250	.250	.250	.625	.000	.688	.000	.000	.000	.000	.639

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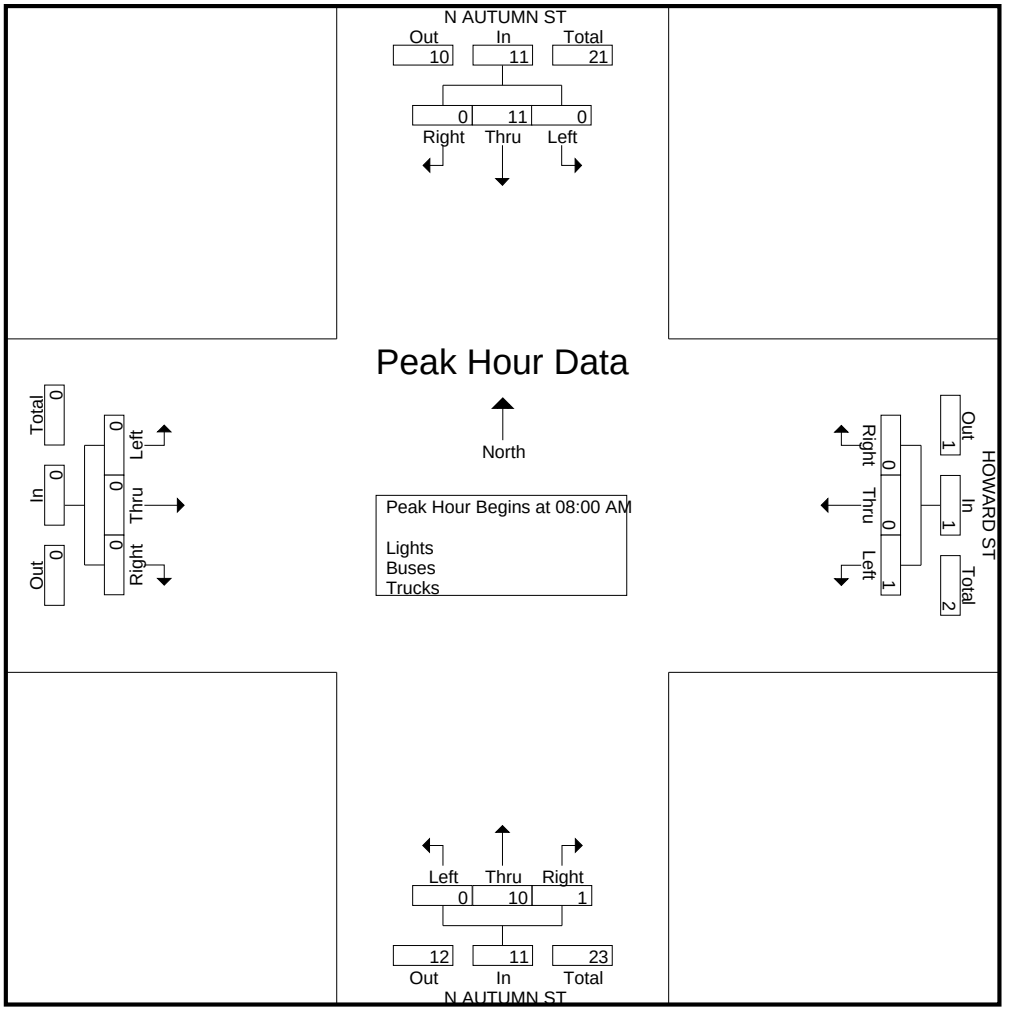

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Site Code : 00000003
Start Date : 10/5/2017
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Groups Printed- Bikes

	N AUTUMN ST Southbound					HOWARD ST Westbound					N AUTUMN ST Northbound					Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Grand Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Apprch %	0	0	0	0		0	0	0	0		0	100	0	0		0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	100	0	0	100	0	0	0	0	0	

	N AUTUMN ST Southbound				HOWARD ST Westbound				N AUTUMN ST Northbound				Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0	**1**
Total Volume	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
% App. Total	0	0	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.250

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File Name : 3AM FINAL
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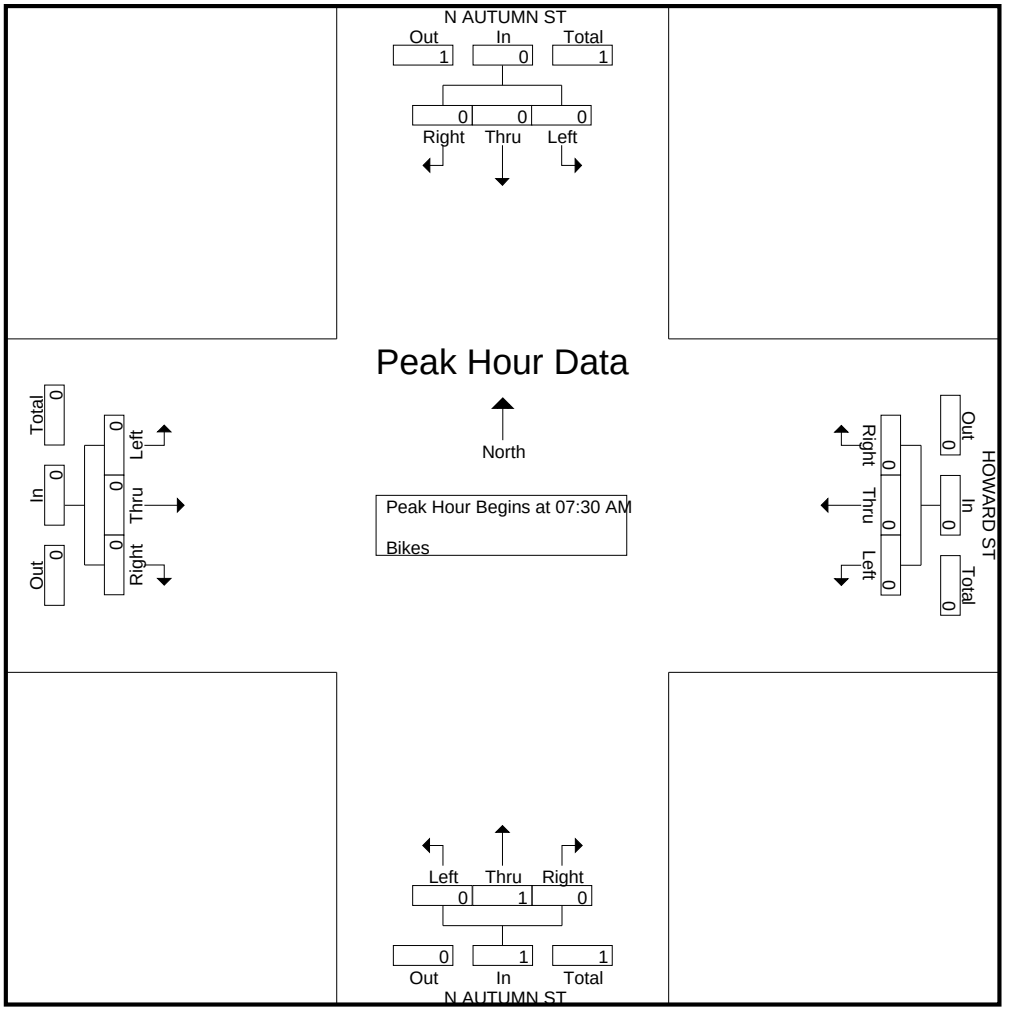

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File Name : 3PM FINAL
Site Code : 00000003
Start Date : 10/5/2017
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Groups Printed- Lights - Buses - Trucks

	N AUTUMN ST Southbound					HOWARD ST Westbound					N AUTUMN ST Northbound					Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	0	3	0	0	3	0	0	3	0	3	1	4	0	3	8	0	0	0	0	0	14
04:15 PM	0	8	0	0	8	0	0	2	0	2	1	7	1	2	11	0	0	0	0	0	21
04:30 PM	0	4	0	0	4	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	9
04:45 PM	0	4	0	0	4	1	0	0	0	1	1	4	0	0	5	0	0	0	0	0	10
Total	0	19	0	0	19	1	0	5	0	6	3	19	2	5	29	0	0	0	0	0	54
05:00 PM	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	5
05:15 PM	0	4	0	0	4	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	8
05:30 PM	0	6	0	0	6	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	9
05:45 PM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	0	17	0	0	17	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	26
Grand Total	0	36	0	0	36	1	0	5	0	6	3	28	2	5	38	0	0	0	0	0	80
Apprch %	0	100	0	0		16.7	0	83.3	0		7.9	73.7	5.3	13.2		0	0	0	0		
Total %	0	45	0	0	45	1.2	0	6.2	0	7.5	3.8	35	2.5	6.2	47.5	0	0	0	0	0	
Lights	0	35	0	0	35	1	0	5	0	6	3	27	2	5	37	0	0	0	0	0	78
% Lights	0	97.2	0	0	97.2	100	0	100	0	100	100	96.4	100	100	97.4	0	0	0	0	0	97.5
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trucks	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
% Trucks	0	2.8	0	0	2.8	0	0	0	0	0	0	3.6	0	0	2.6	0	0	0	0	0	2.5

	N AUTUMN ST Southbound				HOWARD ST Westbound				N AUTUMN ST Northbound				Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	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	0	3	0	3	0	0	**3**	**3**	**1**	4	0	5	0	0	0	0	11
04:15 PM	0	**8**	0	**8**	0	0	2	2	1	**7**	**1**	**9**	0	0	0	0	**19**
04:30 PM	0	4	0	4	0	0	0	0	0	4	1	5	0	0	0	0	9
04:45 PM	0	4	0	4	**1**	0	0	1	1	4	0	5	0	0	0	0	10
Total Volume	0	19	0	19	1	0	5	6	3	19	2	24	0	0	0	0	49
% App. Total	0	100	0		16.7	0	83.3		12.5	79.2	8.3		0	0	0		
PHF	.000	.594	.000	.594	.250	.000	.417	.500	.750	.679	.500	.667	.000	.000	.000	.000	.645

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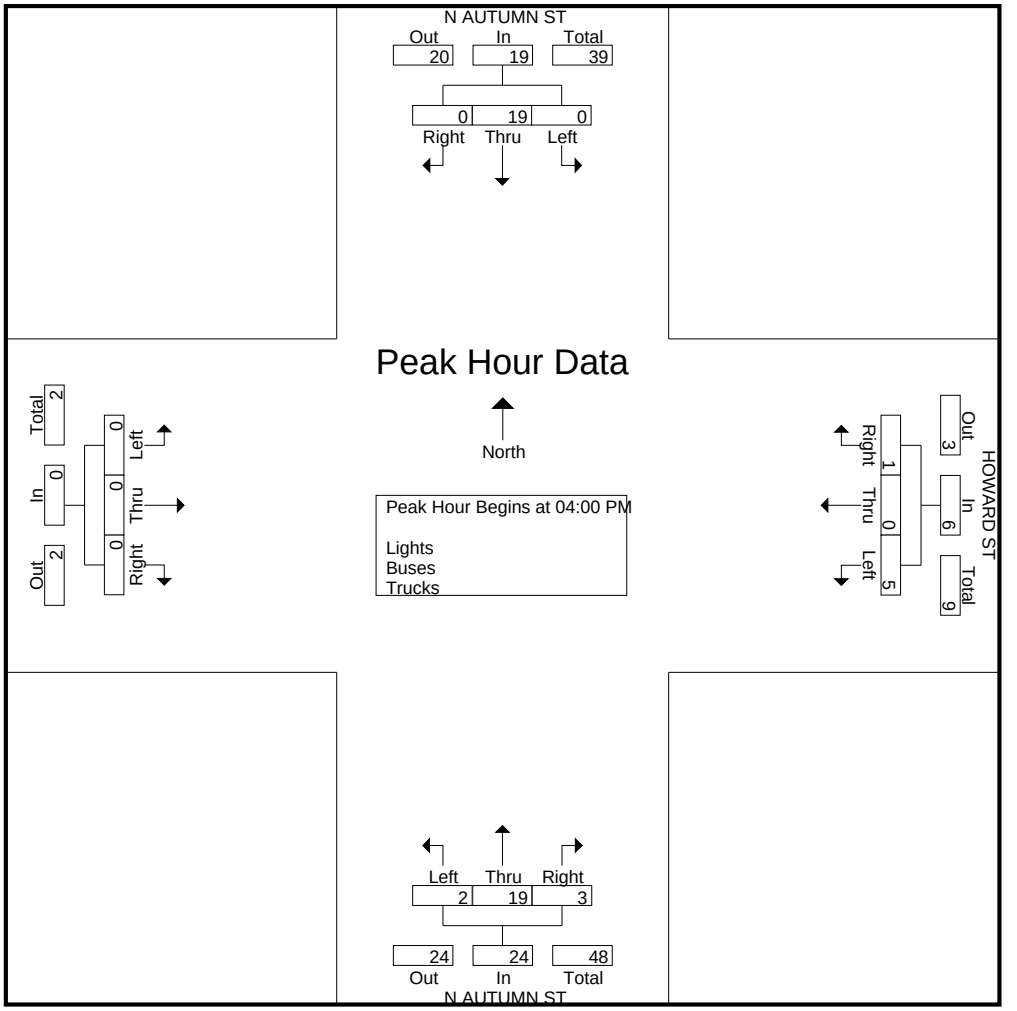

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File Name : 3PM FINAL
Site Code : 00000003
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Groups Printed- Bikes

	N AUTUMN ST Southbound					HOWARD ST Westbound					N AUTUMN ST Northbound					Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
Apprch %	0	100	0	0		0	0	0	0		0	100	0	0		0	0	0	0		
Total %	0	50	0	0	50	0	0	0	0	0	0	50	0	0	50	0	0	0	0	0	

	N AUTUMN ST Southbound				HOWARD ST Westbound				N AUTUMN ST Northbound				Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	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	0	0	0	0	0	**1**	0	**1**	0	0	0	0	**1**
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	**1**	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.500

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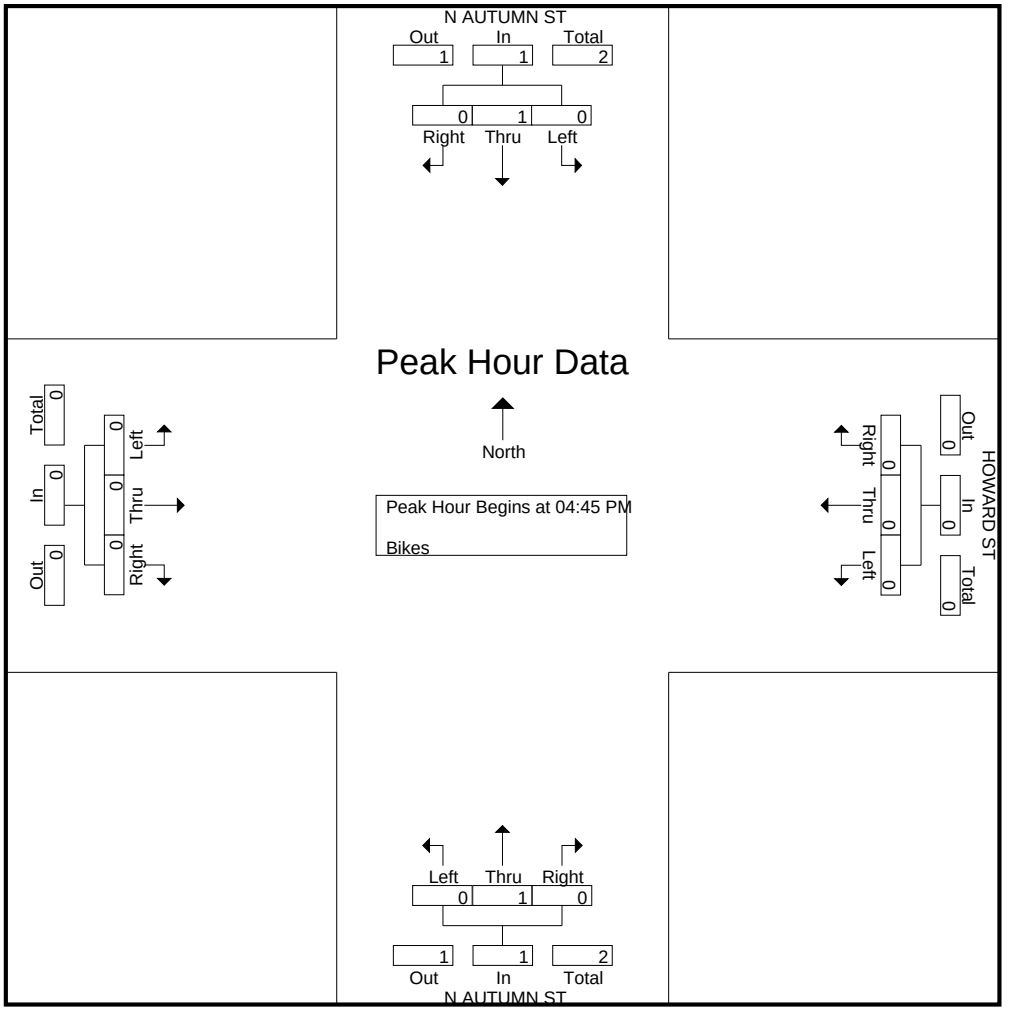

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File Name : 4AM FINAL
Site Code : 00000004
Start Date : 10/5/2017
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Groups Printed- Lights - Buses - Trucks

	DRIVEWAY Southbound					COLEMAN AVE Westbound					AUTUMN PKWY Northbound					COLEMAN AVE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	1	0	1	0	2	0	196	11	0	207	7	1	5	0	13	6	42	1	0	49	271
07:15 AM	0	0	0	0	0	1	250	11	1	263	5	0	9	1	15	9	61	0	0	70	348
07:30 AM	1	0	1	0	2	2	275	20	1	298	6	0	6	1	13	9	56	2	0	67	380
07:45 AM	0	0	0	1	1	1	272	28	0	301	0	1	10	1	12	13	82	0	0	95	409
Total	2	0	2	1	5	4	993	70	2	1069	18	2	30	3	53	37	241	3	0	281	1408
08:00 AM	2	1	1	0	4	5	223	19	0	247	12	3	9	1	25	19	89	5	0	113	389
08:15 AM	0	0	3	0	3	1	189	23	0	213	15	0	9	0	24	12	103	2	1	118	358
08:30 AM	1	0	0	0	1	2	182	19	1	204	12	1	10	0	23	15	85	4	0	104	332
08:45 AM	1	2	0	0	3	4	203	25	1	233	12	4	15	2	33	10	91	4	0	105	374
Total	4	3	4	0	11	12	797	86	2	897	51	8	43	3	105	56	368	15	1	440	1453
Grand Total	6	3	6	1	16	16	1790	156	4	1966	69	10	73	6	158	93	609	18	1	721	2861
Apprch %	37.5	18.8	37.5	6.2		0.8	91	7.9	0.2		43.7	6.3	46.2	3.8		12.9	84.5	2.5	0.1		
Total %	0.2	0.1	0.2	0	0.6	0.6	62.6	5.5	0.1	68.7	2.4	0.3	2.6	0.2	5.5	3.3	21.3	0.6	0	25.2	
Lights	5	2	6	1	14	16	1765	154	4	1939	68	9	70	6	153	89	598	18	0	705	2811
% Lights	83.3	66.7	100	100	87.5	100	98.6	98.7	100	98.6	98.6	90	95.9	100	96.8	95.7	98.2	100	0	97.8	98.3
Buses	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	1	0	0	1	6
% Buses	0	0	0	0	0	0	0.3	0	0	0.3	0	0	0	0	0	0	0.2	0	0	0.1	0.2
Trucks	1	1	0	0	2	0	20	2	0	22	1	1	3	0	5	4	10	0	1	15	44
% Trucks	16.7	33.3	0	0	12.5	0	1.1	1.3	0	1.1	1.4	10	4.1	0	3.2	4.3	1.6	0	100	2.1	1.5

	DRIVEWAY Southbound				COLEMAN AVE Westbound				AUTUMN PKWY Northbound				COLEMAN AVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	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	0	1	2	2	**275**	20	297	6	0	6	12	9	56	2	67	378
07:45 AM	0	0	0	0	1	272	**28**	**301**	0	1	**10**	11	13	82	0	95	**407**
08:00 AM	**2**	**1**	1	**4**	**5**	223	19	247	12	**3**	9	**24**	**19**	89	**5**	113	388
08:15 AM	0	0	**3**	3	1	189	23	213	**15**	0	9	24	12	**103**	2	**117**	357
Total Volume	3	1	5	9	9	959	90	1058	33	4	34	71	53	330	9	392	1530
% App. Total	33.3	11.1	55.6		0.9	90.6	8.5		46.5	5.6	47.9		13.5	84.2	2.3		
PHF	.375	.250	.417	.563	.450	.872	.804	.879	.550	.333	.850	.740	.697	.801	.450	.838	.940

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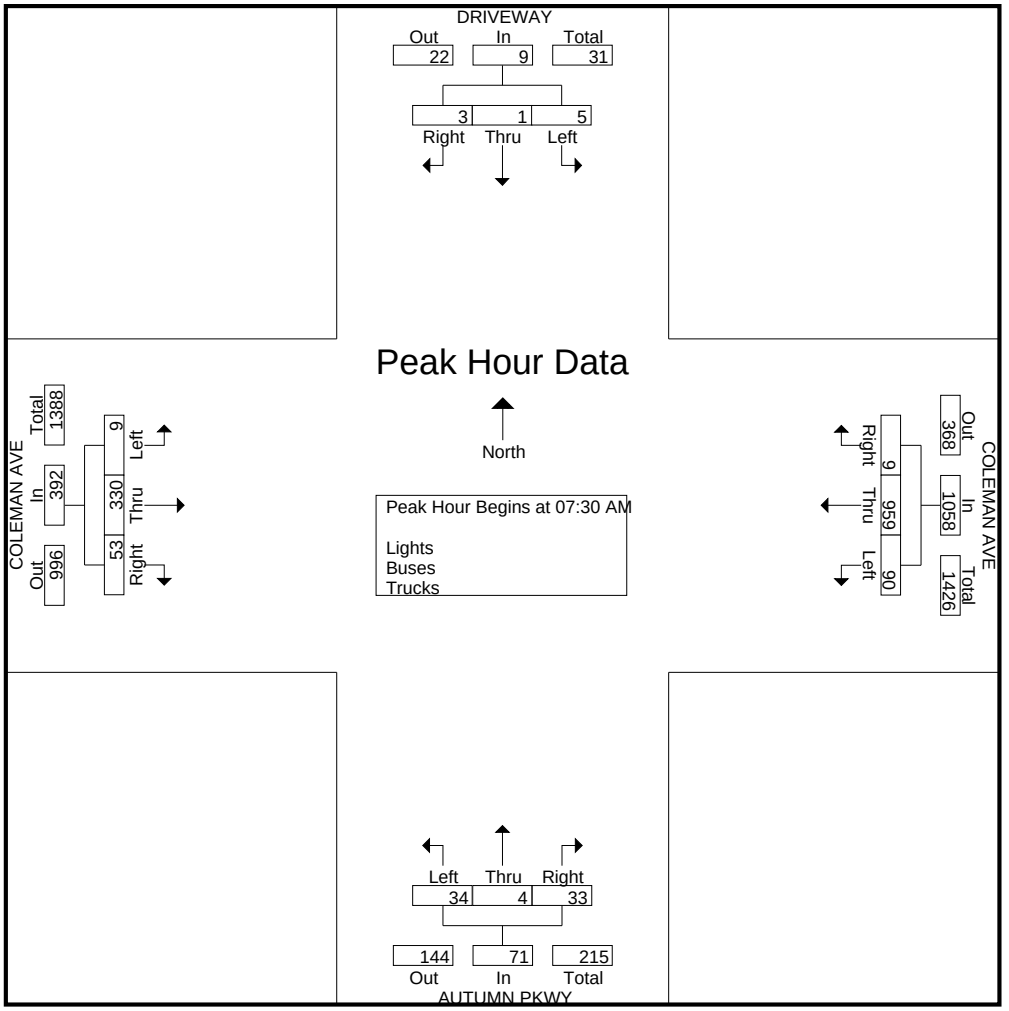

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File Name : 4AM FINAL
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Groups Printed- Bikes

	DRIVEWAY Southbound					COLEMAN AVE Westbound					AUTUMN PKWY Northbound					COLEMAN AVE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
08:30 AM	0	0	0	0	0	0	6	0	0	6	0	1	0	0	1	0	0	0	0	0	7
08:45 AM	0	0	0	0	0	0	1	0	0	1	1	1	0	0	2	0	0	0	0	0	3
Total	0	0	0	0	0	0	8	0	0	8	1	2	0	0	3	0	0	0	0	0	11
Grand Total	0	0	0	0	0	0	8	0	0	8	1	3	0	0	4	0	0	0	0	0	12
Apprch %	0	0	0	0		0	100	0	0		25	75	0	0		0	0	0	0		
Total %	0	0	0	0	0	0	66.7	0	0	66.7	8.3	25	0	0	33.3	0	0	0	0	0	

	DRIVEWAY Southbound				COLEMAN AVE Westbound				AUTUMN PKWY Northbound				COLEMAN AVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	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 08:00 AM																	
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
08:30 AM	0	0	0	0	0	**6**	0	**6**	0	**1**	0	1	0	0	0	0	**7**
08:45 AM	0	0	0	0	0	1	0	1	**1**	1	0	**2**	0	0	0	0	3
Total Volume	0	0	0	0	0	8	0	8	1	2	0	3	0	0	0	0	11
% App. Total	0	0	0		0	100	0		33.3	66.7	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.333	.000	.333	.250	.500	.000	.375	.000	.000	.000	.000	.393

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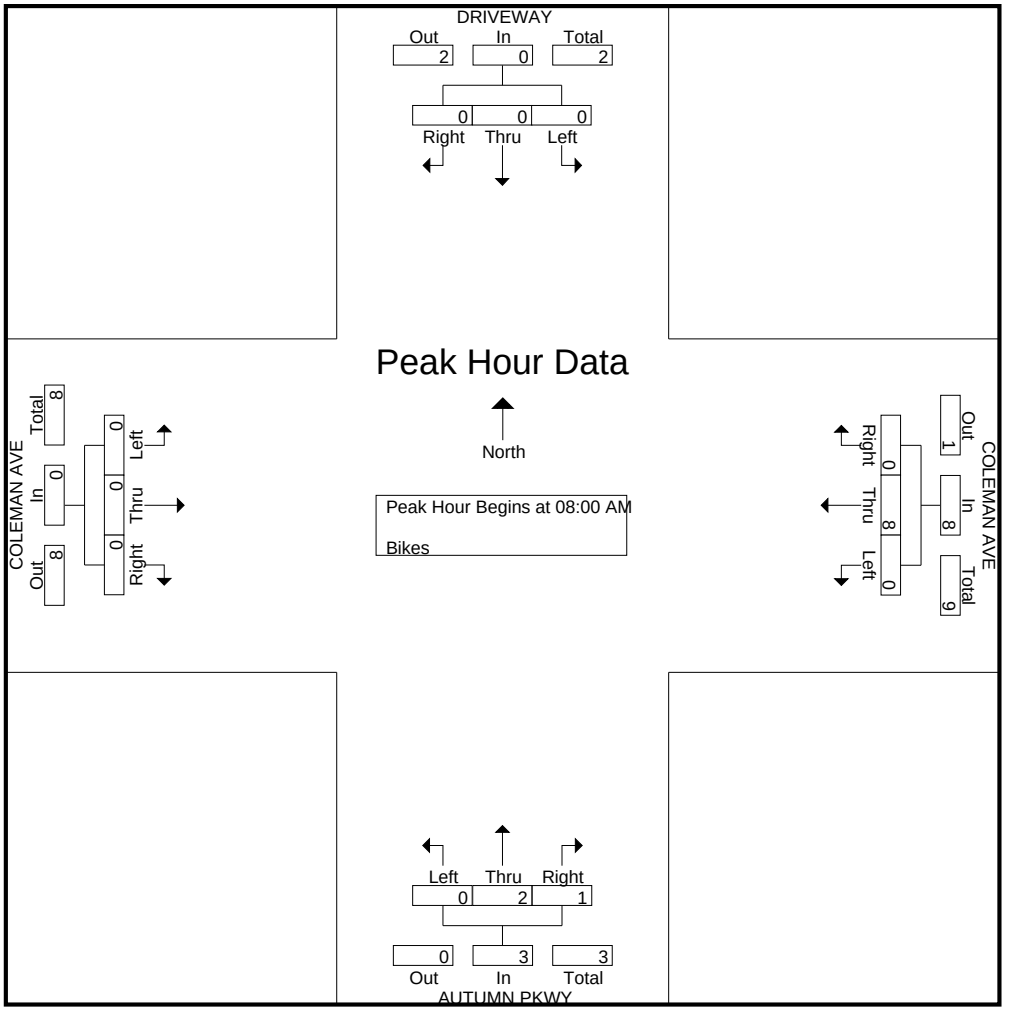

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File Name : 4PM FINAL
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Groups Printed- Lights - Buses - Trucks

	DRIVEWAY Southbound					COLEMAN AVE Westbound					AUTUMN PKWY Northbound					COLEMAN AVE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	1	1	0	0	2	0	57	27	2	86	19	1	10	8	38	31	165	14	1	211	337
04:15 PM	0	2	1	0	3	0	63	24	2	89	13	1	12	8	34	35	207	6	0	248	374
04:30 PM	4	1	3	0	8	4	106	28	3	141	12	0	8	5	25	29	202	12	0	243	417
04:45 PM	1	2	5	1	9	0	85	39	4	128	19	1	14	9	43	38	239	20	0	297	477
Total	6	6	9	1	22	4	311	118	11	444	63	3	44	30	140	133	813	52	1	999	1605
05:00 PM	5	1	3	0	9	2	105	35	3	145	21	2	17	3	43	33	259	17	0	309	506
05:15 PM	1	1	0	1	3	1	81	31	0	113	21	1	15	7	44	41	257	9	0	307	467
05:30 PM	2	2	4	0	8	2	93	54	0	149	14	0	7	9	30	47	228	13	2	290	477
05:45 PM	1	2	2	0	5	3	86	40	4	133	25	0	15	5	45	40	257	4	0	301	484
Total	9	6	9	1	25	8	365	160	7	540	81	3	54	24	162	161	1001	43	2	1207	1934
Grand Total	15	12	18	2	47	12	676	278	18	984	144	6	98	54	302	294	1814	95	3	2206	3539
Apprch %	31.9	25.5	38.3	4.3		1.2	68.7	28.3	1.8		47.7	2	32.5	17.9		13.3	82.2	4.3	0.1		
Total %	0.4	0.3	0.5	0.1	1.3	0.3	19.1	7.9	0.5	27.8	4.1	0.2	2.8	1.5	8.5	8.3	51.3	2.7	0.1	62.3	
Lights	15	12	18	2	47	12	674	278	18	982	144	6	97	54	301	290	1794	95	2	2181	3511
% Lights	100	100	100	100	100	100	99.7	100	100	99.8	100	100	99	100	99.7	98.6	98.9	100	66.7	98.9	99.2
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4	0	0	6	6
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7	0.2	0	0	0.3	0.2
Trucks	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	2	16	0	1	19	22
% Trucks	0	0	0	0	0	0	0.3	0	0	0.2	0	0	1	0	0.3	0.7	0.9	0	33.3	0.9	0.6

	DRIVEWAY Southbound				COLEMAN AVE Westbound				AUTUMN PKWY Northbound				COLEMAN AVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	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	**5**	1	3	**9**	2	**105**	35	142	21	**2**	**17**	**40**	33	**259**	**17**	**309**	**500**
05:15 PM	1	1	0	2	1	81	31	113	21	1	15	37	41	257	9	307	459
05:30 PM	2	**2**	**4**	8	2	93	**54**	**149**	14	0	7	21	**47**	228	13	288	466
05:45 PM	1	2	2	5	**3**	86	40	129	**25**	0	15	40	40	257	4	301	475
Total Volume	9	6	9	24	8	365	160	533	81	3	54	138	161	1001	43	1205	1900
% App. Total	37.5	25	37.5		1.5	68.5	30		58.7	2.2	39.1		13.4	83.1	3.6		
PHF	.450	.750	.563	.667	.667	.869	.741	.894	.810	.375	.794	.863	.856	.966	.632	.975	.950

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San Jose, CA
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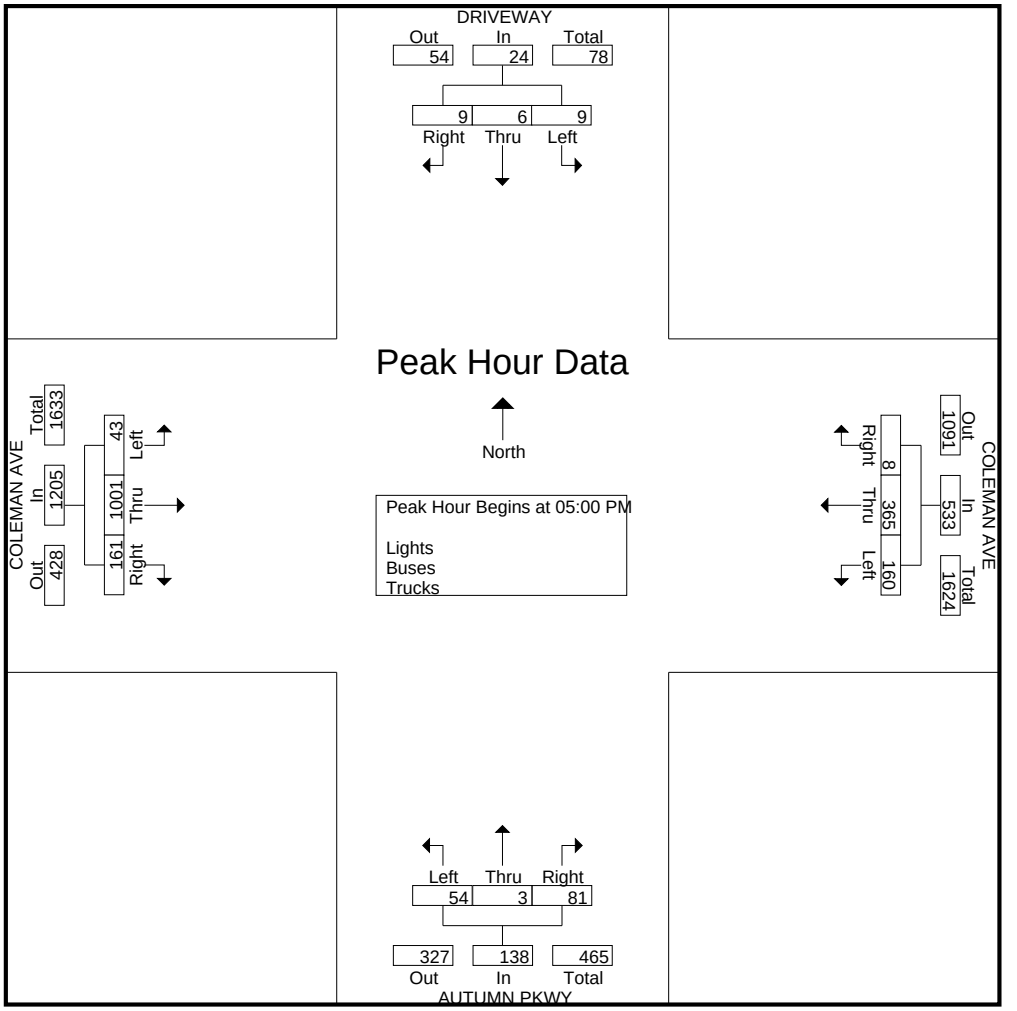

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Groups Printed- Bikes

	DRIVEWAY Southbound					COLEMAN AVE Westbound					AUTUMN PKWY Northbound					COLEMAN AVE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
05:00 PM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	3
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	2	0	0	0	2	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	6
Grand Total	2	0	0	0	2	0	5	0	0	5	0	0	0	0	0	0	1	0	0	1	8
Apprch %	100	0	0	0		0	100	0	0		0	0	0	0		0	100	0	0		
Total %	25	0	0	0	25	0	62.5	0	0	62.5	0	0	0	0	0	0	12.5	0	0	12.5	

	DRIVEWAY Southbound				COLEMAN AVE Westbound				AUTUMN PKWY Northbound				COLEMAN AVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	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	0	1	0	1	0	0	0	0	0	0	0	0	1
05:00 PM	**1**	0	0	**1**	0	1	0	1	0	0	0	0	0	0	0	0	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	1	0	0	1	0	**2**	0	**2**	0	0	0	0	0	0	0	0	**3**
Total Volume	2	0	0	2	0	4	0	4	0	0	0	0	0	0	0	0	6
% App. Total	100	0	0		0	100	0		0	0	0		0	0	0		
PHF	.500	.000	.000	.500	.000	.500	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.500

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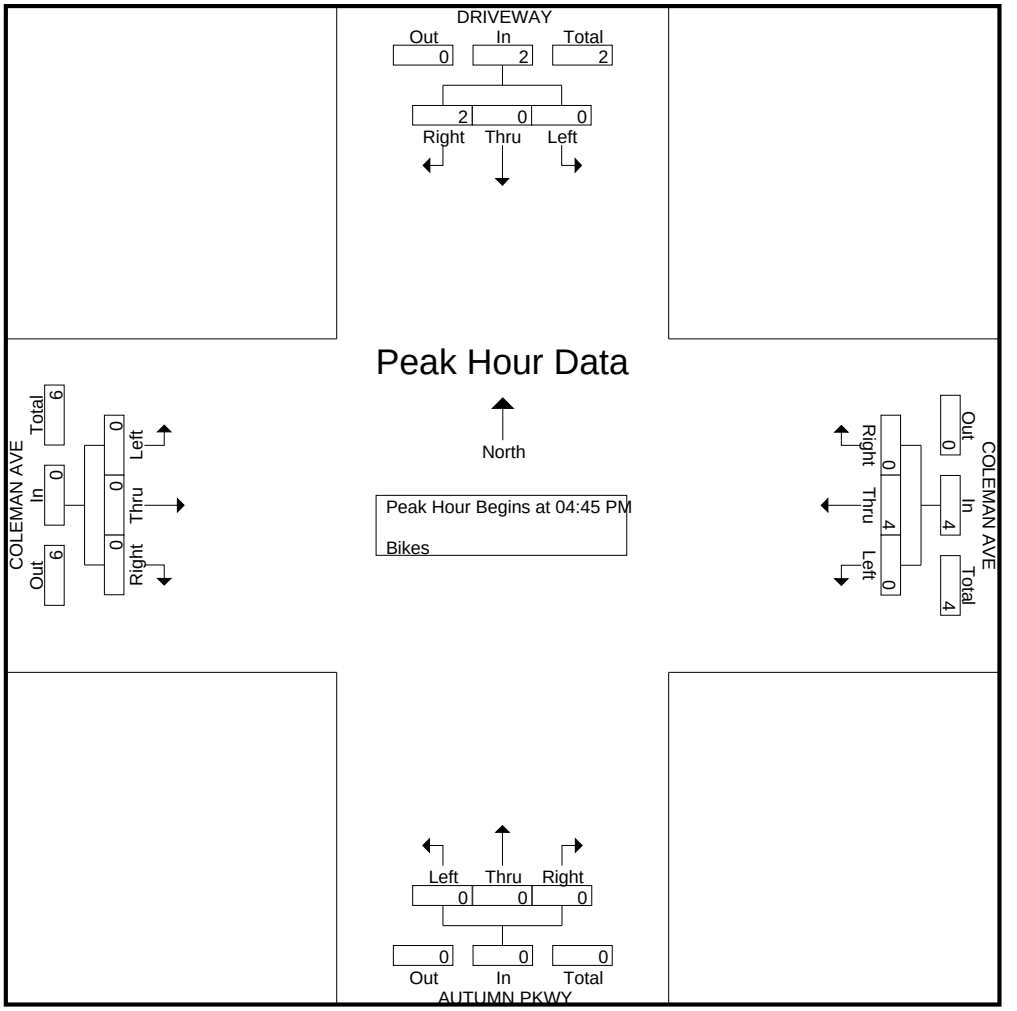
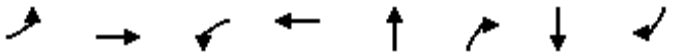


Appendix C:
Queuing Analysis Calculations

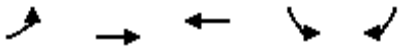
Queues
1: N Autumn St & W Julian St

11/10/2017



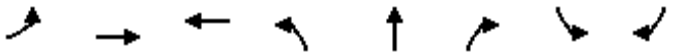
Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	6	320	55	398	69	134	14	5
v/c Ratio	0.02	0.19	0.16	0.22	0.19	0.27	0.04	0.01
Control Delay	21.4	11.4	18.9	8.5	13.4	4.8	12.3	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.4	11.4	18.9	8.5	13.4	4.8	12.3	0.0
Queue Length 50th (ft)	1	13	6	16	7	0	1	0
Queue Length 95th (ft)	12	80	46	88	38	25	12	0
Internal Link Dist (ft)		975		295	1520		773	
Turn Bay Length (ft)	120		110			150		130
Base Capacity (vph)	720	3157	772	3142	670	803	662	778
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.10	0.07	0.13	0.10	0.17	0.02	0.01

Intersection Summary



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	73	378	442	66	53
v/c Ratio	0.22	0.15	0.22	0.12	0.13
Control Delay	25.8	6.5	13.4	25.9	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	25.8	6.5	13.4	25.9	6.4
Queue Length 50th (ft)	14	15	39	6	0
Queue Length 95th (ft)	82	93	148	39	20
Internal Link Dist (ft)		295	1091	380	
Turn Bay Length (ft)	110			230	
Base Capacity (vph)	1147	3184	2581	2224	1404
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.06	0.12	0.17	0.03	0.04

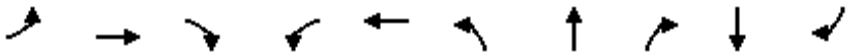
Intersection Summary



Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	12	407	1279	310	213	157	11	71
v/c Ratio	0.13	0.19	0.64	0.76	0.50	0.33	0.12	0.41
Control Delay	56.6	12.3	22.7	54.3	42.8	6.8	56.3	11.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.6	12.3	22.7	54.3	42.8	6.8	56.3	11.2
Queue Length 50th (ft)	9	72	314	224	144	0	8	0
Queue Length 95th (ft)	29	122	#600	296	199	49	28	23
Internal Link Dist (ft)		1779	1495		693			
Turn Bay Length (ft)	65			200		200	105	105
Base Capacity (vph)	177	2155	2001	545	574	584	151	220
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.19	0.64	0.57	0.37	0.27	0.07	0.32

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

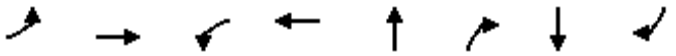


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	11	351	56	96	1030	20	20	35	6	3
v/c Ratio	0.10	0.14	0.05	0.60	0.36	0.18	0.17	0.16	0.06	0.01
Control Delay	45.7	6.5	0.1	59.0	5.0	46.9	46.8	1.6	45.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.7	6.5	0.1	59.0	5.0	46.9	46.8	1.6	45.2	0.0
Queue Length 50th (ft)	7	35	0	59	57	12	12	0	4	0
Queue Length 95th (ft)	25	77	0	113	241	37	37	0	17	0
Internal Link Dist (ft)		668			1307		1499		190	
Turn Bay Length (ft)	120			100		190		190		35
Base Capacity (vph)	177	2576	1169	177	2881	537	544	587	168	257
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.14	0.05	0.54	0.36	0.04	0.04	0.06	0.04	0.01

Intersection Summary

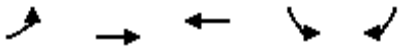
Queues
1: N Autumn St & W Julian St

11/10/2017



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	4	657	80	301	19	113	81	11
v/c Ratio	0.02	0.34	0.26	0.13	0.06	0.27	0.27	0.03
Control Delay	29.2	12.0	25.9	6.8	19.4	6.6	21.5	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.2	12.0	25.9	6.8	19.4	6.6	21.5	0.1
Queue Length 50th (ft)	1	66	20	13	5	0	20	0
Queue Length 95th (ft)	11	180	78	70	22	35	64	0
Internal Link Dist (ft)		979		295	1520		773	
Turn Bay Length (ft)	120		110			150		130
Base Capacity (vph)	579	2849	621	2879	538	658	515	626
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.23	0.13	0.10	0.04	0.17	0.16	0.02

Intersection Summary

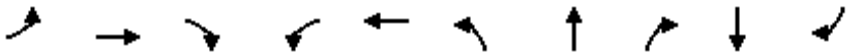


Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	69	739	312	171	130
v/c Ratio	0.21	0.41	0.25	0.26	0.26
Control Delay	26.5	9.8	14.8	23.9	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	26.5	9.9	14.8	23.9	5.0
Queue Length 50th (ft)	13	38	25	15	0
Queue Length 95th (ft)	86	219	112	88	33
Internal Link Dist (ft)		295	1091	380	
Turn Bay Length (ft)	110			230	
Base Capacity (vph)	1120	3263	2611	2174	1444
Starvation Cap Reductn	0	222	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.06	0.24	0.12	0.08	0.09

Intersection Summary

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	46	783	930	93	95	89	32	55
v/c Ratio	0.37	0.30	0.41	0.53	0.52	0.37	0.28	0.29
Control Delay	60.5	6.9	13.0	61.6	60.3	13.0	59.2	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.5	6.9	13.0	61.6	60.3	13.0	59.2	5.8
Queue Length 50th (ft)	35	103	183	70	71	0	24	0
Queue Length 95th (ft)	72	167	292	120	122	44	56	10
Internal Link Dist (ft)		1779	1495		693			
Turn Bay Length (ft)	65			200		200	105	105
Base Capacity (vph)	184	2585	2266	486	512	503	151	223
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.30	0.41	0.19	0.19	0.18	0.21	0.25

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	63	1046	169	169	392	30	30	80	19	10
v/c Ratio	0.50	0.43	0.15	1.12	0.15	0.29	0.29	0.44	0.20	0.06
Control Delay	70.9	10.5	1.8	161.7	7.6	65.1	65.0	16.8	63.0	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.9	10.5	1.8	161.7	7.6	65.1	65.0	16.8	63.0	0.7
Queue Length 50th (ft)	52	207	1	~164	60	26	26	0	16	0
Queue Length 95th (ft)	100	282	28	#312	93	60	60	41	42	0
Internal Link Dist (ft)		668			1307		1499		238	
Turn Bay Length (ft)	120			100		190		190		35
Base Capacity (vph)	151	2460	1136	151	2555	431	434	467	145	210
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.43	0.15	1.12	0.15	0.07	0.07	0.17	0.13	0.05

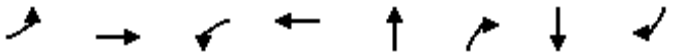
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
1: N Autumn St & W Julian St

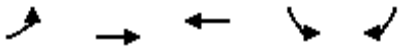
04/05/2018



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	218	320	55	707	228	134	77	33
v/c Ratio	0.63	0.19	0.25	0.57	0.57	0.28	0.26	0.08
Control Delay	35.6	11.3	31.9	12.7	28.1	6.4	23.3	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.6	11.3	31.9	12.7	28.1	6.4	23.3	1.8
Queue Length 50th (ft)	72	36	19	67	73	0	23	0
Queue Length 95th (ft)	#203	78	59	128	155	33	62	4
Internal Link Dist (ft)		975		295	1520		773	
Turn Bay Length (ft)	120		110			150		130
Base Capacity (vph)	418	2380	448	2317	473	531	349	490
Starvation Cap Reductn	0	0	0	71	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.13	0.12	0.31	0.48	0.25	0.22	0.07

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



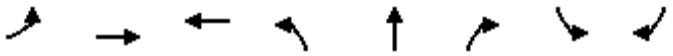
Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	73	420	919	88	53
v/c Ratio	0.33	0.17	0.48	0.23	0.17
Control Delay	34.3	6.5	15.7	32.3	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	34.3	6.5	15.7	32.3	7.4
Queue Length 50th (ft)	24	18	100	14	0
Queue Length 95th (ft)	83	106	337	48	20
Internal Link Dist (ft)		295	1091	548	
Turn Bay Length (ft)	110			160	
Base Capacity (vph)	705	3169	1917	1367	1390
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.10	0.13	0.48	0.06	0.04

Intersection Summary

Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	57	189	128	375
v/c Ratio	0.13	0.52	0.04	0.26
Control Delay	6.5	19.5	1.6	3.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	6.5	19.5	1.6	3.3
Queue Length 50th (ft)	2	13	0	3
Queue Length 95th (ft)	16	#72	8	20
Internal Link Dist (ft)	206		548	1334
Turn Bay Length (ft)		335		
Base Capacity (vph)	1561	364	3610	3010
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.04	0.52	0.04	0.12

Intersection Summary

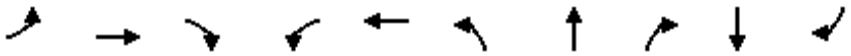
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	12	407	1279	310	360	157	11	90
v/c Ratio	0.13	0.20	0.69	0.69	0.76	0.31	0.11	0.50
Control Delay	56.6	14.2	26.0	48.4	52.0	6.4	54.9	18.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.6	14.2	26.0	48.4	52.0	6.4	54.9	18.0
Queue Length 50th (ft)	9	78	341	215	255	0	8	0
Queue Length 95th (ft)	29	127	#646	296	344	49	27	43
Internal Link Dist (ft)		1779	1495		693			
Turn Bay Length (ft)	65			200		200	105	105
Base Capacity (vph)	177	2006	1854	545	574	584	151	220
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.20	0.69	0.57	0.63	0.27	0.07	0.41

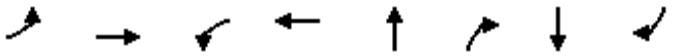
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	11	351	248	96	1030	33	33	35	6	3
v/c Ratio	0.10	0.14	0.21	0.60	0.36	0.26	0.26	0.15	0.06	0.01
Control Delay	45.7	6.8	1.7	59.0	5.3	48.1	48.0	1.4	45.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.7	6.8	1.7	59.0	5.3	48.1	48.0	1.4	45.2	0.0
Queue Length 50th (ft)	7	36	0	59	62	21	21	0	4	0
Queue Length 95th (ft)	25	80	34	113	250	52	52	0	17	0
Internal Link Dist (ft)		668			1307		1334		190	
Turn Bay Length (ft)	120			100		190		190		35
Base Capacity (vph)	177	2551	1195	177	2855	537	542	587	168	257
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.14	0.21	0.54	0.36	0.06	0.06	0.06	0.04	0.01

Intersection Summary

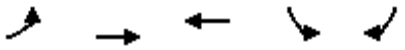


Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	45	657	80	360	50	113	519	209
v/c Ratio	0.19	0.49	0.30	0.24	0.12	0.20	1.14	0.35
Control Delay	29.3	15.6	28.7	9.9	18.9	5.7	111.9	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.3	15.6	28.7	9.9	18.9	5.7	111.9	9.9
Queue Length 50th (ft)	14	86	24	22	13	0	~236	19
Queue Length 95th (ft)	52	180	78	82	44	35	#510	80
Internal Link Dist (ft)		979		295	1520		773	
Turn Bay Length (ft)	120		110			150		130
Base Capacity (vph)	489	2664	524	2642	426	579	456	591
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.25	0.15	0.14	0.12	0.20	1.14	0.35

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

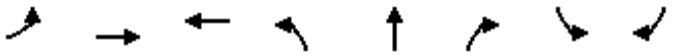


Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	69	1022	400	323	130
v/c Ratio	0.25	0.55	0.30	0.43	0.25
Control Delay	30.6	12.5	16.0	25.3	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	30.6	12.5	16.0	25.3	4.7
Queue Length 50th (ft)	16	72	37	36	0
Queue Length 95th (ft)	91	365	155	155	32
Internal Link Dist (ft)		295	1091	548	
Turn Bay Length (ft)	110			160	
Base Capacity (vph)	933	3238	2170	1811	1435
Starvation Cap Reductn	0	287	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.07	0.35	0.18	0.18	0.09

Intersection Summary

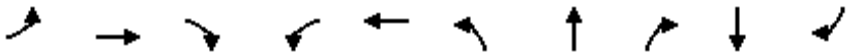
Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	407	36	163	400
v/c Ratio	0.60	0.13	0.12	0.37
Control Delay	13.1	20.3	7.6	12.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	13.1	20.3	7.6	12.2
Queue Length 50th (ft)	34	5	8	21
Queue Length 95th (ft)	124	30	24	72
Internal Link Dist (ft)	206		548	1339
Turn Bay Length (ft)		335		
Base Capacity (vph)	1354	279	3234	2882
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.30	0.13	0.05	0.14

Intersection Summary



Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	46	783	930	93	125	89	32	204
v/c Ratio	0.37	0.32	0.43	0.47	0.59	0.34	0.28	0.70
Control Delay	60.5	8.0	14.5	56.2	61.3	11.8	58.9	20.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.5	8.0	14.5	56.2	61.3	11.8	58.9	20.3
Queue Length 50th (ft)	35	109	191	69	94	0	24	0
Queue Length 95th (ft)	72	178	305	117	150	43	56	75
Internal Link Dist (ft)		1779	1495		693			
Turn Bay Length (ft)	65			200		200	105	105
Base Capacity (vph)	184	2471	2154	486	512	503	151	322
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.32	0.43	0.19	0.24	0.18	0.21	0.63

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	63	1046	209	169	392	127	127	80	19	10
v/c Ratio	0.50	0.46	0.20	1.12	0.17	0.64	0.64	0.30	0.20	0.06
Control Delay	70.9	14.9	2.4	161.7	10.9	68.6	68.4	10.4	63.0	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.9	14.9	2.4	161.7	10.9	68.6	68.4	10.4	63.0	0.7
Queue Length 50th (ft)	52	247	1	~164	71	109	109	0	16	0
Queue Length 95th (ft)	100	355	39	#312	117	172	172	37	42	0
Internal Link Dist (ft)		668			1307		1339		238	
Turn Bay Length (ft)	120			100		190		190		35
Base Capacity (vph)	151	2255	1070	151	2351	431	432	467	145	210
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.46	0.20	1.12	0.17	0.29	0.29	0.17	0.13	0.05

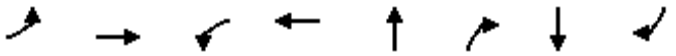
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

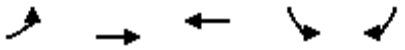
Queues
1: N Autumn St & W Julian St

11/10/2017



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	6	395	72	410	72	141	14	5
v/c Ratio	0.02	0.24	0.22	0.20	0.22	0.30	0.04	0.01
Control Delay	23.6	12.3	21.2	7.8	16.1	5.3	14.7	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.6	12.3	21.2	7.8	16.1	5.3	14.7	0.0
Queue Length 50th (ft)	1	33	14	17	14	0	3	0
Queue Length 95th (ft)	12	98	59	90	43	28	14	0
Internal Link Dist (ft)		975		295	1520		773	
Turn Bay Length (ft)	120		110			150		130
Base Capacity (vph)	648	3068	695	3069	603	741	594	709
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.13	0.10	0.13	0.12	0.19	0.02	0.01

Intersection Summary

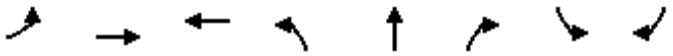


Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	85	436	478	89	53
v/c Ratio	0.27	0.19	0.31	0.17	0.14
Control Delay	27.3	7.2	15.8	27.0	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	27.3	7.2	15.8	27.0	6.6
Queue Length 50th (ft)	17	18	44	9	0
Queue Length 95th (ft)	94	110	164	50	20
Internal Link Dist (ft)		295	1091	548	
Turn Bay Length (ft)	110			230	
Base Capacity (vph)	999	3176	2365	1939	1400
Starvation Cap Reductn	0	361	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.09	0.15	0.20	0.05	0.04

Intersection Summary

Lane Group	NBT	SBT
Lane Group Flow (vph)	155	161
v/c Ratio	0.04	0.04
Control Delay	0.0	0.0
Queue Delay	0.0	0.0
Total Delay	0.0	0.0
Queue Length 50th (ft)	0	0
Queue Length 95th (ft)	0	0
Internal Link Dist (ft)	548	1334
Turn Bay Length (ft)		
Base Capacity (vph)	3610	3610
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.04	0.04

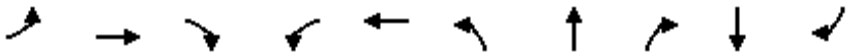
Intersection Summary



Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	16	518	1366	505	218	175	41	80
v/c Ratio	0.16	0.28	0.80	0.95	0.39	0.30	0.34	0.41
Control Delay	57.1	17.4	32.8	69.2	35.3	5.8	60.8	12.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.1	17.4	32.8	69.2	35.3	5.8	60.8	12.4
Queue Length 50th (ft)	12	120	440	378	132	0	31	0
Queue Length 95th (ft)	35	163	#733	#585	204	51	68	33
Internal Link Dist (ft)		1779	1495		693			
Turn Bay Length (ft)	65			200		200	105	105
Base Capacity (vph)	177	1856	1699	545	574	597	151	220
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.28	0.80	0.93	0.38	0.29	0.27	0.36

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

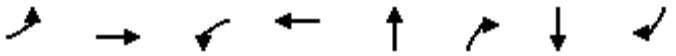


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	11	457	78	96	1179	30	31	35	6	3
v/c Ratio	0.10	0.18	0.07	0.60	0.41	0.24	0.25	0.15	0.06	0.01
Control Delay	45.7	6.9	0.9	59.0	5.6	47.7	47.9	1.5	45.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.7	6.9	0.9	59.0	5.6	47.7	47.9	1.5	45.2	0.0
Queue Length 50th (ft)	7	48	0	59	74	18	20	0	4	0
Queue Length 95th (ft)	25	104	9	113	300	49	49	0	17	0
Internal Link Dist (ft)		668			1307		1334		190	
Turn Bay Length (ft)	120			100		190		190		35
Base Capacity (vph)	177	2555	1161	177	2859	537	542	587	168	257
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.18	0.07	0.54	0.41	0.06	0.06	0.06	0.04	0.01

Intersection Summary

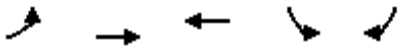
Queues
1: N Autumn St & W Julian St

11/10/2017



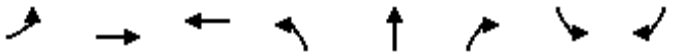
Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	4	743	102	410	36	140	81	11
v/c Ratio	0.02	0.39	0.34	0.17	0.14	0.34	0.31	0.03
Control Delay	32.0	13.3	28.8	6.3	22.7	7.3	25.1	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.0	13.3	28.8	6.3	22.7	7.3	25.1	0.2
Queue Length 50th (ft)	1	81	28	20	9	0	22	0
Queue Length 95th (ft)	12	214	99	94	38	41	70	0
Internal Link Dist (ft)		979		295	1520		773	
Turn Bay Length (ft)	120		110			150		130
Base Capacity (vph)	503	2631	539	2711	428	607	442	555
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.28	0.19	0.15	0.08	0.23	0.18	0.02

Intersection Summary



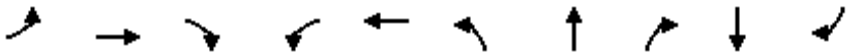
Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	80	878	482	224	140
v/c Ratio	0.26	0.46	0.41	0.33	0.28
Control Delay	29.2	10.5	17.4	25.7	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	29.2	10.5	17.4	25.7	5.1
Queue Length 50th (ft)	17	53	46	24	0
Queue Length 95th (ft)	99	280	184	112	34
Internal Link Dist (ft)		295	1091	380	
Turn Bay Length (ft)	110			230	
Base Capacity (vph)	975	3250	2272	1891	1440
Starvation Cap Reductn	0	338	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.08	0.30	0.21	0.12	0.10

Intersection Summary



Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	55	896	1148	141	105	101	43	74
v/c Ratio	0.41	0.36	0.54	0.63	0.44	0.35	0.36	0.38
Control Delay	61.3	9.0	17.5	61.3	53.2	11.8	61.2	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.3	9.0	17.5	61.3	53.2	11.8	61.2	11.1
Queue Length 50th (ft)	41	140	275	105	77	0	32	0
Queue Length 95th (ft)	83	220	427	164	126	49	70	30
Internal Link Dist (ft)		1779	1495		693			
Turn Bay Length (ft)	65			200		200	105	105
Base Capacity (vph)	184	2472	2133	486	512	508	151	223
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.36	0.54	0.29	0.21	0.20	0.28	0.33

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	63	1205	222	180	658	51	52	80	19	10
v/c Ratio	0.50	0.50	0.20	1.19	0.26	0.42	0.43	0.41	0.20	0.06
Control Delay	70.9	12.3	2.6	183.9	9.0	67.2	67.4	14.7	63.0	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.9	12.3	2.6	183.9	9.0	67.2	67.4	14.7	63.0	0.7
Queue Length 50th (ft)	52	265	9	~183	114	44	45	0	16	0
Queue Length 95th (ft)	100	364	44	#333	170	88	89	40	42	0
Internal Link Dist (ft)		668			1307		1499		238	
Turn Bay Length (ft)	120			100		190		190		35
Base Capacity (vph)	151	2418	1127	151	2517	431	433	467	145	210
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.50	0.20	1.19	0.26	0.12	0.12	0.17	0.13	0.05

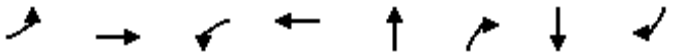
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
1: N Autumn St & W Julian St

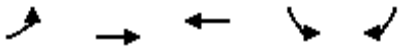
04/05/2018



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	218	395	72	719	231	141	77	33
v/c Ratio	0.63	0.23	0.31	0.58	0.58	0.30	0.26	0.08
Control Delay	36.1	11.7	32.2	12.8	28.7	6.4	23.7	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.1	11.7	32.2	12.8	28.7	6.4	23.7	1.8
Queue Length 50th (ft)	74	46	25	70	77	0	24	0
Queue Length 95th (ft)	#204	96	71	132	158	34	62	4
Internal Link Dist (ft)		975		295	1520		773	
Turn Bay Length (ft)	120		110			150		130
Base Capacity (vph)	414	2344	444	2298	465	532	341	486
Starvation Cap Reductn	0	0	0	75	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.17	0.16	0.32	0.50	0.27	0.23	0.07

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	85	479	954	112	53
v/c Ratio	0.36	0.19	0.50	0.28	0.17
Control Delay	34.8	6.7	16.7	32.8	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	34.8	6.7	16.7	32.8	7.4
Queue Length 50th (ft)	28	22	110	19	0
Queue Length 95th (ft)	94	123	#373	60	20
Internal Link Dist (ft)		295	1091	548	
Turn Bay Length (ft)	110			160	
Base Capacity (vph)	696	3144	1898	1350	1377
Starvation Cap Reductn	0	902	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.12	0.21	0.50	0.08	0.04

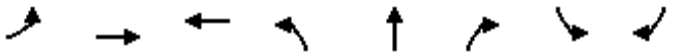
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	57	189	155	401
v/c Ratio	0.13	0.53	0.05	0.27
Control Delay	6.7	20.2	1.5	3.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	6.7	20.2	1.5	3.5
Queue Length 50th (ft)	2	13	0	4
Queue Length 95th (ft)	17	#73	10	22
Internal Link Dist (ft)	206		548	1334
Turn Bay Length (ft)		335		
Base Capacity (vph)	1558	357	3610	3026
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.04	0.53	0.04	0.13

Intersection Summary

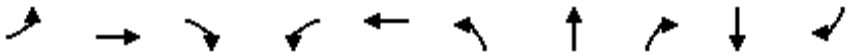
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	16	518	1366	505	365	175	41	100
v/c Ratio	0.16	0.29	0.83	0.94	0.65	0.30	0.34	0.51
Control Delay	57.1	18.1	34.9	68.4	42.4	5.8	60.8	19.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.1	18.1	34.9	68.4	42.4	5.8	60.8	19.6
Queue Length 50th (ft)	12	120	440	378	243	0	31	0
Queue Length 95th (ft)	35	163	#733	#585	349	51	68	53
Internal Link Dist (ft)		1779	1495		693			
Turn Bay Length (ft)	65			200		200	105	105
Base Capacity (vph)	177	1792	1636	545	574	597	151	220
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.29	0.83	0.93	0.64	0.29	0.27	0.45

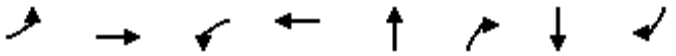
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	11	457	269	96	1179	43	44	35	6	3
v/c Ratio	0.10	0.18	0.23	0.60	0.42	0.32	0.32	0.15	0.06	0.01
Control Delay	45.7	7.3	1.8	59.0	6.0	48.7	48.8	1.3	45.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.7	7.3	1.8	59.0	6.0	48.7	48.8	1.3	45.2	0.0
Queue Length 50th (ft)	7	50	0	59	80	27	28	0	4	0
Queue Length 95th (ft)	25	107	36	113	311	62	63	0	17	0
Internal Link Dist (ft)		668			1307		1334		190	
Turn Bay Length (ft)	120			100		190		190		35
Base Capacity (vph)	177	2529	1194	177	2834	537	542	587	168	257
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.18	0.23	0.54	0.42	0.08	0.08	0.06	0.04	0.01

Intersection Summary

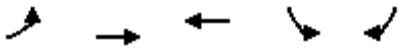


Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	45	743	102	469	67	140	519	209
v/c Ratio	0.21	0.54	0.38	0.30	0.28	0.25	1.28	0.38
Control Delay	32.1	17.1	31.7	11.3	25.3	6.0	171.7	11.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.1	17.1	31.7	11.3	25.3	6.0	171.7	11.4
Queue Length 50th (ft)	15	104	34	52	20	0	~264	21
Queue Length 95th (ft)	55	214	99	112	65	41	#559	87
Internal Link Dist (ft)		979		295	1520		773	
Turn Bay Length (ft)	120		110			150		130
Base Capacity (vph)	438	2413	469	2414	236	551	405	544
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.31	0.22	0.19	0.28	0.25	1.28	0.38

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

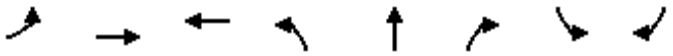


Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	80	1161	571	377	140
v/c Ratio	0.29	0.60	0.45	0.49	0.26
Control Delay	32.9	13.8	19.4	26.9	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	32.9	13.9	19.4	26.9	4.7
Queue Length 50th (ft)	22	98	65	51	0
Queue Length 95th (ft)	104	452	240	181	33
Internal Link Dist (ft)		295	1091	548	
Turn Bay Length (ft)	110			160	
Base Capacity (vph)	827	3226	1928	1604	1431
Starvation Cap Reductn	0	420	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.10	0.41	0.30	0.24	0.10

Intersection Summary

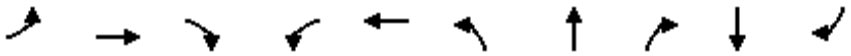
Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	407	36	225	475
v/c Ratio	0.61	0.13	0.15	0.41
Control Delay	14.0	21.9	7.7	12.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	14.0	21.9	7.7	12.6
Queue Length 50th (ft)	39	5	12	27
Queue Length 95th (ft)	134	31	33	88
Internal Link Dist (ft)	206		548	1339
Turn Bay Length (ft)		335		
Base Capacity (vph)	1302	267	3178	2795
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.31	0.13	0.07	0.17

Intersection Summary



Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBR
Lane Group Flow (vph)	55	896	1148	141	136	101	43	223
v/c Ratio	0.41	0.37	0.55	0.62	0.57	0.35	0.36	0.71
Control Delay	61.3	9.5	18.2	60.7	57.6	11.7	61.2	19.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.3	9.5	18.2	60.7	57.6	11.7	61.2	19.8
Queue Length 50th (ft)	41	140	275	105	101	0	32	0
Queue Length 95th (ft)	83	225	434	163	157	48	70	78
Internal Link Dist (ft)		1779	1495		693			
Turn Bay Length (ft)	65			200		200	105	105
Base Capacity (vph)	184	2407	2069	486	512	508	151	339
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.37	0.55	0.29	0.27	0.20	0.28	0.66

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	63	1205	262	180	658	149	148	80	19	10
v/c Ratio	0.50	0.55	0.25	1.19	0.29	0.67	0.66	0.28	0.20	0.06
Control Delay	70.9	17.3	3.7	183.9	12.8	67.6	67.1	9.6	63.0	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.9	17.3	3.7	183.9	12.8	67.6	67.1	9.6	63.0	0.7
Queue Length 50th (ft)	52	315	13	~183	136	128	127	0	16	0
Queue Length 95th (ft)	100	451	60	#333	210	194	192	36	42	0
Internal Link Dist (ft)		668			1307		1339		238	
Turn Bay Length (ft)	120			100		190		190		35
Base Capacity (vph)	151	2204	1057	151	2304	431	432	467	145	210
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.55	0.25	1.19	0.29	0.35	0.34	0.17	0.13	0.05

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Appendix D:
Driveway Queue Length Calculations

440 W Julian St Driveway Queuing Analysis

N. Autumn Street Driveway Date: 4/5/2018

AM peak hour
Proximity Card 2 lanes with capacity of 600 veh/hour

Demand Volume (Ingressing Vehicles-pcph): 578
Service Rate: 1200

	P(x = n)	P(x<n)
P(0)	0.518	0.518
P(1)	0.250	0.768
P(2)	0.120	0.888
P(3)	0.058	0.946
P(4)	0.028	0.974

MRTD = 100 FEET

rho= λ / μ
μ= service rate of movement capacity
λ= arrival rate
P(0)= 1-rho
P(n)= ((rho)^n)*P(0)

440 W Julian St Driveway Queuing Analysis

Howard Street Driveway Date: 4/5/2018

AM peak hour
Proximity Card 2 lanes with capacity of 600 veh/hour

Demand Volume (Ingressing Vehicles-pcph): 321
Service Rate: 1200

	P(x = n)	P(x<n)
P(0)	0.733	0.733
P(1)	0.196	0.928
P(2)	0.052	0.981

MRTD = 50 FEET

rho= λ / μ
μ= service rate of movement capacity
λ= arrival rate
P(0)= 1-rho
P(n)= ((rho)^n)*P(0)

440 W Julian St Driveway Queuing Analysis

Howard Street Driveway (Autumn Parkway Extension) Date: 4/5/2018

AM peak hour
Proximity Card 2 lanes with capacity of 600 veh/hour

Demand Volume (Ingressing Vehicles-pcph): 457
Service Rate: 1200

	P(x = n)	P(x<n)
P(0)	0.619	0.619
P(1)	0.236	0.855
P(2)	0.090	0.945
P(3)	0.034	0.979

MRTD = 75 FEET

rho= λ / μ
μ= service rate of movement capacity
λ= arrival rate
P(0)= 1-rho
P(n)= ((rho)^n)*P(0)

440 W Julian St Driveway Queuing Analysis

N. Autumn Street Driveway Date: 4/5/2018

AM peak hour
RFID 2 lanes with capacity of 800 veh/hour

Demand Volume (Ingressing Vehicles-pcph): 578
Service Rate: 1600

	P(x = n)	P(x<n)
P(0)	0.639	0.639
P(1)	0.231	0.869
P(2)	0.083	0.953

MRTD = 50 FEET

---

rho= λ / μ
μ= service rate of movement capacity
λ= arrival rate
P(0)= 1-rho
P(n)= ((rho)^n)*P(0)

440 W Julian St Driveway Queuing Analysis

Howard Street Driveway Date: 4/5/2018

AM peak hour
RFID 2 lanes with capacity of 800 veh/hour

Demand Volume (Ingressing Vehicles-pcph): 321
Service Rate: 1600

	P(x = n)	P(x<n)
P(0)	0.799	0.799
P(1)	0.160	0.960

MRTD = 25 FEET

rho= λ / μ
μ= service rate of movement capacity
λ= arrival rate
P(0)= 1-rho
P(n)= ((rho)^n)*P(0)

440 W Julian St Driveway Queuing Analysis

Howard Street Driveway (Autumn Parkway Extension) Date: 4/5/2018

AM peak hour
RFID 2 lanes with capacity of 800 veh/hour

Demand Volume (Ingressing Vehicles-pcph): 457
Service Rate: 1600

	P(x = n)	P(x<n)
P(0)	0.714	0.714
P(1)	0.204	0.918
P(2)	0.058	0.977

MRTD = 50 FEET

rho= λ / μ
μ= service rate of movement capacity
λ= arrival rate
P(0)= 1-rho
P(n)= ((rho)^n)*P(0)